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राष्ट्रीय आयुर्विज्ञान आयोग
National Medical Commission
(Under Graduate Medical Education Board)

No. U.11022/3/2023-UGMEB   Date the 23rd June, 2023

PUBLIC NOTICE

Subject :- Seeking Comments of the stakeholders on draft Regulations of National Medical Commission (Minimum Standard Requirements for Establishment of New Medical College/Increase of seats in MBBS Course) Regulations, 2023 - Reg.

The Undergraduate Medical Education Board proposes to make the above mentioned regulations in exercise of powers vested with NMC under sub Section (2) of section 57 read with Section 26, 28 & 29 of NMC Act, 2019 (30 of 2019). A draft regulation in this regard is being shared for public comments.

2.   It is requested to share comments on the draft regulations at the following email id comments.ugregulations@nmc.org.in in MS Word (.docx) format or machine readable PDF Format within 30 days of publication of this notice with a subject tagline "Comments on draft regulations regarding National Medical Commission (Minimum Standard Requirements for Establishment of New Medical College/Increase of seats in MBBS Course) Regulations, 2023.

23/6/2023

(Shambhu Sharan Kumar)
Director, UGMEB

Draft Regulations of National Medical Commission (Minimum Standard Requirements for Establishment of New Medical College/Increase of seats in MBBS Course) Regulations, 2023

In exercise of the powers conferred by section 57 of the National Medical Commission Act, 2019 (30 of 2019), the National Medical Commission hereby makes the following guidelines for Establishment of the new Medical Colleges/Institutions and Yearly Renewals.

The objective of these regulations is to prescribe for a medical college and Medical Institution approved for admissions of MBBS students annually, the minimum requirements of accommodation in the college and its associated teaching hospitals, staff (teaching and technical) and equipment in the college departments and hospitals.

These guidelines shall be applicable for Medical Colleges being established from the academic session 2024-25 onwards. Applications for establishing new medical colleges shall be allowed only for 50/100/150 seats.

- Only such colleges meeting these requirements shall be eligible for continuing their admission of permitted/recognised number of MBBS students from the academic year 2024-2025.
- Colleges applying for establishment from the year 2024-25, shall apply with these requirements for a strength, not exceeding 150 MBBS students.
- Colleges seeking increased number of seats cannot exceed a total of 150 MBBS students from the year 2024-25.
- With the exception that colleges who have applied for academic year 2023-24 for increased seats but failed to get the same, can ask for the same number (totalling 200 or 250) that was in their previous application for one time in the year 2024-25 only.
- After A.Y. 2023-24, Letter of permission (LOP) for starting of new medical colleges shall be issued only for annual intake capacity of 50/100/150 seats, provided that no medical college exists in that geographical area covering a population of 10,00,000 (>10 lakhs) and above. While issuing the Essentiality Certificate, State Government/UTs is required to ensure coverage of minimum 10 Lakhs population for 100 MBBS seats and also minimum distance of 15 KM between two medical colleges.
- It shall be mandatory for the existing colleges established / colleges granted increase in seat capacity as per MSR 2020 or the previous regulations, to fulfill the requirements stated in these amendments (except for the land requirement and requirement of multi-purpose examination hall) when they apply for recognition or continuation of recognition of the award of degree of MBBS and thereafter.

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Departments: Every medical college/ institution approved for under graduate admissions annually shall have the following departments, namely:-

i.	Anatomy
ii.	Physiology
iii.	Biochemistry
iv.	Pathology
v.	Microbiology
vi.	Pharmacology
vii.	Forensic Medicine And Toxicology
viii.	Community Medicine
ix.	General Medicine
x.	Pediatrics
xi.	Psychiatry
xii.	Dermatology
xiii.	Respiratory Medicine
xiv.	General Surgery
xv.	Orthopaedics
xvi.	Radio-Diagnosis
xvii.	Oto-Rhinolaryngology
xviii.	Ophthalmology
xix.	Obstetrics & Gynaecology
xx.	Anesthesiology
xxi.	Dentistry
xxii.	Physical Medicine & Rehabilitation
xxiii.	Emergency Medicine
xxiv.	Integrative Medical Research

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ACCOMMODATION IN THE MEDICAL COLLEGE AND ITS ASSOCIATED TEACHING HOSPITALS

A-COLLEGE

1. GENERAL

1.1 Campus

Every hospital seeking permission to start medical college after the publication of this amended regulation shall comprise of the Medical College, the attached Teaching hospital/(s),

and the hostels for the students and interns, with or without the residential area for faculty and other staff of college /hospital. The medical college, hostels for students/interns and the teaching hospital/institution shall be either in a unitary campus or maximum of two campuses.

Each unitary campus shall have adequate constructed area on the land, as per the prevalent building norms, belonging to the college management or if on lease, at least for a period of 30 years on lease. If there are 2 plots/ campuses, then college shall be in single plot. The distance between the plots of college and hospital shall have a travel time of maximum of 30 minutes. The hospital shall have at least 220 beds.

The medical college shall provide adequate built-up space to accommodate various teaching areas (both in the college and the teaching hospital), Library, administrative areas, rooms for teaching and non-teaching staff, student amenities, etc. as specified in various sections of this schedule.

The buildings of the medical college and hospital shall conform to the prevailing building codes and local building byelaws/ norms. The hospitals should have fire-safety measures, including patient evacuation plans as per local byelaws and regulations. They must also comply with the requirements for providing access and facilities to those who are disabled. The buildings of the college and hospital shall meet the requirements for the numbers of students to be admitted as prescribed. Co-location of nursing colleges shall be permitted. Sharing of teaching facilities shall be allowed provided that academic sessions of undergraduate medical students are not disturbed.

1.2 Administrative Area

There should be adequate accommodation for the Principal/Dean, College Council, Academic and examination sections, Accounts, and other administrative offices (as per the need), the medical education unit and the server room for the computer network.

1.3 College Council

Every Medical College / Medical Institution shall have a College Council comprising of the Head of departments as members and Principal/ Dean as Chairperson. The Council shall meet at least four times in a year to draw up the details of curriculum and training programme, enforcement of discipline and other academic matters. The Council shall also organise regular interdepartmental meetings like grand rounds, statistical meetings, and clinic-pathological meetings including periodical review of research in the institution.

1.4 Central Library

1. There shall be a central library (preferably air-conditioned) with good lighting and adequate space for stocking the books and journals.

    There shall be provision for:
    - a. Rooms for the Librarian and other staff.
    - b. Reading rooms with adequate seating for twice the number of annual intake of UG students distributed over 2 areas.
    - c. Reading room for faculty.
    - d. Room for stocking old books, journals, etc.
    - e. A computer room with computer nodes with internet facilities for at least 25% of the annual intake of students.

2. **Books:** There shall be at least 30 (Thirty) books per annual intake of students comprising all subjects with at least 5 copies of each of the textbooks for every 50 students, for the various subjects in MBBS curriculum.

3. **Journals:** The minimum number of journals for various annual intake of MBBS students shall be at least 1percent of the minimum books prescribed.

    The journals shall be either in print or electronic form, provided that there shall be at least 1(one) print journal of each major specialty departments for MBBS training – Anatomy, Physiology, Biochemistry, Pathology, Pharmacology, Microbiology, Forensic Medicine & Toxicology, Community Medicine, Medicine, Pediatrics, Dermatology, Psychiatry, Respiratory Medicine, Surgery, Orthopedics, Otorhinolaryngology, Ophthalmology, Obstetrics & Gynecology, Anesthesia, Radio-diagnosis, Dentistry, Emergency Medicine, and Physical Medicine & Rehabilitation. Provided that only journals that are indexed in the following databases i.e. Pubmed Central (PMC), Medline, Science Citation index (SCI), Science Citation Index Expanded (SCIe), Embase, SCOPUS and INDMED/ MedInd will be considered. There shall be evidence for a full annual subscription for all these journals.

Annual MBBS Intake	Minimum No. of journals required	Minimum no. of books required
50	15	1500
100	30	3000
150	45	4500
200	60	6000
250	75	7500

For every hospital seeking permission to start medical college, a total of up to 60% of books can be made be available as hard copies and the remaining 40% be available in electronic format. Variety of journals shall be the same irrespective of annual student intake.

1.5 Lecture theatres

1. There shall be minimum of four lecture theatres preferably air conditioned, of gallery type in the Institution, each of them with seating capacity for 20% more than the annual student intake (shall provide at least 1.40 sq.m/student).

2. In case the hospital is not in the same unitary campus there shall be one additional lecture theatre in the teaching hospital with a similar seating capacity as prescribed for the medical college.

3. The Lecture theatres shall have provision for audio-visual and internet facilities and shall be enabled for e-learning. The lecture theatres shall be linked digitally to all teaching areas designated for small group teaching.

4. The lecture theatres shall be shared by all the departments in a programmed manner.

1.6 Small Group Teaching Facilities:

The size of each batch for small group teaching shall be about 15 students. The common resource pool of teaching rooms, student practical laboratories, museums and lecture theatres and any other available area that can be utilized for teaching purposes as prescribed in these regulations shall all be utilized for small group teaching and shared by the teaching departments. All the above-mentioned teaching areas shall have audio-visual and internet facilities and be linked digitally to one another.

1.7 Teaching Rooms: The minimum number of teaching rooms in the medical college for Pre- and Para-Clinical Departments for various intake of MBBS students annually to be shared by all departments, shall be as indicated in the table below (each teaching room shall provide at least 1.2 sq.m/student):

Annual MBBS student intake	No. of teaching rooms	
	25 seating capacity	50 seating capacity
50	1	1
100	2	1
150	4	4
200	7	7
250	9	9

1.8 Student Practical Laboratories. There shall be at least 8 student practical laboratories, one each for Histology, Clinical Physiology, Biochemistry, Histopathology & cytopathology, Clinical Pathology & Hematology, Microbiology, Clinical Pharmacology, and Computer Assisted Learning (CAL) in Pharmacology. The Clinical pathology/Hematology laboratory may be shared between Physiology and Pathology, and Forensic Medicine may utilize the Histopathology & cytopathology laboratory for practical work.

Each laboratory shall have capacity to accommodate at least 60 students. The laboratories of Histology, Biochemistry, Histopathology & cytopathology, Clinical pathology & hematology, and Microbiology shall have 60 work stations fitted with water taps, sinks, and electric points. The Biochemistry, Histopathology and Microbiology laboratories shall in addition have gas/electric burners at each student's work station.

Each laboratory shall have additional rooms as required for technical staff, stores, equipment storage, etc. Each lab shall provide for at least 3.5 sq. m. per student, which shall be sufficient for work-benches, a delineated teaching area for 20 students, stores and room for technical staff. All the above-mentioned laboratories shall have audio-visual and internet facilities and be linked digitally to all other teaching areas i.e. lecture theatres, teaching rooms and museums.

1.9 Museum: There shall be at least 3 museums in the college, one (1) for Anatomy, one (1) to be shared by Pathology and Forensic Medicine, and one (1) to be shared by Pharmacology, Microbiology and Community Medicine. In addition to the display area, each of these museums shall also have sufficient space to seat at least 50 students (at least 1.2 sq. m. per student) and shall have audio-visual and internet facilities and be linked digitally to the Lecture theatres, teaching rooms and practical laboratories.

The museums shall have adequate racks and shelves for storing and proper display of wet and dry specimens (where applicable) and models. There shall also be adequate facilities for displaying and viewing radiological and digitalized images.

1.10 Skills Laboratory :

Every medical institution shall have a Skills Laboratory where students can practice and improve skills pre-specified in the curriculum. The purpose of the skills laboratory is to provide a safe and non-threatening environment for students to learn, practice and be observed performing skills in a simulated environment thus mitigating the risks involved in direct patient exposure without adequate preparation and supervision. The skills laboratory attempts to recreate the clinical environment and tasks which future health care workers have to perform with various levels of complexity and fidelity. *Skills lab is only to prepare the student for clinical exposure. It shall not replace or be used for compensating any hands-on*

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clinical training. Six (6) weeks of skills lab training including evaluation for six weeks before the students are posted to the wards for clinical training shall be preferable.

The skills laboratory shall have a total area of at least 600 Sq.m for intake upto 150 MBBS students annually and 800 Sq.m for intakes of 200 and 250 MBBS students annually, and shall have-

a. a minimum of 04 rooms for examination of patients or standardized/ simulated patients

b. a room for demonstration of skills to small groups

c. area for review or debriefing area

d. rooms for faculty coordinator and support staff

e. adequate space for storage of mannequins and/or other equipment

f. facility for video recording and review of the interaction for teaching communication skills

g. stations for practicing skills individually or in groups

h. trainers or mannequins required to achieve skills outlined in the Competency Based Medical Education curriculum for Undergraduates

i. a dedicated technical officer and adequate support staff

j. the teaching areas of the skills lab shall have provision for audio-visual and internet facilities and shall be enabled for e-learning.

2. DEPARTMENT OFFICES, ROOMS FOR STAFF AND OTHER REQUIREMENTS

Every Teaching Department shall have:

(i) room for Head of Department with Space for Department Office, for office staff and storage of records

(ii) rooms with adequate space for teaching faculty, and Tutors/Demonstrators/ Residents (both Junior & Senior)

(iii) rooms for faculty, provided with communication, computer and internet facilities.

(iv) rooms for non-teaching staff.

2.1 Medical Education Unit

There shall be a Medical Education Unit for faculty development and providing teaching or learning resource material. The Unit shall have provision for audio-visual and internet facilities. The requirements of this unit shall be as prescribed by the Undergraduate Medical Education Board of National Medical Commission from time to time (it shall have an area of at least 150-160 sq.m).

2.2 Research Facility-

A well- equipped research facility shall be available to be used by all departments.

2.3 Communication Facilities

Adequate communication network between various sections of the college and hospitals shall be provided for better services, coordination and patient care.

2.4 Student Amenities

Adequate student amenities shall be provided. These shall include facilities for common rooms for boys and girls (separate), cafeteria, cultural activities, Yoga training and practices, indoor games and student counselling services. There shall be gymnasium and playground for outdoor games and track events in the college.

2.5 Child Care Centre

A Child Care Centre shall be established in the medical college with adequate facilities for taking care of the infants and the children of staff of the medical college and/or teaching hospital.

3. AADHAR ENABLED BIOMETRIC ATTENDANCE SYSTEM (AEBAS) & CLOSE CIRCUIT TV MONITORING OF MEDICAL COLLEGES / INSTITUTIONS AND HOSPITALS:

The medical college/ institution shall be responsible for the installation and maintenance of AEBAS, close circuit camera and HMIS and other Information Technology as prescribed from time to time.

3.1 AEBAS:

i)   All Medical Colleges/Institutions shall install AEBAS to be linked to Command-and-Control center of NMC.

ii) *The daily AEBAS along with face linked recognition, of the required staff (faculty, residents and supporting staff) shall be made available to NMC as well as on the Medical College Website in the form of daily attendance dashboard.*

Minimum requirement of attendance:

It shall be mandatory to have at least 75% attendance of the total working days (excluding vacations) for all faculty and resident doctors. During vacation period, other than sick leave or leaves availed due to emergency situations, the faculty on duty shall not be availing any leave. Emergency leaves shall be certified by Head of the department or Head of the institution.

Close Circuit Camera:

Every medical college shall have prescribed number and location of cameras with Close-Circuit Television (CCTV) system in the medical college and shall provide live streaming of classroom teaching, patient care in the teaching hospital and any other area as specified from to time *(Annexure I)*, to enable the Commission to maintain a constant vigil on the standard of medical education/ training being imparted.

The live streaming of both classroom teaching and hospital, shall be integrated as a part of the "Digital Mission Mode Project" (DMMP) of the Commission.

a)   College Website:

1)   Every college /institute shall have its own website which shall contain the details mentioned in *(Annexure II)*, to be updated in the first week of every month.

2)   There shall be a separate dynamic dashboard for the hospital including details of clinical material in the hospital (OPD and IPD) *(Annexure III)*.

4. BIOMEDICAL WASTE MANAGEMENT

The Medical Institution must ensure compliance with the Bio-medical Waste (Management & Handing) Rules, 2019 and as notified from time to time. They shall have a robust institutional policy on biomedical waste management of human origin, with a well-defined arrangement for segregation and discarding of biomedical waste. Facilities for biomedical waste management shall be commensurate with the Central/State legislations.

Registration at state level shall be made with registration certificate & receipt of fee paid should be available. Provision for Fire-safety & PWD-friendly arrangements must be established. Power management with evidence of use of amount must be available as and when required for assessment of facilities. This shall be under the direct supervision of Superintendent/ Head of the Institute in close coordination with Department of Microbiology.

5. DEPARTMENT SPECIFIC REQUIREMENTS

The equipment for each department are mentioned in table below. Additional specific requirements of each department, if any, shall be provided as described in the following sections:

5.1 DEPARTMENT OF ANATOMY:

i)   **Dissection Hall** – There shall be a dissection hall to accommodate 50% of annual student intake (area of at least 4.20 Sq.m/student shall be provided which shall be sufficient for ante-room for students with lockers, wash basins. embalming room, space for storage tanks and cold storage room or cooling cabinets with space sufficient for at least 1 body/10 student annual intake). It shall be well lit, well-ventilated with exhaust fans. There shall be adequate teaching aids in the hall.

5.2 DEPARTMENT OF PHYSIOLOGY:

(i)   Laboratories:

    a.   Hematology Lab. (100 Sq.m.area) provided with continuous working tables. Every seat shall be provided preferably with stainless steel wash basin. Every working table shall have one drawer and one cupboard, an electric point and with fire/steam proof top including provisions of light sources on each table. One preparation room (14 Sq.m. area) shall be provided with this laboratory.

    b.   There shall be a Clinical Physiology (40 Sq.m. area) provided with 6 tables (height 0.8 m.) with mattresses and adjustable head-end.

5.3 DEPARTMENT OF BIOCHEMISTRY:

Laboratories: Each laboratory shall have capacity to accommodate at least one third of the total students admitted for the academic year. The laboratories shall be fitted with adequate water taps, sinks, electric points and gas/electric burners at student's work station.

5.4 DEPARTMENT OF PATHOLOGY:

    (i)   There shall be a separate service laboratory each for histopathology, cytopathology, Hematology and other specialized work of the hospital which shall be suitably equipped.

    (ii)   These service labs shall have adequate storage space for stores and equipment.

    (iii) There shall also be a washing room with continuous water supply.

(iv)   These service laboratories can be located in either the medical college, teaching hospital or both. Central laboratory sample load should be at least 60% patient samples of total out-patient attendance of the hospital on daily basis. The number of samples in Histopathology lab shall be at least 30% of total major surgeries, number of samples in cytopathology lab shall be at least 1% of the total hospital OPD and number of samples in Hematology lab shall be at least 15% of the OPD samples.

(v)   There shall be facilities and training for clinical autopsy. Practical Laboratories for Morbid Anatomy and Histopathology / Cytopathology (100 Sq.m.area) and for clinical pathology/Hematology (100 Sq.mt.area) with preparation room (14 sq.mt.area) with benches, fitted with shelves cupboards, sinks, water taps, light for microscopy and burners for 40 students to carry out exercises shall be provided.

(vi)   **Museum**-There shall be a museum (60 Sq.mt.) for specimens, charts, models with a sitting capacity of at least 15 students.

(vii) All the specimens shall be labelled and at least 5 copies of catalogues for student use be provided. In addition, there shall be an anteroom.

(viii) Minimum 150 Specimens covering all pathological conditions mandatory for UG teaching must be depicted.

(ix)   In Research lab, Molecular diagnostic division should be included in common facility in Central Research Lab.

(x)   **Autopsy Block-** There shall be an Autopsy room (approx. 400 sq.mt. area) with facilities for cold storage, for cadavers, ante-rooms, washing facilities, with an accommodation capacity of 10-15 students, waiting hall and office. The location of mortuary and autopsy block should be either in the hospital or adjacent to the hospital in a separate structure and may be shared with the department of Forensic Medicine.

Blood Bank

There shall be an air-conditioned Blood Bank (100 Sq. mt. Area) and shall include-

(a)   Registration and Medical Examination Room and selection of donors room with suitable furniture and facilities.

(b)   Blood collection room.

(c)   Room for Laboratory for Blood Group serology;

(d)   Room for Laboratory for Transmissible diseases like hepatitis, syphilis, Malaria, HIV antibodies etc;

(e)   Sterilisation and washing room;

(f)   Refreshment room; and

(g)   Store and Records room.

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The equipment and accessories etc. shall be provided as prescribed in Part XII-B in Schedule F to the Drugs and Cosmetics Rules, 1945 amended from time to time.

5.5 DEPARTMENT OF MICROBIOLOGY:

i) There shall be a separate service laboratory each for (a) Bacteriology including anaerobic bacteria; (b) Serology; (c) Virology; (d) Parasitology; (e) Mycology; (f) Tuberculosis; and (g)Immunology.

ii) The service laboratories shall have adequate storage space for stores and equipment.

iii) There shall be separate accommodation for media preparation and storage, autoclaving, and washing with regular and continuous water supply.

iv) These service laboratories can be located in either the medical college, teaching hospital or both.

v) The Virology Service Laboratory shall be a BSL-2 level laboratory (as per e-gazette No. MCI -34(41)/2020- Med./103234 notified on 3.6.2020)

vi) **Practical laboratory** - There shall a practical laboratory (100 sq. mt. Area) with benches fitted with shelves, cupboards, sinks, water taps, light for microscopy and burners for 40 students (100 sq. m. area) with laboratory benches, gas, water and electric points, microscopes and light with a preparation room (14 sq.m.area).

vii) Area for each service laboratory shall be 25 Sq.m. Separate accommodation for
   (a) Media preparation and storage (20 Sq.m.area)
   (b) Autoclaving (12 Sq.m. area)
   (c) Washing & drying room with regular and continuous water supply (12 sq.m.area) for contaminated culture plates, test tubes and glassware shall be provided.

viii) **Museum**- There shall be a museum (40 Sq. mt.) for specimens, charts, models, with a seating capacity of at least 15 students. All the specimens shall be labelled and at least 5 copies of catalogue for students use be provided.

Hospital Infection Control Committee (HICC): There shall be a HICC as per the national recommendations for health care facilities with Head of the institute / Medical Superintendent as the Chairperson and senior Microbiologist (Associate Professor/ Professor) as member-Secretary of the committee. Appropriate number of infection control nurses and senior technicians of the lab shall be appointed in this committee as per the bed strength of the hospital. This committee shall address and periodically review Infection control, anti-microbial resistance and antibiotic policy.

5.6 DEPARTMENT OF FORENSIC MEDICINE & TOXICOLOGY:

i) Post-mortem/Autopsy Block:

All the colleges shall be permitted to carry out medico-legal autopsies. There shall be a mortuary cum post-mortem/ Autopsy Block (approx. 400 sq. M. area) with facilities for cold storage for cadavers, ante-rooms, washing facilities, with an accommodation capacity of 20-25 students, waiting hall, office etc. The location of mortuary/autopsy block should preferably be adjacent to the hospital building and may be shared with the department of Pathology. The college shall have post-mortem/ Autopsy block. An MoU with a government/district hospital for post-mortems wherein a government / district hospital faculty shall facilitate performance of the required autopsy in the private hospital to teach and train students, if required.

- There shall be a museum (100 Sq.m. area) to display medico-legal specimens charts, models, prototype fire arms, wax models, slides, poisons, photographs etc. with seating arrangements for 15-20 students. All the specimens shall be labelled and at least 5 copies of catalogues for student use be provided.
- There shall be a laboratory (100 Sq.m. area) for examination of specimens, tests and Forensic histopathology, Serology, anthropology and toxicology.
- For subsequent every additional medicolegal autopsy up to 300 cases per year, number of assistant professor and associate Professor shall be increased by ONE and number of Senior Residents shall be increased by TWO.
- If Forensic Medicine and Toxicology Department is having functional Clinical Forensic Medicine Unit (CFMU), then additional staff (over and above already prescribed) of 1 Associate Professor, 1 Assistant Professor and 2 Senior Residents should be present.
- If Forensic Medicine and Toxicology Department is having functional Poison Information Centre and Analytical Toxicology Laboratory then additional staff (over and above already prescribed) of 1 Associate Professor, 1 Assistant Professor and 2 Senior Residents should be present along with qualified laboratory technicians or toxicologist.

1. Department of FMT may have Clinical Forensic Medicine Unit (CFMU) to deal with medico-legal cases & issues of hospital, where staff of the FMT department handles said medicolegal issues. If any department is doing this, then additional staff shall be required as described in staff requirement section along with adequate arrangement of rooms shall be provided to all teaching staff including SR as per the number of staff.

2. Department of Forensic Medicine and Toxicology may have Poison Information Centre and Analytical Toxicology Laboratory/ Forensic Science Laboratory. Additional staff

shall be required as described in staff requirement section along with adequate arrangement of rooms shall be provided to all teaching staff including SR as per the number of staff.

3. Every college (either Government, private or society or other) must have Functional Forensic Autopsy Unit where faculty and SR of the FMT department conducts medicolegal autopsies brought by the police and signs the post-mortem reports to grant recognition or renewal of the recognitions of medical college.

5.7 DEPARTMENT OF COMMUNITY MEDICINE:

(A)   There shall be a laboratory (100 Sq.m. area) with facilities for purposes of demonstration of various laboratory practicals.

(B)   **Museum -** There shall be a museum (75 Sq.m.area) for the display of models, charts, specimens and other material concerning communicable diseases, Community Health, Family Welfare planning, Biostatics, Sociology, National Health Programmes, Environmental Sanitation etc.

(C) Staff requirements for RHTC & UHTC keeping in mind NHM population (RHTC – 30000 population & UHTC 50000 population). Medical Officer with MD qualification i.e. Assistant Professor may be made able to provide more quality education to UG CBME, CRMI and PGs in addition to quality care for the rural and urban populations. If a trained PHN is not available, trained staff nurse with community field experience for UHTC and RHTC shall be made available.

(D)   Rural Health Training Centre:

For every hospital seeking permission to start medical college, the medical college shall have Rural Health Training Centers / Community Health Centers/ Urban Health Centers affiliated to it; as per the geographical location of the college, which shall be used for internship training. The number of these centers adopted by the college should fulfil the need of posting 15 interns per center as required in CRMI regulations 2021.

These centers shall be owned by the college or it should be affiliated to Government owned Health Center. If it is the latter, the academic control shall be with the Dean/Principal of the college for training of interns in community oriented primary health care and rural based health education for the rural community attached to it. This Health Center shall be within a distance of 30 kms except in X category (Tier-1) cities as amended where it shall be within 50 kms. Separate residential arrangements for boys and girls interns with mess

facilities shall also be provided. Adequate transport (both for staff and students) shall be provided for carrying out field work and teaching and training activities by the department of Community Medicine.

Manpower	RHTC for population 30000				
Students	50	100	150	200	250
Assistant Professor in-charge (in rotation) & MO (one male, one female) (at least one must be a Lady Medical Officer)	2	2	2	2	2
PHN/trained staff nurse with community field experience	2	2	2	2	2
ANM	2	2	4	5	5
Medico social worker	1	1	2	2	2
Lab technician	1	1	1	1	1
Pharmacist	1	1	1	1	1
Sanitary inspector/Health inspector	1	1	2	2	2
Health educator	1	1	1	1	1
Store keeper/ record clerk	1	1	1	1	1

- There should be complete computerization of RHTC and UHTC patient record system.
- The distance of RHTC from medical college may need to have some flexibility in case of megacity or Metro cities where immediate rural field practice area may not be feasible.
- In case of megacity or Metro cities, there is need to have flexibility of adoption of families in various areas including urban slums.
- In case of megacity or Metro cities, there is need to have flexibility of distribution of interns in various OPDs of the teaching hospital like TB clinic, immunization clinic, anti-rabies clinic, which are also important learning outcomes for interns in addition to current CRMI postings.
- Since all infrastructural requirements can be easily fulfilled at the start of the college and one time, there is need for a separate museum for Community Medicine. In addition, it will also bring ownership of the dept to develop in own museum and may not be possible in shared museum.
- Every medical college shall have one Rural Health Training Center and Urban Health Training Centre running as like teaching hospital before the first inspection/assessment or first LOP.

Manpower	UHTC for population 50000				
Students	50	100	150	200	250
Assistant Professor in-charge (in rotation) & MO (one male, one female) (at least one must be a Lady Medical Officer)	2	2	2	2	2
PHN/trained staff nurse with community field experience	2	2	2	2	2

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ANM	2	2	4	5	5
Medico social worker	1	1	2	2	2
Lab technician	1	1	1	1	1
Pharmacist	1	1	1	1	1
Sanitary inspector/Health inspector	1	1	2	2	2
Health educator	1	1	1	1	1
Store keeper record clerk	1	1	1	1	1

Family Adoption Programme through Village Outreach shall be followed.

5.8 DEPARTMENT OF PHARMACOLOGY:

There shall be a Clinical Pharmacology lab and Computer Assisted Learning (CAL) lab in Pharmacology.

1. CAL lab shall have computers with broadband internet and AV aids for computer assisted teaching-learning and assessment activities. CAL lab shall be shared lab with all departments for computer assisted teaching-learning and assessment. For teaching Pharmacology in undergraduate curriculum, the required knowledge and skills shall be imparted by using computer assisted module.
2. Clinical pharmacology and pharmacy lab (100 Sq.m. area) with one ante-room (14 Sq.m. area) for technicians, storage of equipment and appliances and preparation room.

Museum:

There shall be a museum for specimens, charts, models, with a separate section depicting "History of Medicine", with a seating capacity of at least 15 students. All the specimens shall be labelled and at least 5 copies of catalogues for student use be provided.

Animal holding area:

Animal hold area/room shall be as per Committee for the Purpose of Control and Supervision of Experiments on Animals (CPSCEA) specifications if research and postgraduate training is envisaged.

6. HOSTELS FOR STUDENTS/INTERNS:

The College/Institution shall make provision to provide accommodation for at least 75% of all students enrolled and interns, and all girl students who request for it. Each student shall be provided with independent and separate furniture which shall include chair, table, bed and full-size cupboard at the least (provide for at least 9 Sq. m area/student). It is desirable that hostel rooms are double accommodation facilities. Adequate recreational, dining and 24x7 security facilities shall be provided at the hostels.

7. TEACHING HOSPITAL

7.1. General remarks

There shall be a fully functional hospital capacitated with specified beds as per the annual student intake, with all necessary infrastructure like OPD, Indoor wards, OTs, ICUs, Casualty, Labour Room, Laboratories, Blood Bank, CSSD, etc. It should also have been providing services in the departments of Medicine, Pediatrics, Dermatology, Surgery, Orthopaedics, Obstetrics & Gynaecology, Ophthalmology, Otorhinolaryngology, Physical Medicine & Rehabilitation, Anesthesiology and Radio-diagnosis.

7.2 Office Accommodation - shall be provided for Dean, Medical Superintendent and hospital offices for the supportive staff, Nursing Superintendent's room and office, waiting space for visitors, along with computer and internet facility in each department. There shall also be accommodation for:

a) Enquiry office.
b) Reception area (300 Sq.mt.) including facilities for public telephone, waiting space for patients and visitors, drinking water facility with nearby toilet facilities.
c) Store rooms.
d) Central Medical Record Section (150 Sq.m.)
e) Linen Rooms.
f) Hospital and Staff Committee room (50 Sq.mt.)

7.3. There shall be provision for:

(i) One Central lecture theatre of gallery type with a seating capacity of 100 persons and audio-visual aids shall be provided in the hospital, in addition to those in medical college/institution.
(ii) Central registration and statistics department with computer facilities.
(iii) Residential accommodation in the hospital campus for interns, Jr. Residents & Senior Residents etc.

7.4 There shall be a minimum OPD attendance of 8 patients (old & new) per day per student intake for Undergraduate curriculum.

7.5 Indoor beds occupancy - Average occupancy of indoor beds shall be a minimum of 80 % per annum.

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8. DEPARTMENT SPECIFIC REQUIREMENTS - INDOOR:

The following accommodation shall be available with each ward, namely:

1. Accommodation in a General ward shall not exceed 30 patients and distance between the two beds shall not be less than 1.5 m.
2. Nurses Duty Room/Nursing Station.
3. Ward should be constructed in such a way that the Nurse from her Nursing Station is able to have an overview of all the patients in the wards.
4. Examination and Treatment room.
5. Ward Pantry.
6. Store room for linen and other equipment.
7. Resident Doctors and students Duty Room.
8. Clinical Demonstration Room.

The following additional accommodation shall be provided for each of the departments.

a. Offices for Heads of Departments and Heads of Units.
b. Accommodation for other unit staff.
c. Clinical demonstration rooms (at least one for each department).
d. Departmental Library-cum-Seminar room (30Sq.m) with a seating capacity of 50 students.

8.1 OPERATION THEATRE UNIT:

1. The Operation Theatre Unit shall have the following facilities; namely: -

    i)   Waiting room for patients.
    ii)   Pre-anaesthetic/preparation room – at least 4 beds.
    iii)   Operation theatre.
    iv)   Post-operative recovery room (minimum of 10 beds).
    v)   Soiled Linen room.
    vi)   Instrument room.
    vii)   Sterilisation room.
    viii)   Nurse's rooms.
    ix)   Surgeon's and Anaesthetist's rooms (separate for male and female).
    x)   Assistant's room.
    xi)   Observation gallery for students.

xii) Store rooms

xiii) Washing room for Surgeons and Assistants

xiv) Students washing up and dressing up room.

2. One unit each may be provided for General Surgery, ENT, Orthopaedics, Ophthalmology, Obstetrics & Gynaecology and for septic cases. Each surgical specialty may be provided independent separate OT/ separate operating days. Additional space shall be provided for various Endoscopy procedures.

3. Minor Operation Theatre – one minor operation theatre in addition to above shall be provided for surgical departments in casualty/emergency unit and one such theatre in O.P.D.

4. Regarding "Operation Theatre Unit",
   Preoperative beds – 1 bed / O.T. Unit
   Postoperative beds – 2 beds / O.T. Unit"

8.2 CENTRAL STERILISATION SERVICES:

a. There shall be an independent Central Sterilization unit capable of taking the total working load operation theatres, laboratories close to or in the operation theatre block itself. It shall have adequate equipment like bulk sterilizer with separate ends for loading unsettled material, unloading sterile, cold sterilizer, Ethylene oxide sterilizer, freon ethylene instruments and mattress sterilize, sterile racks, mixers, and trays for instruments.

b. This department shall work round the clock and all materials, instruments, trays, and dressing material etc. shall be supplied round the clock.

8.3. LAUNDRY:

a. The Central Mechanical laundry shall be provided with bulk washing machine, Hydro-Extractor, flat rolling machine. Laundering of hospital linen shall satisfy two basic considerations, namely, cleanliness and disinfection. The hospital could be provided with necessary facilities for drying, pressing and storage of soiled and cleaned linens..

b. The physical facilities for housing the laundry equipment shall be provided in the campus. However, services can be handed over to any agency but with overall supervision of Hospital Administrator.

8.4. DEPARTMENT OF RADIO-DIAGNOSIS:

1. The staff of Radio-Diagnosis department shall be covered by Personal Monitoring System of BARC.

    Accommodation shall be provided for the following namely:

    (a) Room for 300mA, 500mA, 800mA. I.I.T.V. System, Fluroscopy System (36 Sq.m.).
    (b) Ultrasound Room (15 Sq.m)
    (c) Room for 60 mA and 100 mA Mobile X-ray system (15 Sq.m)
    (d) Accommodation for CT Scan system. The CT Scan shall be 128 scan or more

    There shall be all required equipment rooms with necessary support system. The total area shall be 80 Sq.m or more.

    (a) There shall be preferable a Magnetic Resonance Imaging (MRI) system. The space requirement shall be according to the standard specifications.
    (b) Store room for X-Ray films related material (15 Sq.m)
    (c) Museum (25 Sq.m)
    (d) Waiting room for patient, enquiry office and staff rooms for Professor & HOD, Assoc. Profs., Asst. Profs., Residents, Tutors shall be provided as per requirement.
    (e) Accommodation for demonstration room shall be provided.
    (f) There shall be digital record room for all the investigations done in the department.

2. The room sizes for various Diagnostic Imaging Systems shall be as per the following provision of the Atomic Energy Regulatory Board Safety Code.

    The size of the room housing X-ray equipment must not be less than 25 Sq.m. for a general purpose X-Ray machine. In case of diagnostic X-Ray equipment operating at 125kV or above the control panel must be installed in separate control room located outside but contiguous to the X-Ray room. Rooms housing fluoroscopy equipment must be so designed that adequate darkness can be achieved conveniently when desired. Patient waiting areas must be provided outside the X-ray room and a dark room must be provided.

8.5 DEPARTMENT OF ANAESTHESIOLOGY:

1. Accommodation shall be provided for department staff on duty in operation theaters in that block itself as far as possible in addition to following accommodation:

i. Offices for Heads of Departments and Heads of Units.
ii. Accommodation for the other unit staff.
iii. Clinical demonstration rooms (at least one for each department); and
iv. Departmental Library-cum-Seminar room (30 Sq.m.) with a seating capacity of 50 students.

2. For 10 Operation Theaters minimum 8 should be running daily.

i. Further to provide emergency services, minimum of 2 Emergency OTs working 24X7 for emergency including Trauma patients. Also one Separate OT available 24 X 7 should be there for Obstetric emergencies. Facility for Labour analgesia should also be available.

ii. Operation theater Recommendation 10+2+1 Minimum functional OT, 8 on daily basis) Post–operative Recovery Room With minimum of One bed per OT table.

iii. Post–operative Recovery Room With minimum of One bed per OT table with Multipara Monitor with SpO2, ECG, NIBP, Temp, Facility for suction at each bed. One Defibrillator in each recovery room. Desirable to have Central station Monitoring. Adequate staff be posted in recovery.

iv. Anesthesia skill lab and resuscitation manequins shall be made available.

3. Pre-Anesthesia Check-up (PAC) Room.

Adequate room as per OPD Norms, Can be in main OPD complex or near OT complex. With facility for Patient examination tables, Height & Weighing machine, BP apparatus, SpO2, adequate staff for management.

4. Pain Clinic:

It shall be desirable to have a pain clinic under department of Anesthesiology. It shall have adequate room as per OPD Norms, can be in main OPD complex or near OT complex. It shall have facilities including patient examination tables, BP apparatus, SpO2 along with adequate staff for management. If any patient requires admission for pain management, the parent unit shall provide the privileged bed in concerned unit. The requirements for Pain Clinic/ OT like RF ablation, Fluroscopy, USG in pain clinic, Syringe pumps, Catheters, OT tables may be made available as per clinical load and functioning of Pain services with shared facilities with other departments like Orthopedics, Neurosurgery, Oncology etc. The department shall have a good documentation policy.

8.6 DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION:

Accommodation (1500 Sq. meter) shall be provided for Head, and other teaching staff, paramedical personnel and non-medical staff, evaluation room, and for all allied health services.

9. OUT DOOR REQUIREMENTS:

Accommodation shall be provided for: -

1.   Waiting/reception space rooms for patients and attendants,
2.   Enquiry and record room.
3.   Four examination rooms, suitably equipped, shall be provided for departments of General Medicine, Paediatrics, General Surgery, Orthopaedics and Obstetrics & Gynaecology and two examination rooms, suitably equipped, shall be provided for the rest of the departments. Each department shall also have 1 Demonstration room of capacity 15-20 students.
4.   Dispensary.
5.   The following additional accommodation shall be provided in the departments specified below:

   (a)   Surgery & its specialties: Dressing room for men and women patients respectively. Operation theatre for outpatient surgery.
   (b)   Ophthalmology: Refraction rooms, dark rooms, dressing rooms etc.
   (c)   Orthopaedics: Plaster room, Plaster-cutting room, outpatient x-ray plant desirable
   (d)   Otorhinolaryngology (ENT): Sound proof audiometry Room, ENG laboratory and speech therapy facilities.
   (e)   Paediatrics: Child Welfare including Immunization Clinic Child Guidance Clinic.
   (f)   Obstetrics and Gynaecology: Antenatal Clinic, Family Welfare Clinic, Sterility Clinic, Cancer Detection Clinic.
   (g)   There shall be an additional students' duty room (separately for males and females) attached to the labour room.
   (h)   Dentistry: Accommodation for Dental Surgery and Prosthetic dentistry.
   (i)   PMR: the space provided should house OPD consultation area, intervention and procedure room, special investigation room, Physiotherapy gymnasium, occupational therapy, prosthetic & orthotic services and other services.

9.2   Reception and Waiting Hall for Patients.

9.3   A seminar room for students.

9.4 CENTRAL LABORATORY:

There shall be well-equipped and updated central laboratory preferably along with common collection area for all routine investigations in haematology, clinical pathology,

microbiology- serological tests based on ELISA, Chemiluminescence, rapid tests, Clinical biochemistry- Photometric tests, Chemiluminescence based tests, electrolytes, ABG etc. Separate lab may be set up in the departments for any other specialized work. As far as possible, there shall be a facility in the central lab for collection of all samples and dispatch of reports. Respective sections of central laboratory shall be managed by respective teaching departments of the medical college and overall coordination may be managed by one of the HODs of the related teaching departments of the medical college, which may be arranged in rotation for every 1 or 2 years.

9.5 EMERGENCY MEDICINE DEPARTMENT

i. There shall be an Emergency Medicine department wherein consultancy services shall be provided by the teachers of relevant Departments.

ii. Accommodation for Resuscitation Services including Oxygen supply, ventilators, defibrillator and two fully equipped disaster trolleys (emergency trolleys), Emergency X-ray, investigative facilities, Operation theatre etc., shall be provided. These shall all be fully equipped.

iii. An Emergency Medicine department with corresponding undergraduate or postgraduate seat requirement shall be available. Accommodation for staff on duty (Doctors, Nurses, Students and others) shall be provided.

iv. Adequate sanitary arrangements (toilet and bathrooms) & drinking water facilities for patients, their attendants and the staff of the department shall be provided in the respective blocks.

v. There shall be well equipped and updated intensive care unit (I.C.U). The shifting of patients from emergency medicine department to ICU should be such that minimum time is lost in patient shifting.

9.6 CENTRAL HOSPITAL PHARMACY

It shall have qualified Pharmacist in-charge and other staff certified by statutory authorities to dispense the drugs.

1. **Space Requirement:**

    Dispensary: 2000 Sq.ft. (It should include all areas of dispensing services available in wards and OPDs, patient counselling, Inventory, staff and all stores).

2. **Drug and poison information services:**

    They are being provided by the Pharmacology Department as a part of MBBS curriculum & should be continued as such.

3. **Staff requirement:**

    a) The In-charge of central hospital pharmacy should be a qualified pharmacist. He should be preferably B. Pharm from a recognized university/ D. Pharm from a recognized body. He/she may be Head of the central hospital pharmacy and should work under the supervision of Medical Superintendent.

    b) Other staff certified by statutory authorities should be available to dispense the drugs.

4. **Infrastructural Requirements (Numbers may vary as required) -**

Refrigerators	:	02
Tables	:	10
Chairs	:	15
Dispensing tables (2x8 ft)	:	05
Computers (depending on the need)	:	05
Computer chairs	:	05
File cabinets	:	02
Text book racks	:	02
Computer tables	:	05
Telephone facilities		
Printing facilities		
Internet facilities (high speed)		

The above numbers are minimum requirement. However, the actual number may vary as per requirement of the hospital.

5. **Resources required for Drug information**

Pharmacopoeias/National Formularies & important text books & journals should be available in Central library as per recommendation of Prof. & HOD, Pharmacology Department.

10. CENTRAL KITCHEN

The Central Kitchen shall be commodious, airy, sunny, clean with proper flooring with exhaust system. The cooking should be done either by electricity or by gas. It should be provided with proper and clean working platforms. A separate store area with proper storage facilities should also be provided. The services trolleys for food should be hot and closed stainless steel ones.

11. ELECTRICITY

There shall be continuous electricity supply as well as standby UPS or Generator.

12. SANITATION AND WATER SUPPLY

Adequate sanitary facilities (toilets and bathrooms – Separately for women) and safe continuous drinking water facilities must be provided for the teaching staff, students (men and women), technical and other staff in all sections as required. Plumbers must be available round the clock.

A. Space for Clinical Teaching Departments, Teaching faculty and Residents.

i)   When the teaching hospital and medical college are in a unitary campus, rooms for the clinical departments and its teaching faculty can be provided either in the medical college or in the teaching hospital.

(ii)   When the teaching hospital and medical college are on separate plots, besides the statutory Requirements for the hospital, the teaching hospital shall also have space for the offices of the clinical departments and rooms for the teaching faculty as prescribed.

B 1. Teaching rooms.

The teaching hospital shall have at least 1 (one) teaching room for each of the Clinical teaching departments with a capacity to accommodate at least 30 students (as prescribed for the medical college) for clinical cases discussions/demonstrations. Each such room shall have audio-visual facilities.

Small group teaching in clinical departments essentially entails out-patient clinic and bed side teaching. However, additional teaching rooms shall be provided as required for any of the Clinical teaching departments.

Desirable: Internet facilities and connectivity to all teaching areas of the hospital

B 2. Outpatient Area:

1.   There shall be a minimum daily OPD attendance of 8 patients (old & new) per student intake annually in the specialties/subjects of undergraduate curriculum.

2.   The Out-patient areas should have adequate reception and patient waiting halls, consultation rooms, examination rooms and other ancillary facilities commensurate with the clinical specialty department.

3.   The faculty from Anatomy, Physiology and Pharmacology shall be posted on rotation in outpatient area for weekly duties. Roster for their postings shall be maintained under the supervision of hospital Superintendent,

B.3. Indoor Beds.

3.1. **Bed Strength.**

The bed strength of the teaching hospitals at time of recognition for various annual intakes of MBBS Students shall be at least 4 beds/MBBS student intake annually. The distribution of beds and number of units across different clinical teaching departments for MBBS training shall be as indicated below:

BEDS FOR MBBS SEAT CAPACITY	50	100	150	200	250
GENERAL MEDICINE	50	100	150	200	200
PEDIATRICS	20	40	65	100	125
DERMATOLOGY	5	10	10	10	10
PSYCHIATRY	5	10	15	20	25
RESPIRATORY MEDICINE	5	10	15	20	25
GENERAL SURGERY *	50	100	150	150	200
ORTHOPEDICS	20	40	65	100	100
OTORHINOLARYNGOLOGY(ENT)	10	20	20	30	30
OPHTHALMOLOGY	10	20	20	30	30
OBSTETRICS & GYNAECOLOGY	25	50	75	100	125
ICUs	20	20	30	30	30
TOTAL	**220**	**420**	**615**	**790**	**900**
PHYSICAL MEDICINE & REHABILITATION (PMR) (to be shared with Orthopedics)	5	10	10	10	10
OPD/DAY	**400**	**800**	**1200**	**1600**	**2000**

For hospitals with 100 or more beds dedicated for Gen. Surgery, at least 10% shall be dedicated to Pediatric Surgery.

1. The bed strength of the teaching hospitals shall be as mentioned in the table above. Supporting staff shall be in adequate number as required.

2. There shall be well equipped and updated intensive Care Unit (ICU), Intensive Coronary Care Unit (ICCU), Intensive Respiratory Care unit, Paediatric intensive care (PICU)and Neonatal Intensive care unit (NICU), Critical care Burns unit, Post-op surgical critical care unit, Obstetric HDU/ICU.

3. All beds which are available for teaching and training of undergraduate medical students shall be counted towards teaching beds as indicated above.

4.   Wherever possible, the facilities available in larger tuberculosis and chest diseases hospitals, infectious diseases hospitals and mental hospitals may be utilized for training in these specialties.

However, if these hospitals are not under the administrative control of the Medical College, the required beds in these specialties shall have to be provided in the attached teaching hospital itself.

5.   The medical college and its affiliating teaching hospital should provide for proportionate additional beds, infrastructure, faculty and other human resource in any specialty depending upon the needs and patient load.

B.3.2. Indoor bed occupancy. Average occupancy of indoor beds shall be a minimum of 80% per annum.

B.4. Department of Emergency Medicine :

1.   The Department of Emergency Medicine shall be mandatory for all Medical Colleges with effect from the academic year 2022-2023 onwards:

    (i)   All Medical Colleges with recognized MBBS Qualification are required to have a department of Emergency Medicine at the level of recognition as per requirement stipulated above.

    (ii)   All Medical Colleges in any stage of renewal including against increase in intake are required to have department of Emergency Medicine as per the requirement stipulated above.

2.   The Department shall have the following facilities:

    (i)   Casualty area to receive patients and facilities to triage and stabilize them. There shall be a minimum of 03 trolleys for triage.

    (ii)   There shall be at least 24 trolley-cum-beds of which at least 05 will be for "green category" (can wait- walk in patients who will need medical care at some point), 15 for "yellow category" (Observation – cannot survive without immediate treatment) and 04 for "red category" (immediate–cannot survive without immediate treatment). There shall also be a minimum 06 bedded intensive care unit in the Emergency department adjacent to the casualty area.

    (iii)   There should be minimum 01 Operation theater and 01 plaster room.

(iv) Rooms for the staff on duty

(v) Decontamination and isolation area should also be available.

B.5. Department of Radio-diagnosis

1. There shall be facilities for conventional and static and portable X-rays, fluoroscopy, contrast studies, ultrasonography and computerized tomography. Magnetic resonance imaging shall be available in all teaching hospitals before applying for PG courses in Radio-diagnosis. Provided that the MRI facility shall be managed by the medical college.

2. The rooms housing the various diagnostic imaging systems shall be as per the regulatory provisions of the Atomic Energy Regulatory Board (AERB), Government of India.

3. The staff of Radio-Diagnosis department shall be covered by Personal Monitoring System as prescribed by AERB.

B.6. Department of Physical Medicine and Rehabilitation (PMR):

1. There shall be as well-equipped department of PMR providing medical rehabilitation services including rehabilitation surgeries. The PMR department of the hospitals applying for starting medical colleges must have adequate allied health and ancillary services to cater to the needs of the hospital and may need to be upgraded from time to time keeping in view the changing needs of the patients and persons with disability and the evolving technology.

2. The services should include physiotherapy, occupational therapy, workshop (to provide artificial limbs and aids and appliances for mobility), medical social worker, vocational counselling and yoga. The yoga instructor in PMR department when a separate Yoga department is not in place will also train and guide students, staff and patients in doing Yoga.

3. Along with having its own indoor and outdoor patient care facilities, the PMR department of the hospital shall also provide dedicated inpatient rehabilitation services and referral services to other departments like orthopaedics, neurology, neuro-surgery, burn and plastic surgery etc.

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4. The department shall also provide Community Based Rehabilitation (CBR) services which may be provided through Rural Health Training centre under the department of Community Medicine as part of Family adoption programme through village outreach.

5. Beds shall be shared with General surgery and Orthopedics departments.

B.7. Department of Yoga (Desirable)

Every college may start a Yoga department with a minimum of one male and one female Yoga instructor/ trainer to train the students and faculty in Yoga. The trainers shall be employed or engaged by the college. Consultation with Ayush ministry or its guidelines as prescribed from time to time, or local AYUSH centers could be utilised.

B.8. Department of Radiation-Oncology shall be desirable with at least one qualified Radiation Oncologist.

The department of radiation-oncology should be planned in accordance with the regulatory requirements and approval of AERB. It would be desirable to start an OPD to begin with, in view of the rising incidence of malignancies in the country. This department may be closely connected with the rest of the hospital to facilitate free interaction of the facilities of various disciplines for multidisciplinary management of the patients. Prior BARC approval of the radiation therapy rooms/plan along with complete layout of the entire department is mandatory.

B.9. Anti-Retroviral Therapy (ART) Centre

Every Teaching Hospital should have Anti-Retroviral Therapy (ART) Centre and facility for management of Multi-Drug Resistant (MDR)-TB.

II - STAFF REQUIREMENTS

A. GENERAL REMARKS:

1. Emphasis in medical education being on practical instruction and demonstration in small groups and encourage students for self-directed learning, the number of teachers must be as mentioned in requirement here so as to enable instructions to be imparted effectively.

2. The teaching staff of all departments of medical college, shall be full-time;

Provided any evidence of any faculty indulging in private practice during college functioning hours, if brought to the notice of UGMEB/PGMEB/ MARB/ EMRB/NMC, such faculty shall be excluded from the list of faculty of the concerned college/ institution.

3.   These regulations cover the minimum requirements of under graduate medical education as per the annual MBBS student intake and the minimum patient load indicated in these regulations. However, the medical colleges/institutions and teaching hospital(s) need to make provision for additional staff as indicated below.

    a)   Additional teaching staff shall be provided proportionate to the workload.

    b)   Non-teaching staff shall also be required in OPD, Indoors, Operation theatres and Intensive Care areas, emergency care area, labour room, clinical laboratories, or for outreach work where work load is heavy or is of a specialized nature.

    c)   Additional teaching staff shall be required when starting postgraduate courses in accordance with "Postgraduate Medical Education Regulations, 2000" and as per amendments brought therein from time to time.

4.   The faculty to be appointed, in the departments of Anatomy, Physiology, Biochemistry, Pharmacology and Microbiology, who do not possess MBBS degree, shall have PhD in the required specialty. The proportion of such faculty permitted in these departments shall be subject to the verdict of Honorable Supreme Court [W.P.(C) 9115/2020 & CM APPL. 31386-87/2021, 4169/2022 & 17657/2022].

5.   Post of junior cadre faculties can be filled by senior cadre faculties; for example Assistant Professor, by Associate Professor or Professor. Similarly Associate Professor by Professor.

6.   Faculty position may be categorized as
    • Professor-Sanctioned post.
    • Additional Professor/ Professor designate - If promoted as a Professor against Associate Professor or Assistant Professor then he should be designated as Additional Professor or Professor designate who will be performing the duties of Associate Professor or Assistant Professor against which they have been appointed. Assistant Professors shall comprise at least 50% of the total staff.

7.   Senior Resident Doctors (SRs) shall be postgraduate candidates of the corresponding specialty or department. For Physiology, Biochemistry, Pharmacology, and Microbiology,

in case of non-availability of S.R.s from these subjects, SRs from General Medicine and allied branches or Pediatrics may be employed. For Anatomy, SRs from General Surgery and allied branches may be employed.

8.   Teachers appointed as faculty in super-specialty departments shall not be counted against the complement of teachers required for under graduate medical education in broad speciality departments. However, teachers appointed in a broad specialty department who also have super-speciality qualifications shall be counted against the complement of teachers required for under graduate medical education in the concerned broad specialty department.

9.   Visiting faculty. With a view to enhance the comprehensiveness and quality of teaching of undergraduate students, "Visiting Faculty" may be appointed on part-time basis as prescribed in "Minimum Qualifications for Teachers in Medical Institutions" regulations over and above the minimum faculty prescribed herewith. The Visiting Faculty, however, shall not be considered as faculty as per minimum requirements prescribed herewith.

Desirable: To provide up to 20% or more additional teaching faculty than the minimum prescribed

For every hospital seeking permission to start medical college, each department of the medical college shall have a Head of the Department of the rank of full time Professor who shall have overall control of the Department except in the departments of Dermatology, Psychiatry, PMR and Dentistry where Associate Professor or an Assistant Professor with more than 5 years of teaching experience may be the Head of the Department who shall have overall control of the Department till full-time Professor is appointed or the concerned faculty is promoted to the post of Professor.

In addition to the staff indicated, additional Senior Residents and Junior Residents or Medical Officers shall be provided according to the clinical load in various areas of the hospital such as wards, Labour room, intensive care areas, emergency wards, and clinical laboratories and investigative departments of the hospital, for providing services round the clock. Also, unit of the teaching departments should have at least 02 (two) Junior Residents for patient care.

Central Workshop:

It is desirable to have a central workshop with facilities for repair of mechanical, electrical and electronic equipment of college and the hospitals. It shall be manned by qualified personnel.

TEACHING HOSPITAL

Teacher in higher specialties like Cardiology, neurology, Neuro-Surgery shall not be counted against the complement of teachers required for under graduate medical education.

B.   DEPARTMENT WISE NON-CLINICAL STAFF REQUIREMENTS:

These requirements are for 50 MBBS seats. These shall be multiplied as per the corresponding increase in seats.

1.	DEPARTMENTS OF ANATOMY	Staff Strength Required
	1. Technician	5
	2. Dissection Hall Attendants	5
	3. Store Keeper cum Clerk cum Computer Operator	1
	4. Sweepers	2

2.	DEPARTMENTS OF PHYSIOLOGY	Staff Strength Required
	1. Technician	1
	2. Store Keeper cum Clerk cum Computer Operator	1
	3. Sweepers	2

3.	DEPARTMENTS OF BIOCHEMISTRY	Staff Strength Required
	1. Technician Asstt/Technician	2
	2. Store Keeper cum Clerk cum Computer Operator	1
	3. Lab Asstt	1
	4. Sweepers	2

4.	DEPARTMENTS OF PATHOLOGY	Staff Strength Required
	1. Technician	4
	2. Lab Attendants	2
	3. Steno cum Computer Operator	1
	4. Store Keeper cum Record Keeper	1
	5. Sweepers	2

5.	DEPARTMENTS OF MICROBIOLOGY	Staff Strength Required
	1. Technical Asstt./Technician	7
	2. Lab Attendants	2

3. Steno cum Computer Operator	1
4. Store Keeper cum Record Clerk	1
5. Sweepers	2

6. DEPARTMENT OF PHARMACOLOGY   Staff Strength Required

1. Lab Attendants	2
2. Store Keeper cum clerk cum Computer Operator	1
3. Sweepers	2

7. DEPARTMENT OF FORENSIC MEDICINE   Staff Strength Required

1.	Laboratory Attendants	2
2.	Store Keeper cum clerk cum Computer Operator	1
3.	Sweepers	4

Note : In case of postmortem work of more than 500 annually, two additional Tutors/Demonstrators shall be provided.

7.1 Where Department of FMT is conducting medico-legal autopsies, then it shall have following staff other than the faculties and SR and infrastructure as detailed below:

1.	Autopsy technician / Technician	- 2
2.	Autopsy assistants/ Forensic Nurses to offer round the clock services	- 3
3.	Clerk	- 1
4.	Attendants to offer round the clock services	- 5
5.	Photographer	- 1

Note-1: Autopsy technician, assistant and autopsy attendants must also have females in it so that while conducting autopsy on female dead body, presence of one female person could be ensured if faculty conducting autopsy is not female.

Note-2: Mortuary block/ Autopsy block shall have air condition facility.

7.2 Where Department of FMT is having Poison Information Centre and Analytical Toxicology Laboratory/ Forensic Science Laboratory then it shall have following staff (for 24 x 7 services) other than the faculties and SR and infrastructure as detailed below:

1.	Senior Forensic Scientist	- 1
2.	Junior Forensic Scientist	- 1
3.	Scientific Assistant (Toxicology)	- 1
4.	Lab technicians	- 2
5.	Technical Assistant	- 2
6.	Store Keeper cum clerk cum computer operator	- 1
7.	Peon & attendant	- 3

7.3 Where Department of FMT is having functional clinical forensic medicine unit (CFMU), it shall have following staff (for 24 x 7 services) other than the faculties and SR and infrastructure as detailed below:

1. Nursing staff- preferably forensic nurses- 4-5 for round the clock services-
2. Clerk- 1

Note: Adequate arrangement of rooms shall be provided to all teaching staff including SR as per the number of staff.

8. DEPARTMENT OF COMMUNITY MEDICINE Staff Strength Required

1.	Epidemiologist (Assistant Professor)	1
2.	Statistician (Assistant Professor)	1
3.	Medical Social Worker	1
4.	Technical Assistant/Technician	1
5.	Record keeper cum clerk cum Computer Operator	1
6.	Store Keeper	1
7.	Sweepers	1

C. DEPARTMENT WISE STAFF REQUIREMENTS-PHASE 3 DEPARTMENTS

(1) GENERAL

1. Each department shall have a Head of the Department of the rank of full time Professor who shall have overall control of the Department.
2. The minimum staff complement for each department shall be as mentioned in the table given at the end of this document.

The following ancillary staff shall be provided.

		Staff Strength required
1.	E.C.G. Technician	1
2.	Technical Asst./Technician	3
3.	Lab. Attendants	4
4.	Store Keeper	1
5.	Office Assistant/ Secretary	1
6.	Record clerks	2

(2)   DEPARTMENT OF PAEDIATRICS

The following ancillary staff shall be provided.

1.	Child Psychologist	1
2.	Health Educator	1
3.	Technical Asst./Technician	1
4.	Store Keeper/ record keeping clerk	1
5.	Social worker	1

(3)   DEPARTMENTS OF GENERAL SURGERY

The following ancillary staff shall be provided.

1.	Technical Assistant/Technicians	3
2.	Multi-tasking staff or OT Attendant	4
3.	Store keeper/ record keeping clerk	1

(4)   DEPARTMENTS OF ORTHOPAEDICS

The following ancillary staff shall be provided.

1.	Technical Assistant/Technicians	1
2.	Multi-tasking staff	1
3.	Store keeper/ record keeping clerk	1

(5)   DEPARTMENT OF OTO-RHINO-LARYNGOLOGY (ENT)

The following ancillary staff shall be provided.

1.	Technical Assistant/Technicians	1
2.	Multi-tasking staff	1
3.	Store keeper/ record keeping clerk	1
4.	Office Assistant/ Secretary	1
5.	Audiometry Technician	1
6.	Speech Therapist	1

(6)   DEPARTMENT OF OPHTHALMOLOGY

The following ancillary staff shall be provided.

1.	Technical Assistant/Technician	1
2.	Lab Attendant	1
3.	Office Assistant/ Secretary	1

4.	Store keeper/ record keeping clerk	1
5.	Refractionist	1

(7)   DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

The following ancillary staff shall be provided.

1.	Social Worker	1
2.	Technical Asst./Technicians	2
3.	Multi-tasking staff	2
4.	Office Assistant/ Secretary	1
5.	Store Keeper/ record keeping clerk	1

(8)   DEPARTMENT OF RADIO-DIAGNOSIS

1.	Radiographic technicians	8
2.	Dark room assistant	4
3.	Office Assistant/ Secretary	1
4.	Storekeeper/ Record Keeping Clerk	1

(9) DEPARTMENT OF RADIO-THERAPY(ASPIRATIONAL)

Staff Strength Required

1.	Professor/ Associate Professor	1
2.	Asst. Professor	2
3.	Physicist	1
4.	Radiotherapy technician (for every treatment unit)	1
5.	Dark room assistant	1
6.	Office Assistant/ Secretary	1
7.	Storekeeper/ record keeping clerk	1

(10.) DEPARTMENT OF ANAESTHESIOLOGY

1.	Technical Asst./ Technicians	8
2.	Office Assistant/ Secretary	1
3.	Record keeping/ Store keeper	1

(11) DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION

1.	Physiotherapists	1
2.	Occupational Therapists	1
3.	Orthotist and Prosthetist	1

4.	Workshop Workers	3
5.	Clinical Psychologist	1
6.	Medico-social Worker	1
7.	Public Health Nurse/Rehabilitation Nurse	1
8.	Vocational Counsellor	1
9.	Multi-rehabilitation Workers/(MRW)/Technician/Therapist	2
10.	Stenographer	1
11.	Record Clerk/ store keeper	1
12.	Class IV workers	4

(11) DEPARTMENT OF DENTISTRY

1.	Professor/ Associate Professor	1
2.	Asst. Professor	1
3.	Senior Resident	1
4.	Dental Technician	2
5.	Store Keeper cum clerk	1

Note: Where Dental College or Dental wings of medical Colleges exist, the services of teachers of these may be utilized in the instruction of medical students in Dentistry and no separate staff in the Medical College shall be necessary.

D. STAFF REQUIREMENT FOR-ANCILLARY SERVICES

I.   CENTRAL RECORD SECTION

The staff of the section shall consist of:

1.	Medical Record Officer	1
2.	Statistician	1
4.	Record keeping/ Store Clerks	2
5.	Multi-tasking staff	2
6.	Office Assistant/ Secretary	1

II.   CENTRAL LIBRARY

The staff in library shall consist of:

1.	Librarian with a degree in Library Science	1
2.	Library Assistants	2
3.	Multi-tasking staff	2

III. CENTRAL STERLIZATION SERVICES DEPARTMENT

1.	Staff Nurse	2
2.	Technician/ technical assistant	2

3.	Ward Boys	2
4.	Multi-tasking staff	2

IV. LAUNDRY

1.	Supervisor	2
2.	Dhobi / technical assistant	2
3.	Multi-tasking staff	6

V. BLOOD BANK

1.	Professor /Associate Professor	1
2.	Assistant Professor	1
3.	Technicians	4
4.	Laboratory Attendants	6
5.	Store Keepers/Record keeping clerk	1

VI. EMERGENCY MEDICINE DEPARTMENT

The staff in the department shall consist of :

1.	Medical Officer	4
2.	Operation Theatre staff to function on 24 Hours round the clock basis.	As required
3.	Stretcher bearers	6
4.	Receptionist-cum-clerks	2
5.	Ward boys	6
6.	Nursing and Para-medical staff	6
7.	Clinical staff for casualty Beds.	As required.

VII. CENTRAL WORKSHOP

1.	Superintendent – who shall be a qualified engineer	1
2.	Senior Technicians (Mechanical, Electrical, Electronic, Refrigeration)	4
3.	Junior Technicians	2
4.	Carpenter	1
5.	Blacksmith	1
6.	Attendants	4

VIII.   OTHER HOSPITAL STAFF

1.   NURSING STAFF:

1. Staffing of Nursing personnel shall be as per the recommendations of Nursing Council of India

2. Where needs may vary from hospital to hospital depending on the size of hospital and service rendered more staff than anticipated shall be provided.

3. Special attention shall be given for patient care on the evening and night shift.

4. An additional 30% leave reserve is suggested keeping in view of their leaves (weekly offs, 30 Earned Leaves, 12 Casual leaves, Sick leave, maternity or paternity leave, etc). It has been observed that on any working day 25% of the staff may be on leave.

5. Dieticians: In order to prescribe diet on the scientific lines for different types of patients the services of qualified dietician are recommended in all the teaching hospitals. Dieticians shall prescribe the diet only after consultation with the concerned department faculty.

6. Pharmacists: As required for Hospital.

7. Class III and IV personnel-as required for hospital.

   Note: These recommendations are minimum requirements and will serve as a guide to the institutions with regard to the equipment required. They are not meant to be an exhaustive list and the staff of the various departments will use their initiative and experience for equipping the departments.

EQUIPMENT (for various departments in the College and Hospitals)

(1)   DEPARTMENT OF ANATOMY

(a)   **Furniture and Fixtures:** Office tables small and big, office chairs, museum almirahs, study tables, staff room and library almirah, store almirahs, store racks, lockers with coat hangers and drawers as required. Laboratory benches with cup-boards and rack for reagent bottles and laboratory glasswares as required, water and gas and electric points operation tables etc., as necessary.

S.No.	Name of the Article	Requirement for 100 students
A)		
1.	Table with marble or stainless-steel top with a minimum size of 6' x 2' x3'	12
2.	Tables with marble or stainless-steel tops - half standard size	4
3.	Drill machine	2
4.	Hand saw, preferably metal	3
5.	Band saw for sectioning body and limbs	1
6.	Stools, preferably metal	100
7.	Brain knife	2
8.	Mortuary cooler with arrangement to keep at least 8 bodies or suitable alternative arrangement	2
9.	Storage tank to hold 10 cadavers, static/movable, durable tank with input and output facility with lid	2
10.	Plastic tanks for storing soft and dissected parts	8
11.	Trolley Table (Steel)	2
12.	Multimedia Projector with screen	2
13.	Movie camera with projection screen	1
14.	Computer with internet connection, & video CD library	2
15.	X-ray Viewing lobby	4
16.	X-Ray plates/MRI/CAT scan/USG	Sufficient numbers
17.	Charts, Diagrams, Models, Slides etc.	Sufficient numbers
18.	Dissecting instruments	Sufficient numbers
19.	Meat cutting machine for thin body sections (trans and vertical) for gross anatomy sectional study	1
20.	Steel trays (big & small)	4
21.	Cadavers	10
22.	Embalming machine	2
23.	Dissection Hall	Preferably air-conditioned

B)

24.	Microscopes	50
25.	Dissection microscope	4
26.	Microtome, rotary	1
27.	Microtome, Sledge, large cutting	1
28.	Cabinet for slides (1000)	4
29.	Incubators	1
30.	Paraffin embedding bath	1
31.	Hot plates for flattening sections	1
32.	Hot air oven for drying slides (450° C)	1
33.	Refrigerator (minimum 165 L)	2
31.	Diamond pencils	2
32.	Marking pencils	2
33.	Stools, preferably metal	50

C)

33.	Articulated Skeleton set	5
34.	Disarticulated Bone set	20
35.	Wet Specimen jars (Glass)	125
36.	Steel Racks	Sufficient numbers
38.	Desktop Computer/Laptop with printer-scanner-copier facility	1

(2)   DEPARTMENT OF PHYSIOLOGY

a.   Office table, small and big, office chairs, museum almirahs, study table, staff room and library almirahs, stock almirahs, store room racks, laboratory benches with cupboards and racks for reagent set up for experimental physiology including Sherrington Starling Kymograph (Presferably electrically driven) Myograph stand, inductorium, simple key short circulating key, pohl's commutator, vibrating interrupter, Muscle through, Muscle liver, Muscle grip of femur clamp, Hook and weight set, heart liver, frog board for dissection, enamel tray for above, frog board cork-lined with boss-head-36 sets + 6 spares.

List of Equipments in Physiology (per 50/100 student strength)

S.No.	NAME OF THE ITEMS	No. Required

A. Hematology Laboratory

1.	Microscopes, oil immersion	60
2.	Demonstration eye piece	2
3.	Double demonstration eye piece	2
4.	Stage incubator	1
5.	Westergren's pipette for E.S.R. on stand (with space pipette)	20
6.	Wintrobe's pipette for ESR and PCV withstand	20
7.	Hemoglobin-meter Sahli's or Hellige (with spaces)	60
8.	Hemocytometer	60
9	Thermometers, balances, microslides and glassware	As required
10	Multi-channel Physiograph,3 channels, complete with accessories	1
11	Centrifuge, high speed with technometer	1
12	Colorimeter, photoelectric	1
13	pH meter electric	1

B. Clinical Physiology

15	Digital Physiograph	1
16	Digital Perimeter	5
17	Sphygmomanometer(digital) (Mercury based instruments to be replaced with suitable alternatives)	40
18	Stethoscope	40
19	Stethoscopes, demonstration with multiple ear pieces	2
20	Polygraphs	1
21.	Spirometer, ordinary	2
22.	Digital Spirometer	10
23.	Mosso's Ergograph	5
24.	Clinical thermometer	10
25.	Compass aesthesiometer	5
26.	Thermo-aesthesiometer	5

27.	Algometer	5
28.	Knee hammer	10
29.	Stethograph	5
30.	Bicycle Ergometer	1
31.	Olfactometer	1
32.	Ophthalmoscope	5
33.	Schematic eye	1
34	Color perception lantern Edridge green	1
34.	Dynamometer	1
35.	Otoscope	1
36.	Stop watch	10
37.	Digital ECG Machine	2
38.	Yoga Mat	As required
40.	Tuning fork to test hearing 32-10000 cps (100, 256, 512Hz)	(2,10,10)
41.	Van Slyke's apparatus manometric	Desirable
42.	Venous pressure apparatus	Desirable
43.	Douglas bag, complete	Desirable
44.	Basal metabolism apparatus	Desirable
45.	Apparatus for passive movement	Desirable
46.	Phakoscope	Desirable
47.	Perimeter with charts (Lister's)	Desirable
48.	Maddox rod	Desirable
55.	Newton's color wheel	Desirable
56.	Student physiograph (single channel) with accessories	Desirable
57.	Gas analyser automatic for CO2, O2, N2	Desirable

C. Experimental Physiology

59.	Sherrington Starling kymograph (electrically driven) Complete assembly	2
60.	Electromagnetic time marker	2
61.	Myograph stand	2
62.	Electronic stimulator	1
63.	Tuning fork time marker100/sec	2

64.	Electrodes	2
65.	Spirit lamps	2
66.	Marey's tambour	2
67.	Softwares to demonstrate Amphibian and mammalianDesirable experiments	
68.	Low voltage unit for tapping 2 and 4 volts for stimulation	Desirable

GENERAL

Centrifuge, high speed with technometer etc.	1
Refrigerator, 9-10c ft.	1
Water distillation still, with spare heating elements	1
All glass distillation apparatus double stage	1
Voltage stabilizer	2
Stepdown transformers	1

(3)   DEPARTMENT OF BIOCHEMISTRY

S. No.	NAME OF THE ITEMS	No. Required
1.	Analytical Balance : upto 200g/1gm increment	2
2.	Urinometers calibrated (Mercury based instruments to be replaced with other alternatives)	25
3.	Hot air oven (More than 200 litres)	2
4.	Digital Colorimeters	5
5.	Student Microscopes	05
6.	Glucometer with strips (For POCT)	2
7.	Thermometer 0 – 250 degree Celsius	5
8.	Semi autoanalyzer	2
9.	Boiling Water baths	2
10.	Constant temperature water bath Tank Capacity: (Temperature range 5 to 80 degree Celsius)	2
11.	Centrifuge clinical for ≥ 8 tubes	2
12.	pH meters of wide range digital	5
13.	Fixed volume pipettes -- 1ml,0.5ml,0.2ml,0.1ml and 0.02ml	0 (of each volume)
14.	Bottle dispensers	As required
15.	Variable and fixed volume micro auto pipettes	As required
16.	ELISA (Demonstration)	Demonstration
17.	Vacutainer Tube	Demonstration
18.	PCR Machine	Demonstration
19.	ABG Machine	Demonstration
20.	Autoanalyzer (either in the institution or elsewhere on avisit)	Demonstration
21.	Complete Chromatographic Unit for paper & TLC	2 each

22.	Complete Electrophoresis apparatus with power supply (Paper, PAGE, agarose)	1 each
23.	Densitometer with computer	1
24.	Vortex mixers	2
25.	Incubator 37° C	2
26.	Fume cupboard	1
27.	Digital Analytical Balance	1
28.	Balance Micro	1
29.	Spectrophotometer	1
30.	PCR machine	For demonstration
31.	ELISA Reader and washer	For demonstration
32.	Urine strips for Glucose & Protein	Minimum 2 per student per year
33.	ISE analyzer	Demonstration
34.	Refrigerators (Minimum 400 Ltrs)	02

These instruments may be increased as per the need.

(4) DEPARTMENT OF PATHOLOGY

(a) General

Office table small and big, office chairs; museum almirahs; study table, staff room, and library almirahs, stock almirahs, store room racks, lockers with coat hangers and drawers as required. Laboratory benches with cupboards and rack for reagent bottles, water, gas and electric points, operation tables etc. as necessary.

1. **Cytopathology section**
   - Cytospin
   - Auto stainer
   - Facilities for liquid-based cytology

2. **Hematology section**
   - Electrophoresis apparatus
   - HPLC
   - Flow cytometry –Desirable

3. **IHC**
   - Immuno fluorescence Microscope

4. **Molecular Diagnostic**
   - Conventional PCR
   - Real time PCR

b. **Clinical Laboratory:**

S.No.	NAME OF THE ITEMS	No. Required
(A)	**General**	
I	**Histopathology / Cytopathology for Students**	

1. **For Students** – LED Binocular with Scanner, 10X, 40X, & Oil60 immersion lenses and inbuilt Battery backup power source

S.No.	NAME OF THE ITEMS	No. Required
II	**Hematology for Students**	
2.	Stop watch reading at 1/5 second.	5
3.	Haemo-cytometers with red and white pipettes	90
4.	Staining jars for slides.	As required
III	**Clinical Pathology for Students**	
1.	Urinometers(Mercury based instruments to be replaced with other alternatives)	As required
2.	Centrifuge tubes graduated.	As required
3.	Graduated cylinders for various capacities ranging from 100 cc to1000 cc. (For Students)	As required
4.	Pipettes of various sizes with disposal tips. (For Students)	As required
5.	Reagent bottles (For Students)	As required
6.	Dropping bottles (For Students)	As required
7.	Reagents (For Students)	As required
(B)	**Morbid Histology and Morbid Anatomy**	
1.	Manual Rotary Microtome	2
2.	Automated Rotary Microtome	1
3.	Cryostat	1
4.	Hot plate	2
5.	Paraffin embedding bath	2
6.	Heated Paraffin Embedding Module	2
7.	Cold Plate for Modular Tissue Embedding System	1
8.	Automated Tissue Processor –Histokinette	2
9.	Autoclave	2
10.	Ultrapure water solutions - Distilled water plant	1
11.	Water bath	1
12.	Centrifuge machine	5
13.	Digital SLR at least 20 megapixel with micro, macro, wide angle zoom lenses, Flash and other accessories	1
14.	Digital Automatic camera > 5 megapixel	1

15.	Fully Automated high throughput Multi-Stainer Workstation	1
16.	Fully Automated Embedding System (Heated embedding module & cold plate)	1
17.	Fully Automated Flexible Coverslipping Workstation	1
18.	Standalone paraffin dispensing module cold plate holding more than 100 cassettes	1
19.	Stand-alone cold plate	1
20.	Coplin jars	As required
21.	Water bath (Tissue Floatation)	As required
22.	Single Pan Digital Balance, Chemical	2
23.	Balance, chemical with weights	2
24.	**Microscopes**	
25.	**For Diagnostic & Research Work** - Trinocular head Microscope with Bright field, Dark field, Fluorescent & Polarizing Facility, high end Apochromatic lenses with Camera with HDMI Multi output camera Minimum 5MP with Projector & Ultra HD TV > 52 inches & Screen including Software Capable of Brightfield& Immunofluorescence Photographywith connectivity to projector & LED TV (At least 55 inches Ultra HD)	1
26.	**Penta Head Microscope with High end Optics** withHDMI Multi output Photographic Camera (> 5 MP) including Software	1
27.	Deca Head Microscope with High end Optics with HDMI Multi output Photographic camera (> 5 MP) including Software	1
28.	**Grossing Station** - Stainless steel, with Control panel, air filtration system, Track mounted adjustable computer arm with articulation, LED lights that are color and intensity, Dedicated USB ports for camera control and data transfer adjustable, Integrated pathology camera system, Instrument Set (High quality) Height Adjustable Stainless Steel Chairs With Split AC of appropriate capacity.	1
29.	Fully Automated Immuno-histo-chemistry Setup with Continuous supply of Important Antibodies, Lymphoma Panel etc.	1
(C)	**Hematology Lab:**	
30.	**Five part Fully Automated Cell Counter**	1
31.	**Three Part Fully Automated Cell Counter**	1
32.	**Coagulometer (Fully automated)**	1

(5) DEPARTMENT OF MICROBIOLOGY

S.No.	NAME OF THE ITEMS	No. Required
(A)		
1.	Microscopes (Specified as in Pathology)	As required
2.	Culture Plates/ Petri Dishes	As required
3.	Glass wares including Pasteur Pipettes	As required
4.	Facility for heating slides	As required
(B)	**General**	
5.	Anaerobic apparatus	2
6.	Autoclave	2
7.	Balance Electronic Digital	1
8.	Biosafety Cabinet Type - 2A	3
9.	BOD Incubator	1
10.	Centrifuge	3
11.	CO2 Incubator/Candle Jar	2
12.	Computer Unit	2
13.	Deep Freeze -20° C & Deep Freezer	1 each
14.	Distilled water Plant	1
15.	Elisa Reader	1
16.	Elisa Washer	1
17.	Hot Air Oven	2
18.	Incubator	2
19.	Lab Refrigerator (minimum 400 litres)	3
20.	Laminar flow	1
21.	Micrometer eye pieces	1
22.	Micrometer stage	1
23.	Microscope Binocular	Every Faculty
24.	Microscope with universal condenser containing oil immersion, Bright field, Phase Contrast & Dark ground	1
25.	pH determination apparatus	2
26.	Serum inspissators	1
27.	VDRL shaker	1
28.	Vortex Mixer	2
29.	Water bath with variable temperature	2
30.	Oil-immersion lens for student microscope	25
31.	Automated Blood Culture System	1
32.	Colony Counter	1

(C)	**Consumables for Culture and Serological Diagnosis**	
33.	Antibiotic Discs for Antibiotic susceptibility testing	As required
34.	Antibiotic zone scale	As required
35.	Antisera-Salmonella	As required
36.	Antisera-*Shigelladysenteriae*	As required
37.	Antisera-*Shigellaflexnari*	As required
38.	Antisera-*Shigellasonnie*	As required
39.	Antisera-*Vibrio cholerae*	As required
40.	ATCC strain - *Enterococcus fecalis* 29213	As required
41.	ATCC strain - E.coli 25922	As required
42.	ATCC strain - E.coli 35218	As required
43.	ATCC strain - *Pseudomonas aeruginosa* 27853	As required
44.	ATCC strain - *Staphylococcus aureus* 25923	As required
45.	ATCC strain - *Staphylococcus aureus* 29213	As required
46.	Bottles for blood culture	As required
47.	Micropipettes – Multi channel & Single channel	As required
48.	Digital Thermometers of different temperatures	As required
(D)	**BSL 2 Lab**	
49.	-80°C deep freezer with UPS	1
50.	Real-time PCR machine calibrated for the fluorophoredyes with UPS	1
	(2 nos., 2KVA each, with 2 hours back-up)	
51.	Microcentrifuge / Refrigerated Centrifuge	1
52.	(a) Personal protective equipment (PPE)	As required
	(b) Viral Transport Medium (VTM)	
	(c) All other consumables and kits as required for Virology studies.	
53.	Magnifying glass with metal handle	30
54.	Metal mincing machine	1
55.	Postmortem instruments sets complete	1
56.	Suction pumps	1
57.	Filtering apparatus Seitz	
58.	Filter and Millipore filter- each	
59.	Desiccators	2
60.	Vacuum Desicators	1
61.	Apron plastic for postmortem	2

62.	Apron rubber for postmortem	2
63.	Lyophilizer	1
64.	Thermal Cycler	1
65.	U.V. Transilluminator with photography	1
66.	Colony counter	1
67.	Cold room + 4 degree Celsius	1
68.	BACTEC system	1
69.	Phase contrast Microscope	1
70.	Vortex mixer	1
71.	Electronic Balance	1
72.	Microfuge	1
73.	Ultra centrifuge	1
74.	Flourescent Microscope	1

(6) DEPARTMENT OF PHARMACOLOGY

Office tables small and big, office chairs, museum almirahs, study tables, staff room and library almirahs, stock almirahs, store room rack, lockers with coat hanger and drawers as required laboratory benches with coat hanger and drawers as required. Laboratory benches with cupboards and with racks for reagent bottles, water, gas and electric points, operation tables, as necessary.

S. No.	NAME OF ITEMS	No. required
A Clinical Pharmacology Lab		
1.	Special Drug Delivery systems like Metered Dose Inhalers, Spacers, Nasal sprays, Transdermal patches, Insulin pen etc.	4 each per 50 students in lab* (*when 50 students are in a single practical batch)
2.	Samples of various important drug formulations including rational and irrational FDC, Essential medicines	5 each per 50 students in lab*
3.	Simulation models for demonstration of routes of administration i.e., various injections (iv, im, sc, intracardiac), enema, vaginal pessary insertion, and other routes of drug administration. Modules for communication competencies e.g., module with recorded videos of role play.	-2 each of iv, im, sc, enema, vaginal pessary per 50 students in lab*. Models can be hybrid/low fidelity to medium fidelity. -As needed.
B. Computer Assisted Learning Lab		
4.	Must have computers with standard configuration and connected	10 PCs per 50

to the internet, (Preferably broadband) along with AV aids including multimedia projector and screen/LED screen). The Computers to have computer assisted teaching-learning and assessment material e.g., National List of Essential Medicines, Standard Treatment Guidelines, Banned Drugs List of the CDSCO, Hospital formulary, Animations/videos of mechanism of action of clinically useful drugs in humans, Adverse Drug Reactions forms, photographs of ADRs, Drug Promotional Literature, OSCE/OSPE station material and Self-assessment modules. E-prescription, Digital cases, and case videos (optional)	students in lab* (add one PC for each additional 10 students in practical batch e.g., for 60 students batch- 11 PCs)

(7) DEPARTMENT OF FORENSIC MEDICINE :

1. Autopsy table- 2
2. Portable X-ray machine must be present in every autopsy block with provision of Radio-technician (can be shared with Radiology) and reporting by Radiologist to avoid movement of dead body from autopsy room to Radiology Department to meet the requirement of dignified management of dead.
3. Computers with printers.
4. Software for preparing and printing postmortem report etc.
5. Mortuary block shall have air condition facility.
6. Dead body freezer (minimum 6 chambers).
7. Adequate protective clothes, equipment's for the staff of the department working in autopsy block.
8. Provision of **Video-conferencing room** in the department to give evidence in the court of law to meet requirement of Digital India with appropriate facility of Internet, Computer, Video camera, etc.

Where FMT department has functional Poison Information Centre and Analytical Toxicology lab then it should have following equipment's:

1. Digital Spectrophotometer
2. Chemical Balance
3. Distillation Plant
4. Spectroscopic Lens with Adjustable Slit.
5. TLC, HPLC, GC-MS

S.No.	NAME OF THE ITEMS	No. Required
1	Anthropometric Set including	1
	A) Folding Metal Rod Upto 7 Ft	
	B) Osteometric Board	
	C) Craniometer	
	D) Mandibulometer	

	E) Goniometer	
	F) Vernier Calipers	
	G) Equipment for Reporting Height	
	H) Weighing Machine Dial Type Human	
2	Digital pH Meter	1
3	Digital Spectrophotometer	1
4	Chemical Balance	1
5	Distillation Plant	1
6	Refrigerator	1
7	Centrifuge	1
8	Slide Warming Table	1
9	Hot Plate	1
10	Spectroscopic Lens With Adjustable Slit	2
11	Dissection Set Complete	2
12	Digital BP Instrument	2
13	Stethoscope	2
	Medico legal work	
14	Cold Storage For Dead Bodies	As required
15	Weighing Machine For Dead Bodies	1
16	Autopsy Tables	As required
17	Stryker Type Autopsy Saw With Accessories	2
18	Weighing Machine For Organs	2
19	Weighing Machine For Fetus	2
20	Dissection Set Complete	4
21	Brain Knife	2
22	Hack Saw	2
23	Rib Shear Left & Right	1 Each
24	Measuring Tape(Steel Tape Roll)	2
25	Magnifying Lens	2
26	X- Ray View Box (4 In 1)	1
27	Tooth Extractor Left & Right	1
28	Hand Set Heat Sealer	1
29	Instrument Trolley	As required
30	Rectal Thermometer	1
31	Portable X-ray Machine (can be shared with Radiology Department)	1
	Additional Equipment For Medico legal Post Mortems Beyond 500 Post Mortems Annually	
32	Cold Storage For Dead Bodies	As required
33	Autopsy Tables	As required

34	Stryker Type Autopsy Saw With Accessories	1
35	Weighing Machine For Organs	1
36	Weighing Machine For Fetus	1
37	Dissection Set Complete	1
38	Brain Knife	2
39	Hack Saw	2
40	Rib Shear Left & Right	1 Each
41	Measuring Tape(Steel Roll)	2
42	Magnifying lens	2

(8) DEPARTMENT OF COMMUNITY MEDICINE

S.No.	NAME OF THE ITEMS	No. Required
1	Hydrometer, milk	2
2	Incubator, electric (can be procured from Microbiology)	1
3	Balance for weighing food stuff(Capacity 2 Kg).	1
4	Centrifuge clinical	1
5	Weighing machine adult	6
6	Baby weighing machine	2
7	Salters Baby weighing machine	2
8	Harpenden Calipers (for skinfold thickness)	2
9	Height measuring stand	3
10	Refrigerator 9 cu.ft.	3 + Additional one each at RHTC and UHTC
11	Ice Lined Refrigerator (I.L.R.) (at Health Centre)	1
12	Smart TV	1
13	Vehicles for transport of students/interns/faculty/paramedical staff to the RHTC and UHTC	1 Bus (32 capacity) & 1 SUV
14	Multimedia Projector with Screen	2
15	Public Address system (2 portable for field based activities and one each for RHTC & UHTC)	4 Sets
16	Chloroscope	10
17	Horrock's Apparatus	3
18	MUAC tapes	10
19	Haemoglobinometer	5
20	BP Apparatus (Digital)	10
21	Stethoscope	10
22	Sound level meter	3

23	Water sampling bottle from any depth	1
24	Needle Shredder	3
25	Vaccine carrier	5
26	Craft water testing kit	1
27	Treatment kits as per national health programs	3 each
28	Iodine testing kit	10
29	Glucometer	10
30	Mosquito catching kit	1
31	Clinical Thermometer	10
32	First Aid Kit	1
33	Otoscope	1

The Rural and health centers for training of undergraduate students shall be suitably equipped along with adequate transport.

FOR PHASE 3 DEPARTMENTS

The list of equipment for clinical departments both indoor and outdoor, may be prepared by the Heads of departments, who would keep in view the needs for: -

(1) Special examination with diagnostic aids and investigations such as laboratory, X-ray, etc.
(2) Routine treatment, medical and surgical etc.
(3) Special therapy such as physical, occupational, dietetic etc.

The following equipment for various clinical departments are however the minimum required.

1. **SKILLS LAB**

(i) Trainer simulators / models / mannequins for:

- First aid, Bandaging, splinting
- Basic Life Support (BLS), CPR (Cardio Pulmonary Resuscitation) mannequin
- Various types of injections- Subcutaneous, Intra-muscular, Intra-venous
- Urine Catheter insertion
- Skin & Fascia suturing
- Breast examination model /mannequin
- Gynecological examination model/mannequin including IUCD (Intra Uterine Contraceptive Device)Training model

- Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery.

- Neonatal & Pediatric resuscitation mannequins

- Whole body mannequins

- Trauma mannequin

(ii) Each model (Low or High Fidelity) should have a module for training including objectives, methods and assessment. Modules can also have hybrid models where real patients or standardized/simulated patients/ computer simulations can be used.

(iii) There shall also be space for computer assisted learning with adequate computers.

(1) DEPARTMENT OF MEDICINE

B.P. Apparatus	20
Ophthalmoscope	6
Lumbar puncture needles (disposable)	As required
Haemocytometer	3
Light Microscope	1
Haemoglobinometer	3
Centrifuge Machine	1
Urinometer	1
Plural biopsy needs (disposable)	As required
Liver biopsy needs (disposable)	As required
Kidney Biopsy needs (disposable)	As required
X-ray viewing box	15
Overhead projector	1
Slide Projector	1
Upper Gl endoscope	1
Colonoscope	1
Sigmoidoscope	1
Proctoscope	6
Facilities for doing tests for malabsorption	As required
Ultra sound machine	1
Fiberoptic bronchoscope	1
Spirometer	1
Bed side Cardiac monitors	8
Central Cardiac monitor Console	1
Defibrillator	8
Non-invasive B.P.Apparatus	8
Pulse oximeter	8

Equipment for ardiac pacing	1
Ambu bag	8
Laryngoscope	8
ECG Machine	8
Echocardiography machine	1
Tread Mill test machine	1
Haemodialysis machine	3
Peritoneal dialysis catheters	As required
Arterial blood gas analyzer	1
Na/K analyzer	1
Equipment for measuring diffusion capacity	1
Microprocessor based spectrometer	1
Gamma cameras	1
Glucometer	5
Radio-isotope scan laboratory	1
Electro Encephalogram (EEG) machine	1
EMC and nerve conduction velocity machine	1
Fine needle aspiration needle	As required
Aspiration needle	As required
Torches	20
Patient examination table	20
Rubber Hammer	20
Reagents for doing Gram's and	
Ziehl Neilson staining	As required
Computer (one for each medical unit)	2
Radiopagers	20
Endotracheal tubes	As required
Emergency lights	6

(2)   DEPARTMENT OF PAEDIATRICS

(A)   Resuscitation equipment:

1.	Ambu bag	
	-infant	2
	-children	2
2.	Face mask	2
3.	Nasal prongs	As required
4.	Nasal catheters	As required
5.	Endotracheal tubes	As required
6.	Suction apparatus	1
7.	Suction catheters	As required

8.	Laryngoscope	
	- Infant	1
	- Children	1
(A)	**Oxygen Delivery System-**	
9.	Oxygen Cylinder	1
10.	Oxygen regulator	1
11.	Oxygen Humidifiers	1
12.	Oxygen headbox (of each size)	1
13.	Nebulisers	4
(B)	**Drug Deliver Equipment/ Catheter/tube-**	
14.	Intra-venous (I.V.) Drip set	As required
15.	Measured volume	2
16.	Blood transfusion set	2
17.	Intra-venous (I.V.) Canula (Butterfly type)	As required
18.	Intracath	4
19.	Umbilical vein	4
20.	Catheter	
21.	Feeding tubes	As required
22.	Three way and four	2
23.	Way valve	
24.	Malecot's catheter	4
25.	Cut open canula	As required
(C)	**Measurement Equipments Weighing machine**	
26.	- Infant	1
27.	-Child	1
28.	- Neonates	1
29.	Infantometer	1
30.	Measuring tape	As required
31.	Shakir's tape	As required
(D)	**Work lab and investigations**	
32.	Student Microscope	1
33.	Nuclear Chamber	2
34.	Hemoglobinometer	2
35.	Test tube	As required
36.	Spirit lamp	2
37.	Stains for – Leishman's staining	As required
	- AFB staining	-do-
	- Grams staining	-do-
38.	Dextrostix	As required

39.	Multisix	-do-
40.	Uristix	-do-
41.	Micro Erythrocyte Sedimentation	
42.	Rate (ESR) tubes	As required
43.	Filter paper	As required
44.	Bone marrow needle	2
45.	Lumber Puncture (L.P.) Needles	2
46.	Pleural aspiration needle	2
47.	Vim-Silverman	2
48.	Biopsy needle Mengeniz Needle	2
49.	True cut Renal	2
50.	Biopsy needle	1
51.	X ray View Box	1

F) Miscellaneous

52.	Radiant Warmer	1
53.	Infant incubator	1
54.	Phototherapy unit	1
55.	Ophthalmoscope	1
56.	Thermometer-Oral	As required
57.	Rectal	As required

(3) DEPARTMENT OF RESPIRATORY MEDICINE

Nebulizers	2
Intercostal Drainage Facility	2
Pleural Biopsy Needles	2
Pulse Oximeter	1
Fiber-optic Bronchoscope	1
Rigid Bronchoscope	1
Pulmonary function Test machine with facility for spirometry, lung volume and diffusion capacity	1
Arterial Blood Gas machine	1

(4)   DEPARTMENT OF DERMATOLOGY

Facilities for examining smears for bacteria, fungi, mycobacteria and acantholytic cells

- (a) Light microscope with facility for dark ground illumination microscopy
- (b) Gram's stain
- (c) Zeihl-Neelsen's stain
- (d) Giemsa stain

Facilities for electrosurgery and chemosurgery

- (a) Electro-cautery machine
- (b) Trichloro-acetic acid

(5)   DEPARTMENT OF PSYCHIATRY

Electro Convulsive Therapy (E.C.T.) machine preferably with ECG monitoring	1
E.E.G. monitoring	1
E.C.G. machine	1
EEG machine	1
Lithium analyzer	1
Biofeed-back instruments (sets)	1
Thin layer chromatography (for drug dependence treatment)	1
Alcohol breath analyzer	1
Psychological Tests equipment	
a) Project tests	2
b) Intelligence Tests	2
c) Personality Tests	2
d) Neuro psychological tests	2

(6)   DEPARTMENT OF SURGERY

(i) O.P.D	
Blood Pressure Apparatus, Stethoscope, diagnostic kit, weighing machine, skin fold caliper, eight scale.	4
X-ray viewing box 4 in 1	4
Proctoscope & Gabriel Syringe	4
Sigmoidoscope (Rigid)	2
Flexible Endoscope, Upper Gl,	2
Colonscope (one set in Main O.T.) Diagnostic Cystoscope	1

Uroflowmetry	1

(ii) MINOR O.T.

Operation Theatre Table	2
Operation Theatre Ceiling light	2
Pedestal lights	4
Electro-surgical unit	1
Suction	4
Pulse oximeter (one for Endoscopy Room)	4
Anaesthesia Equipment	1 set
Resuscitation kit	1
Assorted surgical instrument for minor operation sets	12
Autoclave	1

(iii) WARDS

B.P. Apparatus, Stethoscope, diagnostic kit (4 sets in each ward)	12 sets
Weighing machine, height scale, skinfold Caliper (2 each in each ward	6
Proctoscope (2 in each ward) Monitors for pulse rate, Heart Rate, E.C.G., Invasive and non-invasive pressure (2 in each ward)	6
	6

Incubators/Transport incubators	3
Neonatal Bassinet	3
Ultrasound	1
Arterial blood analyzer	1
Oesophageal/Gastric pH & pressure recorder	1

(iv) OPERATION THEATRE

Operating tables	8
Operating Ceiling light	8
Pedestal side light (for emergency use)	4
Electrosurgical Unit	10
General Sets (8 for each Operation Theatre)	64
Burr hole set	2
Vascular set (1 in each Operation Theatre)	8

(v)   Anaesthesia Equipment as per requirement of Anaesthesia department

Diagnostic and operative laparoscope	2
Cystoscope and Resectoscope	2
Bronchoscope	1
Flexible G.I. Endoscope	1
Laser (May be shared with other departments)	1
C-arm image intensifier	1
Operating microscope-binocular with Video monitor	1
Operative ultrasound	1
Stapling device Assorted	2 sets
Endo-stapler	1 set
Closed Circuit T.V.	2
MISCELLANEOUS	
Photocopier	1
Computer with laser Printer	1
Electronic Typewriters	2
Slide-Projector	4
Overhead projector	4
Video Cassette Recorder/Video Cassette Player	as per requirement

(7) DEPARTMENT OF PAEDIATRIC SURGERY

Resuscitation equipment	
- Ambubags	2
- ET Tubes (all sizes 2.5-8)	4 sets
- Guedell's airway (all sizes)	2 sets
- Laryngoscope	2
Suction Catheters assorted sizes	10 sets
Suction machines	2
Oxygen cylinders Oxygen	4
B.P.Apparatus	4
Slow suction machine	2
Nebulizer	2
Heater	2
I.C.U. equipment incubator	2 sets
Operation Theatre equipment	1
Cystoscope-Paediatrics	1

Rigid Bronchoscope (sets)	1
Oesophageal dilators (sets)	1
Paediatrics Sigmoidoscope	1

(8) DEPARTMENT OF ORTHOPAEDICS

Basic instrumentation set for fracture	3 sets
Small Fragment and large fragment	2
External Fixator	4
C-Arm (Image Intensifier)	1
Portable X-ray Machine	1
Arthroscope	1
Slide Projector	1
Over-head projector	1
Movie Camera for demonstration of live operations	1
Plaster room equipment (sets) with plastic table.	1
Physiotherapy and occupational Therapy equipment Sets	1
Operation room equipment (sets)	1

(9) DEPARTMENT OF OPHTHALMOLOGY

OUT PATIENT DEPARTMENT	
Snellen Chart/Snellen drum with or without remote control	3
Trial set with trail frame both for adult and children	3
Bjerrum Screen	1
Perimeter	1
Colour vision chart	3
Near vision chart with different language	3
3 cell torch	6
Opthathalmoscope and Retinoscope	3
COMMON EQUIPMENTS IN THE OUTPATIENT DEPARTMENT	
Slit lamp	1
Applanation tonometer	1
Keatometer	1
Indirect ophthalmoscope	1
Synoptophore	1
Maddox Rod	1

Maddox Wing	1
Diplopia goggles	1
Gonioscope	1
Placido disc	1
Prism Bar	1
Schoutz tonometer	2

MAJOR OPERATION THEATRE

Operating miscroscope with TV Unit with camera	1
Cryo Unit	1
Cataract set	5
Glaucoma set	2
DCR set	2
Entropian set	2
Enucleation set	2
Evisceration set	2
Squint set	2

GENERAL OPHTHALMIC EQUIPMENTS

Operation Theatre Table	1
Operation Theatre Light	1

MINOR OPERATION THEATRE:

Minor O.T. should have the equipment for the removal of the foreign body, sutures and chalzion or stye.

WARD

Slit lamp	1
*Snellen Chart/Snellen drum with or without remote control	1
Trial set with trial frame both for adult and children	1
Bjerrum screen	1
Perimeter	1
Colour vision chart	1
Near vision chart with different language	1
3 Cell torch	2
Ophthalmoscope and Retinoscope	1

(10) DEPARTMENT OF OTORHINOLARYNGOLOGY (ENT)

OPD (per doctor)	
Nasal Speculum	4
Tongue depressor	4
Laryngeal mirrors	4
Nasopharyngeal mirrors	4
Aural speculum	4
Ear Suction	2
Nasal Suction	2
Suction apparatus	1
Siegles speculum	1
Tuning fork (512 Hz)	1
Otoscope	2
Bayonet forces	1
Bulls lamp	1
Head lamp	1
ENT examination chair	2
Jobson Horne probe	1
Sterilizer	1
BP apparatus	1
Stethoscope	1
MAJOR Operation Theatre	
Tonsillectomy and adenoidectomy set	
Biopod	1
Boyle-Davis mouth gag	1
Tonsil holding forceps	1
Tonsil dissector and pillar retractor	
Tonsil snare	1
Burkit artery forceps	1
Negus artery forceps	1
Tonsil scissors	1
Adenotome	1
Adenoid curette	1
Yankauer oropharyngeal suction tip Set for nasal bone fracture	1
Asch forceps	1
Walsham forceps	1
Septoplasty set	

Bayonet forceps	1
Killians nasal speculum	1
Freer elevator	1
Ballenger's swivel knife	1
Takahashi forceps	1
Fish tail gouge and mallet	1
Caldwel luc set	
Nasal gouge	1
Mallet	1
Ribbon Retractor	2
Cheek Retractor	2
Antrostomy set	
Retrograde gouge	1
Antral rasp	1
*FESS set	
*Rigid nasal endoscope	1
*Light source	1
*Sickle knife	1
*Retrograde punch	1
*Blakesley forceps – straight	1
- upturn	1
* Optional for MBBS	
Direct laryngoscopy set	
Anterior commissure Laryngoscope	1
Negus laryngoscope	1
Lighting system for laryngoscopes	1
Biopsy forceps	1
Foreign body removal forceps	1
Laryngeal suctions	1
*Microlaryngoscopy set	
*Kleinsasser's laryngoscope	1
*Fibroptic lighting system	1
*Suspension system for Laryngoscope	1
*Microlaryngeal cup forceps	1
Microlaryngeal Scissors	1
*Tympanoplasty set	
*Aural speculum	4
*Drum curette	2

*Drum elevator	1
*Microsuction	2
*Graft knife	1
*Mastoidectomy set	
Mallet	1
*Gouge	4
*Endaural retractor/post aural retractor	2
*Electric drill (motor, handpiece and burrs)	1
*Mastoid seeker	1
*Aditus seeker	1
Malleus head nipper	1
*Stapedectomy set	
*Pick-straight	1
Angled	1
*Perforator	1
*Measuring rod	1
*Prosthesis crimper	1
*Oesophagoscopy set	
Oesophagoscopes	3
Biopsy forceps	1
Foreign body removal forceps	1
Suction Machines	1
Oesophageal dilators	1 set
* Bronchoscopy set	3
*Lighting system	1

*Optional for MBBS

Tracheostomy set	
Needle holder	1
Bard Parker knife handle	1
Ribbon right angled retractors	2
Curved arteries	4
Straight arteries	1
Cricoid hook	1
Tracheal dilator	1
MINOR Operation Theatre	
Antral wash set	
Trocar	2

Canula	2
Higginsons syringe	2
Direct laryngoscope set	
Laryngoscope – Anterior Commissure	1
Negus	1
Lighting system	1
Biopsy forceps	1
Foreign body removal forceps	1
Sterilizer	As required
Aural Syringe	As required
Tracheostomy set	As required
Intubation set	As required
Cricothyrotomy set	As required
Quinsy forceps	As required
Laryyngeal forceps	As required
Aural Snare	As required
Aural cup forceps	As required

*WARDS

Semi intensive care unit (4 beds)	As required
Central suction	As required
Oxygen	As required
Humidifier	As required

*Optional for MBBS

MISCELLANEOUS EQUIPMENTS

Operating microscope for major Operation Theatre	1
For minor Operation Theatre	1
Pure tone audiometer	As required
Impedance audiometer	As required

SPECIAL EQUIPMENT

* Temporal bone lab Microscope	
* Drill	
Mastoid set	1

*Optional for MBBS

ANY OTHER ADDITIONAL EQUIPMENT WHICH ARE DESIRABLE

Flexible nasopharyngolaryngoscope	1
Electronystagmograph	1
Brainstem evoked response audiometer	1
Goggles, plastic apron, gloves for examination of patients with	1 set biohazard

(11) DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

(i) General	
Speculums and retractors	25
EA + ECC sets	10
PCT forceps	5
Ayers spatula	15
Cytology bottle	15
Microscope	1
MR Syringes	5
Coloposcope	1
Cryo/electro cautery apparatus	1
Simple fetal Droppler	1
NST machine	2
Stitch removal sets	5
Dressing sets	5
Ultrasound machine	1
Proctoscope	3
Weighing machine	1
Height scale	1
View box (Blood Pressure apparatus, measuring tapes, gloves, syringes, needles, torch)	1
Resuscitation tray (Laryngoscope, ET tube, ambou bag, suction catheter, essential drugs).	1
Suction machine	1
Hystero-salpingogram Canula	5
(ii) MAIN Operation Theatre	
Abdominal Hysterectomy set (Artery forceps, scissors, Scalpel, Allis's kelly's clamp, Badcock forceps, thumb forceps, Harington & Richardson retractors.)	3
Vaginal Hysterectomy set	3

(Scalpel, scissors, metal catheter, Sim's, Speculum volsellum, Kelly's clamps, right angle retractor, arteries, Allis, uterine sound, bladder sound).	3
Tuboplasty set	2
Myomectomy instruments (Myoma screw, Boney's clamp)	1
Diagnostic laparoscopy set	2
Operating laparoscopy set	2
Hystroscopy set	1
Electronic Carbon dioxide insufflator/ Insufflator basic unit	2
Resectoscope	1
Hysteromat	1
Operating microscope/Loupe	1
Electrocautery	2

iii)SPECIAL EQUIPMENT

Contact micro hysteroscope	1
Co2 & Nd Yag laser	1
(iv)LABOUR ROOM	
Delivery sets	10
B.P. Apparatus	3
Weighing machine	1
Fetal Doppler	1
Cardiotocogram machine	3
Portable ultrasound	1
High suction machine	1
Resuscitation tray	1

v) SPECIAL EQUIPMENTS

Oxytocin infusion pumps	3
Multichannel monitors	2
Intrauterine Pressure monitoring system	2
*Fetal scalp electrodes Facilities for fetal scalp pH	2
(vi)TEACHING SET	
Doll and Dummy	1
Female Pelvis	1
Gross specimens	

X-ray/US films	1
View box	
VCR	1
Overhead Projector	1
Set of instruments/forceps etc.	
(vii)Miscellaneous.	
Camera with 200 m lens Endocamera/ Television ,TTL flash light, Carbondioxide Monitor, Calculator, Channelizer,	

*Disposables, to be issued on monthly basis.

(viii) MINOR Operation Theatre.

Cervical biopsy set	4
MTP set	5
D&C set	5
Hydrotubation set	2
IUCD insertion/removal set	10
High suction machine	2
Resuscitation tray	1
E.B. set	6
(O.T. lights, OT tables)	

IX) MATERNITY OPERATION THEATRE

Set for LSCS	5
D&C set	5
MTP set	6
High suction machine	2
Cervical exploration set	2
Uterine packing forceps	2
Abdominal hysterectomy set	1
Diagnostic laparoscopy set	2
Laprocator for tubal ligation	2
Postpartum ligation	2
Outlet forceps	3
Low mid cavity forceps/kjielland forceps	3
Vacuum Extractor and suction machine	2
Resuscitation tray	1
Decapitation hook	1

Cranioclast with cephalotribe	1
Oldham Perforator	1
Infusion Pump	3
EB set Operation Theatre table, Operation Theatre lights, Central Oxygen and suction	4

(x) SPECIAL EQUIPMENT:

Multichannel monitor with ECG, BP, HR, Pulse oxymetry for high risk pregnant patients (eclampsia, heart diseases etc.)	1

(xi) WARDS

Blood Pressure Apparatus	3
Weighing machine	1
Height scale	1
Speculum and retractors	40
Glucometer	1
Microscope	1
Suture removal sets	5
Dressing sets	10
Ultrasound	1
Cutdown sets	1
Blood gas analyzer	1
CTG machine	1
Suction machine	2
Resuscitation tray	2
View box Central O2 and suction	1

(xii) SPECIAL EQUIPMENT

Ultrasound machine with Doppler/Vaginal probe/facilities for Interventional procedure	1
Multichannel Monitor	1
Fetal Monitor for Antepartum Surveillance	2
Computer for data entry (Gloves, Syringes, needles, torch, measuring tape etc.)	1

(xiii) Laboratory equipment for following investigations should be Available in the concerned departments for training of students:

- Hemogram
- Urine examination
- Semen analyses
- Renal Function Test (RFT),
- Liver Function Test (LFT), including Serum Blutamase Test (SBT),
- Electrolytes,
- Blood sugar
- Culture facilities,
- 24 hr. urine albumin
- VDRL,
- TORCH HIV, Serum BHCG
- Hormonal Assay (Desirable)
- Chlamydia and other reproductive tract infection testing.

GENETIC LAB.

- Cytology,
- Chromosome study,
- PCR for various abnormalities.
- Facilities for biochemical tests and enzyme studies for prenatal diagnosis.
- Blood gas analyzer
- Thalassemia study.
- ABO and Rh typing.
- PCR for tuberculosis.
- Viral markers for Hepatitic studies.
- Coagulation profile,
- fibrinogen degradation products,
- Blood bank facilities.
- Cryopreservation.
- Assisted reproductive techniques.

(12) DEPARTMENT OF ANAESTHESIOLOGY

OPD-Anaesthesia Clinic	
Blood Pressure Instrument (Non-invasive)	1
Weighing machine	1
Height scale	1

Ward (Recovery)	
Resucitation equipments (CPR)	
Adult Dummy	1
Paediatric dummy	1
Artifical breathing bag with face Masks.	
Defibrillator	1
Suction machine	
Electrical Manual	5
Oxygen therapy unit	2
Pulse oximeter	2
E.C.G. Monitor	2
E.T.Co2 Monitor	1
Simple anaesthesia machine with resuscitation equipments and accessories	1
Mechanical Ventilator	2

(13) DEPARTMENT OF RADIO-DIAGNOSIS

Conventional X-ray Unit for routine X-ray and IVV.	4
Mobile X-Ray units a) 30 MA b) 60 MA	 2 2
Fluroscopic unit	1
Both conventional and image intensifying unit for gastro-enterology & gynae work etc.	1
Ultrasonography equipment independently for Obstetrics and Gynaecology.	2+1 additional unit
CT Scan- 64 detector/ 128 slice, or updated version as per the norms	1
Mammography MRI 1.5 Tesla if PG is to be started (preferable)	

(14) PHYSICAL MEDICINE AND REHABILITATION

a. **OPD and OT equipment for PMR:**

Name of equipment   **Quantity**

Minor procedure and operation theatre equipment (May   2 set
be shared)

Musculoskeletal ultrasound	1
EMG NCV machine	1
Urodynamic lab (can be shared with another department)	1
C arm (can be shared with another department)	1

b. Physical Therapy Equipment for department of PMR:

Shortwave Diathermy	1
Microwave diathermy	1
Ultrasonic therapy	1
TENS, Interferential therapy, Electrical stimulation	1 each
Cervical and lumbar traction	1
Paraffin Wax bath	1
Hydrocollator with Hot packs	1
Quadriceps table	1
Heel/ankle exerciser/Multi gym	1
Tilt table	1
Walker, rollator, wheelchair	1 each
Cryotherapy	1
Shoulder elbow wrist CPM	1
HIP knee CPM	1
Parallel bar	1

c. Occupational therapy equipment for PMR:

Corner chair	1
Wooden peg board	1 set
Standing frame	1
C.P. chair	1
Bolster swing/ bolster	1 set
Wedges	1 set
Therapy ball / Physio ball	1 set
Medicinal Ball	1 set
Balance board/ Equilibrium Board	1
Trampoline	1
Sanding boards-(i) Vertical sanding, (ii) Overhead Sanding, (iii) Horizontal sanding	1 each
Supinator & Pronator	1
Assistive devices - Eating Aids with utensils	1
ADL training set	1
Hand exercise table	1
Sensory integration panel	1

d. Prosthetic & Orthotic Equipment for PMR

Air Compressor	1
Dust Collector	1
Removable Mandrel	1
Drape Frames	1
Industrial Work bench	1
Hot Water bath for melting LTTP sheet	1
Pneumatic hand drill machine	1
Combination grinder & Polisher	1
Grinder and polisher attachments	1
Parallel jaw vice (Bench vice)	1
Anvil	1
Goniometer set	1
Hole punch tool	1
Drill bit set	1
Hacksaw frame	1
Hacksaw blades	1
Riveting bar	1
Leather cutting knife (Rapi)	1
Hot air gun	1
LTTP cutting scissor	1
Scissor For Synthetic Fibre	1
TOOLS HOLDER	1
Examination Couch	1
Hot air oven	1

ASPIRATIONAL
(15) RADIO-THERAPY

Examination Table	2
ENT examination set up	1
Gynae./pelvic examination tables	1

Treatment planning and mould room including

i) Computerised treatment planning system	1
ii) Simulator	1
iii) Immobilization cast making system	1

Brachytherapy setup

i) Manual after loading intercavitory system (sets)	1
ii) Manual afterloading	

Interstitial/surface mould system (sets)

Teletherapy set-up

Isocentrically mounted   1

Rotational telecobalt
Unit minimum 80 cm SSD

Radiation Protection and Dosimetry set-up

i) Secondary standard dosimeter with ionization chamber   1

ii)Survey meter   1
iii) Area/Zone monitors   2
      (by BARC)

    As per the number of staff members in the department
Radiotherapy department
    Dual Photon energy linear accelerator with
    electrons and multi-leaf collimeter   1
    Remote controlled intra-cavitory system.   1
    Remote controlled interstitial system   1
    CT-Sim 3D treatment   1
    Planning system
    Isodose plotte (Automatic)   1
    Customised shielding   1
    Block making system
    Customised compensator making system   1
    Computerised Dosimetry system   1
    Thermoluminiscent dosimetry system   1
    Intra operative Radiotherapy and stereotactic
    radiotherapy set up alongwith linear accelerator (multi leaf) 1

N.B. Normally one teletherapy unit should be provided for every 1000 new cancer cases. All radiation therapy equipments (tele/Brachy) should be BARC type approved with BARC Sanctioned layout/installation plan.

C. OTHER DEPARTMENTS

(1) MEDICAL EDUCATION UNIT – As per Notification

(2) DEPARTMENT OF AUDIO-VISUAL AIDS (DESIRABLE)

ARTIST SECTION

Drawing Board size 42"x27"	1
Drawing Board size 22" x 30"	1
Instrument Box steadler	1
Plastic Transparent Set square 10"	1 pair
Plastic Scale transparent 18:	1
Parallel ruler 18"	1
Proportional Compass.	1
Bowpen "Stanley" one for fine and one for thick line.	2
"T" scale 24" wooden	1
"T" scale 48" wooden	1
Frenat curves Plastic 1 set of 12	1 set
Protractor Plastic Semiround 6" dia.	1
Kent paper size 22"x30"	12
Scolor drawing paper 22"x30"	12
Drawing paper Norway 72 lbs.	12
Water colour tubes "Winsor and Newton"	24
Postercolours in different shades.	13
Reeves Indian Black ink.	12
Water colour box "peliken"	
Sable Hari brushes 16	1
Series No. 00 to 6 and 10	8
Speed ball nibs style A.B.C. &D.	1 set
Crequil Nibs	12
Drawing Nibs 303 and 304	12
Clip holders.	6
Computer facilities	As required

(3) MODELLING SECTIONS AND PHOTOGRAPHY (DESIRABLE)

Modeling Instrument box.	1
Saw for wood work.	1
Ben saw iron.	1
Jamboor	1
Plier	1
Plier Goldsmith.	1
Scissors ordinary	1
Scissors Goldsmith	1
Hammer	1
Mortar Iron.	1
Buck et Iron.	1

Chisel.	1
Tagari Iron	1
E.I. Bowls.	4
Drill machine	1
Modelling clay	As required
Chalk clay.	As required
Multani clay.	As required
Yellow clay.	As required
Soft stone powder.	As required
Plaster of paris	As required
Old raddy	As required
Gum.	As required
Stand paper	As required
Plasticine.	As required
Wires G.I. copper and wire netting.	As required
Synthetic Enamel colours 1/16 gallon	As required
Oil colour brushes.	As required
Soap and coconut oil	As required
Epidiascope B & L or alatis.	4
Radiant Screen size. 72" x 72"	2
16 mm. Film projector bell and Howell	1
Camera Rollieflex automatic.	1
Microscopic attachment of Contax.	1
Micro Projectr Zeiss or B&L.	1
Enlarger Omega D 2.	1
Dark room and developing equipment	1 set
35 mm. Slide projector viewlex.	2

4) WORKSHOP AND ELECTRIC SECTION

Lathe machine 6" center height 10" automatic gear change box (heavy duty with gapped).	1
Lathe machine small 3" center height 8" automatic gear change box. German make	1
Milling machine type with dividing head attachment	1
Stand Drill Machine electric	1
Shaping machine Bench model	1
Spraying painting composer max. pressure 140 lbs. & continuous pressure must be 30 lbs.	
Complete with spray gun and pressure rubber tube	1

Electric welding machine max. amperage 200 amp. with accessories electrode, holder, shade and earthing slip and extension wire.	1
Aceytlene welding with oxpacelylene bottle and complete set of torch	1
AVO's multimeter English make	1
Electric Soldering Henleys 250 watts, 60 watts, with two nose-one fine and one abroad	1
Electric blower	1
Frequency generator	1
Ampere meter	1
Battery charger	1
Electroplating unit outfit	1
Carpenters section instrument and appliances including electric saw and sander	1 set
Glass blowing appliances	1

Note: -

1.   All kinds of endoscopes shall be fibreoptic preferably with a videoscope.

2.   For effective teaching and training facilities close circuit TVs (CCTVs) shall be provided in the departments of Microbiology, Pathology, and Surgery and other allied specialities including Gynaecology.

3.   In order to make teaching hospital more effective, it is necessary that a periodical upgrading of the instruments in various departments and sections should be undertaken for which required financial support shall be rendered.

BUILT UP AREA REQUIREMENTS (50 ADMISSIONS)

ITEM DETAILS	NO.	AREA (Sq. M.) Each	Total (Sq. m.)	Remarks
(1)	(2)	(3)	(4)	(5)
Administrative Block				
Principal/Dean's Office		36	36	
Staff Room		54	54	
College Council Room		80	80	
Officer Superintendent's Room		10	10	
Office		150	150	
Record Room		100	100	
Common Room – Boys		50	50	
Girls		50	50	
Cafeteria		100	100	
Central Library		1000	1000	
Lecture Theatres	3	220	660	80 Seating Capacity
	1	400	400	150 Seating Capacity
Auditorium	1	500	500	250-350 Seating Capacity
Common Laboratories	6	120	720	
	2	75	150	
Central Research Laboratory	1	100	100	
Department Total			**4160**	

COMMON REQUIREMENTS FOR ALL DEPARTMENTS

Accommodation for Staff Of All Departments in following pattern

Professor & Head	1	18	18	
Additional Professors/				
Asso. Prof.	1	15	15	
Asst. Prof.	1	15	15	
Tutor/Demonstrators	2	15	30	
Department Office/Clerical Room	1	12	12	
Non-teaching staff room	1	12	12	
Department Total			**442**	

Teaching Hospital

Dean's Room		36	36
Medical Superintendent's Room		36	36
Hospital offices for the supportive staff		150	150
Waiting space for visitors		200	200
Enquiry office		50	50
Reception		200	200
Store Rooms		300	300
Central Medical Record Section		150	150
Linen Rooms		300	300
		50	50
Hospital & Staff Committee Room			
Central Lecture Theatre of Gallery	1	330	330	Seating capacity of 100 Persons
Central Registration and Statistics Department		200	200
Central Laboratories		150	150
Central Casualty Department (Incl. Minor O.T.)		150	150
Central Hospital Pharmacy		100	100
Central Kitchen		150	150
Incinerating Plant		40	40
Common Facilities			2592	7 Sq. M. per bed (1.5 m. distance b/w 2 beds; Bed width 1m')

Clinical Departments - Indoor

Accommodation for Nurses Duty Room	20	20
Laboratory for routine Examinations	15	15
Examination and treatment room	15	15
Ward pantry	15	15
Store room for linen and other equipments	15	15
Residents Doctors & Students	20	20

duty room

Office for Heads of each department & Heads of Units	20	20
Room for Other Unit Staff	20	20
Clinical Demonstration Rooms (at least one for each department	20	20
Total for 14 Wards/12 Departments		**2240**

Operation Theatre Unit

Waiting room for patients	15	15
Preparation room	15	15
Operation Theatre	75	75
Post-operative recovery room	30	30
Soiled Linen room	15	15
Instrument Room	15	15
Sterilisation Room	15	15
Nurses Room	20	20
Surgeon's and Anaesthetist's Room 2	20	40
Assistant's Room	20	20
Observation Gallery for students	60	60
Store rooms	15	15
Washing room	10	10
Dressing up room	10	10
Central Sterilisation Unit	10	10
Laundry	10	10
Total for 9 O.T.s 9		**3375**

Labour Room

Waiting room for patients	15	15
Preparation room	15	15
Labour Room	100	100
Post Partum Recovery Room	75	75
Soiled Linen room	15	15
Instrument Room	15	15
Sterilisation Room	15	15
Nurses Room	20	20

Surgeon's and Anaesthetist's Room	20	20
Assistant's Room	20	20
Observation Gallery for students	30	30
Store rooms	15	15
Washing room	10	10
Dressing up room	10	10
Eclampsia Room	75	75
Laundary	10	10
Total for Labour Room		**460**

Radio-Diagnosis

Room for 300mA, 500mA, 800mA IITV System, Fluroscopy System	36	36
Ultrasound room	15	15
Room for 60mA Mobile X-Ray	15	15
System	80	80
Accommodation for CT Scan		
System Store Room	15	15
Museum	25	25
Waiting Room	40	40
Department Total		**226**

Anesthesiology Department

Accommodation for Anaesthesia Officer in Operation Theatres	20	20
HOD and Heads of Units Accommodation for other unit	20	20
Department Total		**60**

Physical Medicine & rehabilitation	1500	1500

The space provided should house OPD consultation area, intervention and procedure room, special investigation room, Physiotherapy gymnasium, occupational therapy, prosthetic & orthotic services including IPD & OT services and other services		1500
Total Department		**1500**

Desirable Department

Radiotherapy

Teletharapy Unit	100	
Intracavitory Treatment room	50	50
Endocavitory surface mould therapy room Planning Room	50	50
	50	50
Room for metalling treatment	50	50
Record Room	100	100
Medical Physics Lab.	50	50
Out patient waiting room	200	200
Indoor beds	200	200
Day care ward for short chemotherapy/radiotherapy	70	70
Department Total		**920**

Clinical Departments – Outdoor	**6000**	**6000**
Waiting/reception space rooms for patients and attendants		
Enquiry and record room		
Examination rooms and case	4	
demonstration rooms for each		

For each department Dispensary

- Dressing room in surgery & its specialities
- Refraction rooms,
- Dark rooms,
- Dressing rooms in Opthalmic Deptt.
- Plaster rom,
- Plaster cutting room etc., in Orthopaedics Deptt.
- Sound proof audiometry room,
- ENG Lab.,
- Speech therapy rooms in ENT Deptt.
- Child welfare,
- Immunization room etc. in paediatrics Deptt.
- Antenatal,
- Family welfare,
- Sterility
- Cancer detection clinics in OBG Deptt.
- Dental Section

OPD TOTAL		**6000**
HOSPITAL TOTAL		**18673**
Residential Quarters/Hostels		
Qtrs. @20% teaching (20% of 88=17)	200	3400
Qtrs. @ 20% Non teaching (20% of 200 = 40)	100	4000
Nurses @ 20% (20% of 150 = 30)		
	100	3000
Residents @ 100 % = 74	30	2220
Interns @ 100 %	1000	1000
Hostels for 187 students (i.e. @75% of 250)		1870
TOTAL RESIDENTIAL COMPLEX		**15490**
TOTAL		**40702**
ADD 15 %		**6105**
GRAND TOTAL		**46807**

FACULTY REQUIREMENT FOR MBBS ADMISSIONS

S. No.	Department	Designation	50 seats	100 seats	150 seats	200 seats	250 seats
1	**ANATOMY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	2	3
		Asst. Prof.	1	2	3	4	5
		Tutor/ Demonstrator	2	4	5	5	6
2	**PHYSIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	2	3
		Asst. Prof.	1	2	3	4	5
		Tutor/ Demonstrator	2	4	4	5	6
3	**BIOCHEMISTRY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	2	3
		Asst. Prof.	1	2	3	3	4
		Tutor/ Demonstrator	2	4	4	4	4
4	**PHARMACOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	1	2	3	4	4
		Tutor/ Demonstrator	2	4	4	5	6
5	**PATHOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	2	3	3	4
		Asst. Prof.	2	3	3	4	5
		Tutor/ Demonstrator	2	4	5	5	6
6	**MICROBIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	2	2	3	4	4
		Tutor/ Demonstrator	2	4	4	5	5
7	**FORENSIC MED., TOXICO**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	1	1	2	4
		Tutor/ Demonstrator	1	2	3	4	4
8	**COMMUNITY MEDICINE**	Professor	1	1	1	1	1
		Associate Prof.	1	2	2	3	3
		Asst. Prof.	1	3	4	5	6
		Statistician (Minimum A.P. level)	1	1	1	1	1
		Tutor/Demonstrator/ Senior Resident	2	4	5	6	6
9	**GENERAL MEDICINE**	Professor	1	1	1	1	1
		Associate Prof.	1	3	4	6	7

		Asst. Prof.	2	4	5	7	8
		Senior Resident	2	4	5	7	8
10	**PEDIATRICS**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	3	3
		Asst. Prof.	1	2	3	4	5
		Senior Resident	1	2	3	4	4
11	**DERMATOLOGY**	Professor	0	0	1	1	1
	Prof/ Assoc. Prof. upto 100 seats	Associate Prof.	1	1	1	1	1
		Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	2
12	**PSYCHIATRY**	Professor	0	0	1	1	1
	Prof/ Assoc. Prof. Upto 100 Seats	Associate Prof.	1	1	1	1	1
		Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	2
		Clin. Psychologist	**1**	**1**	**1**	**1**	**1**
13	**RESPIRATORY MEDICINE**	Professor	0	1	1	1	1
		Associate Prof.	1	1	1	1	1
		Asst. Prof.	1	1	1	1	2
		Senior Resident	1	1	1	1	2
14	**GENERAL SURGERY**	Professor	1	1	1	1	1
		Associate Prof.	1	3	4	6	7
		Asst. Prof.	2	4	5	7	8
		Senior Resident	2	4	5	7	8
15	**ORTHOPEDICS**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	3	3
		Asst. Prof.	1	2	3	4	5
		Senior Resident	1	2	3	4	4
16	**OTORHINOLARYNGIOLOGY (ENT)**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	2	2
		Asst. Prof.	1	1	2	2	3
		Senior Resident	1	1	2	2	3
17	**OPHTHALMOLOGY**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	2	2
		Asst. Prof.	1	1	2	2	3
		Senior Resident	1	1	2	2	3
18	**OBSTETRICS & GYNECOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	3	4	4
		Asst. Prof.	1	2	4	4	5
		Senior Resident	1	2	4	4	5

19	**ANESTHESIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	2	3	4	5
		Asst. Prof.	2	4	5	5	6
		Senior Resident	2	3	4	5	5
20	**RADIODIAGNOSIS**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	1	2	3	3
		Senior Resident	1	2	3	3	3
21	**DENTISTRY**	Professor	0	0	0	1	1
	Prof/ Assoc. Prof. Up to 100 Seats	Associate Prof.	1	1	1	1	1
	Not required if Dental coll. Present in campus/ city/ town	Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	1
22	**EMERGENCY MEDICINE**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	1	1	2	2
		Senior Resident	4	9	9	9	9
23	**Physical Medicine & Rehab.**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	2	2	2	3
		Senior Resident	1	2	3	4	4

(1) DEPARTMENT OF FORENSIC MEDICINE INCLUDING TOXICOLOGY

For conducting **medicolegal autopsies,** it shall have following staff other than the faculties and SR, and infrastructure as detailed below:

Staff:
1. Autopsy technician / Technician- 2
2. Autopsy assistants/ Forensic Nurses to offer round the clock services- 3
3. Clerk- 1
4. Attendants to offer round the clock services- 5.
5. Photographer- 1

Note: Autopsy technician, assistant and autopsy attendants must also have females in it so that while conducting autopsy on female dead body, presence of one female person could be ensured if faculty conducting autopsy is not female.

Note: Mortuary block/ Autopsy block shall have air condition facility.

Aspirational: to have **Poison Information Centre and Analytical Toxicology Laboratory/ Forensic Science Laboratory,** having following staff (for 24 x 7 services) other than the faculties and SR, and infrastructure as detailed below:

1. Senior Forensic Scientist   1
2. Junior Forensic Scientist   1
3. Scientific Assistant (Toxicology) 1
4. Lab technician-   2-3
5. Technical Assistant   2
6. Store Keeper cum clerk cum computer operator 1
7. Peon & attendant   3
8.

Desirable: to have functional clinical forensic medicine unit (CFMU) with following staff (for 24 x 7 services) other than the faculties and SR, and infrastructure as detailed below:

1. Nursing staff- preferably forensic nurses- 4-5 for round the clock services-
2. Clerk- 1

Note: Adequate arrangement of rooms shall be provided to all teaching staff including SR as per the number of staff.

Provision of **Video-conferencing room** in the department to give evidence in the court of law to meet requirement of Digital India with appropriate facility of Internet, Computer, Video camera, etc.

For a functional Poison Information Centre and Analytical Toxicology lab, following equipments shall be provided:

1. Digital Spectrophotometer
2. Chemical Balance
3. Distillation Plant
4. Spectroscopic Lens with Adjustable Slit.
5. TLC, HPLC, GC-MS

Notes: For purpose of working out the deficiency.

1. In view of shortage of faculty available for phase 1 and phase 2 teaching, following Teaching faculties can be accommodated at the equivalent level:

General Medicine, Pediatrics- can be employed as teachers in Physiology, Biochemistry, Pharmacology and Community Medicine, only if the faculty from these branches are not available.

General Surgery- can be employed as teachers in Anatomy only if the faculty from these branches are not available.

The deficiency of teaching faculty and Tutors/Demonstrators/Resident Doctors shall be counted separately.

2. For Teaching Faculty:

(a) For calculating the deficiency of faculty, Prof., Assoc. Prof. and Asst. Prof in respective departments shall be counted together.

(b) Any excess teaching faculty in higher cadre can compensate the deficiency of lower cadre of the same department only.

(c) Any excess teaching faculty of lower cadre/ category in any department cannot compensate the deficiency of any teaching faculty in the higher cadre/category of the same department or any other department e.g. excess of Assistant Professor cannot compensate the deficiency of Associate Professor or Professor.

(d) Excess/Extra teaching faculty of any department cannot compensate the deficiency of any teaching faculty in any other department.

3. For Tutors/Demonstrators/Resident Doctors:

(a) Excess Tutors/Demonstrators/SR of one department cannot compensate the deficiency of Tutor/Demonstrator/ SR in any other department.

(b) Any excess/ extra teaching faculty of same or any other department cannot compensate the deficiency of Tutor/Demonstrator/SR. e.g. excess of Assistant Professor cannot compensate the deficiency of Tutor /Demonstrator /SR.

4. A separate department of Dentistry/Dental faculty is not required where a dental college is available in same campus/city and run by the same management.

5. Colleges running PG program require staff, beds & other requirements as per the prevalent PG Regulations.

Guidelines for Aadhaar Enabled Biometric Attendance System (AEBAS) in Medical Colleges

1. It is mandatory for Medical Colleges to get registration of faculty/ demonstrators /tutors/Senior Resident in AEBAS system.

2. Medical Colleges should install the AEBAS devices in sufficient number as per need and each device should be connected with the WiFi/ optical fiber internet connection for above mention seamless marking of the attendance for medical people. Medical Colleges should maintain AEBAS machines in working condition. Any glitches, fault, damage or shutting of machines should be avoided or addressed immediately by the Medical College/Standalone PG Institute so that daily data related to biometric attendance can be obtained. NMC will view seriously if biometric attendance data is not generated continuously without any reasons for more than 2 days.

3. Medical Colleges/Standalone PG Institutes should use preferably wall mounted fingerprint Aadhaar enabled STQC certified devices. In case of issue with finger print authentication for user then in such cases wall mounted IRIS scan based/wall mounted face recognition STQC certified devices which should be AEBAS competent can be used.

4. Medical Colleges should notify the office timing and circulate such timing to all the faculties/staff for strict adherence. It is expected that all Faculties/other Staff should follow the office timings/shift duties allotted to them.

5. All the above mentioned staff categories should be instructed to mark their attendance through Aadhaar Enabled Biometric Machines (AEBAS) twice per day (i.e. when they come to Medical College and when they leave the Medical College after work). Occasional exemption in either not marking attendance in time or out time marking of attendance should be done with the approval because of acceptable reasons of the compliant authority.

6. Govt. Medical Colleges/Standalone PG Institutes must follow their respective State/UT/Central Govt. rules for taking action against the employees for not following office timings in marking attendance on AEBAS. Private Medical Colleges should follow their own guidelines which should be in sync with NMC's regulations or guidelines in this regard.

7. AEBAS is only an IT platform for attendance for capturing or record. There is no change in the instructions relating to office hours, late attendance etc.

8. The faculties/demonstrators/tutors/Senior Residents on leave/official duty should mandatorily enter such details in the AEBAS through add leave and add tour module respectively.

9. If any faculty/demonstrator/tutor/senior resident retire/or has resigned/ or taken VRS from the Medical Colleges/Standalone PG Institute, then in such case nodal officer should block the attendance ID of such employee. In case of transfer/appointment of employee from one Medical College/Standalone PG Institute to another. Nodal officer should use transfer-out module of AEBAS system and receiving medical college nodal officer should transfer-in such employees.

10. Any breach of the cyber security/hacking of the online attendance monitoring system in any medical college should be brought to the notice of the NMC immediately.

11. Marking attendance of faculty/sr. residents/tutors/demonstrators through AEBAS is to be implemented immediately on a daily basis by all Medical colleges/Standalone PG Institutes. For any future renewal, recognition. CoR (Continuation of Recognition), surprise inspections, increase UG/PG seats, approval PG course, College applying for new establishment should register while they submit their application form. New Medical College, data from AEBAS portal will be used for decision making.

12. All Medical College/Standalone PG Institute will be responsible for proper operation and maintenance of AEBAS system & machines.

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Transfer: Transfer module is used for transfer the employee from one organization/unit to another.

Steps for transferring the employee are as follows:

1. Go **Manage Employee** ⟶ » **Active Employees**

   Here Nodal Officer can view list of Employees with option to Edit and view employee Details.

   Active Employees on (BAS)

   Search by Name/Mobile   [Q Search] [Clear]

S.No.	Attendance ID	Aadhaar Number	Employee Name	Reporting Officer Name	Mobile No.	Designation	Division	Office Location	Detail
1	XXXXXX	XXXXXXX	A P Raju		XXXXXX	Tradesman G Technical	General Infrastructure	CGO Complex A-Block	Edit / Detail
2	XXXXXX	XXXXXXX	A Jenishly		XXXXXX	Programmer (NG)	NIC Delhi State Unit	CGO Complex A-Block	Edit / Detail
3	XXXXXX	XXXXXXXX	A Ravikumar		XXXXXX	Scientist - E	IVFRT (FRT)	MEA - Jawaharlal Nehru Bhawan	Edit / Detail

2. Nodal Officer can search Employee by Name/Mobile No. and click on **Detail** to transfer a employee. A new screen will appear with complete employee detail.

   Manage Employee View Employee Information   🏠 Home   Manage Employee

   ### Employee Detail

Aadhaar Number :	XXXXXXXXXXXXXXX
Employee Name :	A P Raju
Organization Name :	XXXXXXXXXXXXXXXXXXXXXXXXXXXX
Designation :	XXXXXXXXXXXX
Division within Organization :	General XXXXXXXX
Office Location :	XXXXXXXXXXXX
DOB :	XXXXXXXXXX
Gender :	Male
Mobile No. :	XXXXXXXXXXXXXX
E-Mail :	XXXXXXXXXXXXXX
Aadhar Status :	Aadhar Verified

   [Deactivate] [Transfer]

3. For initiating the Transfer of Employee Click on "Transfer" . A Pop-up window will appear to choose an Organization to Transfer and with a reason.
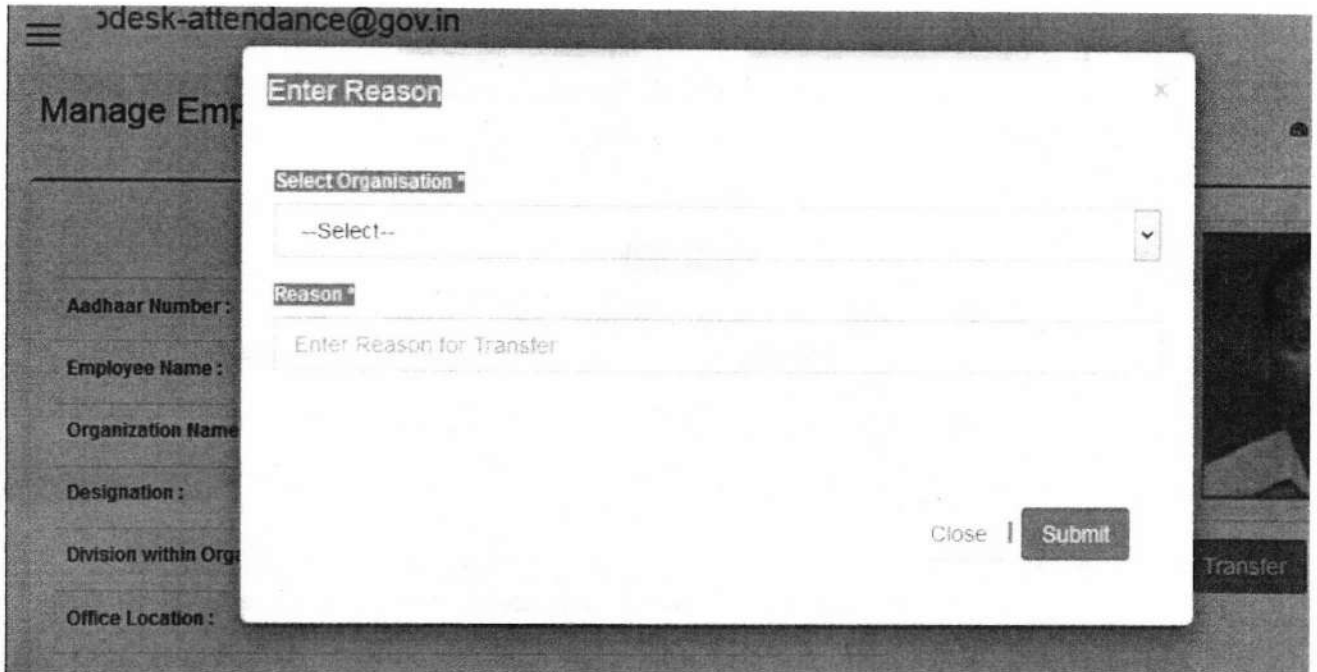
4. On successful transfer following message will appear

Success! Employee Transfer successfully

5. Now the nodal officer of the transferred organization should login with their credentials and Go to **Manage Employee** ———► » **Transfer Employees**

Transfer Employees on (BAS)   Q Search Old Transferred Employees

S.No.	Attendance ID	Aadhaar Number	Employee Name	Mobile No.	Designation	Division	Office Location	Detail
1	XXXXXXX	XXXXXXXX	Lokesh Singh	XXXXXXXX '	Programmer	National Informatics Centre(NIC)	Electronics Niketan	Process

6. Click On "Process" button. This will open a new window showing employee details.

Edit update Employee information

Home   Manager Employee

Personal Details   Organization Details

Employee Name *

Lokesh Singh

Date of Birth (dd-mm-yyyy)   **Gender ***

19-10-1986   Male

Enter Aadhaar Number *

·XXXXXXXXX

Mobile No. *

·XXXXXXXXXXX

E-Mail *

·XXXXXXXXXXXXX

Next

7. Now change the organization details and submit.

≡

Edit update Employee information

Home   Manager Employee

Personal Details   Organization Details

Organization Name *

National Informatics Centre (NIC) -DeitY

Employee Type *   **Division/Unit within Organization ***

Contractual Employee   Select Division

Office Location *

CGO Complex A- Block

Submit

8. Now employee is transferred successfully and Active in your Organization for marking Attendance.

Additional information regarding to implementation of NIC solution for Aadhar Enabled Biometric Attendance System (AEBAS) for Medical Colleges under NMC

This in continuation of NMC letter no F.no D-130024/07/2022/NMC/DMMP/028293 dated 01st Aug 2022,queries were raised from various Medical colleges in WhatsApp group formed for implantation of NMC IT projects.

1. NMC is setting up portal at **https://central.nmcindia.ac.in** for monitoring of attendance, probable date of hosting is 22nd August 2022.

2. College may start onboarding on this portal after launch of the portal.

3. Only STQC certified biometric authentication devices may be used for marking attendance in AEBAS system. List of STQC certified devices is available at https://attendance.gov.in/faq/compatible_devices . Medical Colleges may arrange for procurement, installation and configuration of STQC certified devices directly from market by following due process of procurement. While procuring devices from any vendor Medical Colleges may procure with detailed terms and conditions to ensure smooth after sale support for at least 3 year warranty period.

4. College may use NICSI empaneled agencies attach in the letter dated 1st Aug 2022. NICSI has contracted with vendors with detailed terms and conditions to ensure compliance of 3 years warranty and after sale services. If required and deem fit, NICSI may be approached at pi@nicsi.nic.in (011-22900533, 22900548) and Health-NICSI@nic.in (011- 22900508).

5. There are queries regarding using existing devices. Medical College may analyze the cost of repair/maintenance /rollout/warranty etc. in comparison to cost of procurement of new devices with 3 years warranty as per NICSI empanelment or any other sources.

नेशनल इंफोर्मेटिक्स सेंटर सर्विसिज़ इंक.
National Informatics Centre Services Inc.

(एन सू कि कं के अन्तर्गत भारत सरकार का एक उद्यम)
(A Government of India Enterprise under NIC)
इलेक्ट्रॉनिकी और सूचना प्रौद्योगिकी मंत्रालय
Ministry of Electronics and Information Technology

No. 10(18)/2017-NICSI   Date: 04/12/2019

To,

M/s Mantra Softech (India) Pvt.Ltd
B-203,Shapath Hexa,Opp.Gujarat High Court,
Serkhej-Gandhinagar Highway,Ahemdabad-380060

Kind Attn., Mr.Uttam Singh, Mobile No. 91-9227266220
Email id: uttam@mantratec.com

**Subject:- Empanelment of selected Agency consequent upon finalization of
Tender No. NICSI/End Point Terminal for BAS/2018/07 for Selection of Vendor
for Supply and Commissioning of End Point Terminals for Biometric
Attendance System (BAS).**

Dear Sir,

I am directed to refer to your letter no. nil dated 25.11.2019 acceptance for offer to
match L1 rates as per Clause 5 of Annexure-2 of tender document against Tender No.
NICSI/End Point Terminal for BAS/2018/07 for Selection of Vendor for Supply and
Commissioning of End Point Terminals for Biometric Attendance System (BAS) and to
inform that the competent authority of NICSI has decided to empanel your firm on the
following terms and conditions and prices mentioned in this empanelment letter.

<table>
<tr><td colspan="4" align="center">Part-I</td></tr>
<tr><td colspan="4" align="center">1. Approved Rates</td></tr>
<tr><td></td><td></td><td>UNITS</td><td>UNIT PRICE</td></tr>
<tr><td>1.</td><td>**Cost of New Devices**</td><td></td><td></td></tr>
<tr><td>1.1</td><td>Wall Mount Tablet</td><td>Per Device</td><td>6975.00</td></tr>
<tr><td>1.2</td><td>IRIS Scanning Devices</td><td>Per Device</td><td>3795.00</td></tr>
<tr><td>1.3</td><td>Desktop Compatible Finger Print Scanning Devices</td><td>Per Device</td><td>1650.00</td></tr>
<tr><td>2.</td><td>**Annual AMC Cost for Existing Devices**</td><td></td><td></td></tr>
<tr><td>2.1</td><td>Wall Mount Tablet</td><td>Per Device</td><td>1050.00</td></tr>
<tr><td>2.2</td><td>IRIS Scanning Devices</td><td>Per Device</td><td>600.00</td></tr>
<tr><td>2.3</td><td>Desktop Compatible Finger Print Scanning Devices</td><td>Per Device</td><td>190.00</td></tr>
<tr><td>3.</td><td>**Annual Application Roll Out Services per location per User**</td><td></td><td></td></tr>
<tr><td>3.1</td><td>0-20 Devices</td><td>Per location Per User</td><td>100.00</td></tr>
<tr><td>3.2</td><td>20-50 Devices</td><td>Per location Per User</td><td>80.00</td></tr>
<tr><td>3.3</td><td>50-100 Devices</td><td>Per location Per User</td><td>60.00</td></tr>
<tr><td>3.4</td><td>100 & Above Devices</td><td>Per location Per User</td><td>40.00</td></tr>
</table>

Note:-Local Taxes (GST) will be paid extra as applicable.

Part-II

INTRODUCTION

Biometric Attendance System (BAS) is a centralized system to mark attendance of all the Government employees and other registrants such as trainees, central scheme beneficiaries, students in schools/colleges, teachers, employees of public funded entities / PSU / trusts etc. which is visible on real time basis and maintained on the common attendance portal ensuring transparency and accountability. Below are the functionalities of BAS currently managed by National Informatics Center (NIC).

i. Managing, Assessing and processing the On-boarding request received from various government organization. On-boarding request follows procedure of submitting a form online which is then assessed by the NIC helpdesk team depending upon the size of organization i.e. no. of employees to be registered on BAS system.

ii. Creating hierarchy of the organization registered – Rights available to nodal officer appointed within the organization.

iii. Administration rights to organization's nodal officer appointed to attendance portal who manages the BAS system administratively within the organization.

iv. Employee Registration.

v. Attendance marking through Tablets, Desktop Devices (finger print scanning device) and IRIS devices.

vi. Real time authentication n.

vii. Email and SMS service integration.

viii. Real time MIS dashboards.

ix. Information available on public platform.

x. Notifications.

The existing system uses NIC Cloud services for the application and database servers at backend. Attendance marking has been facilitated through various end-point devices such as wall mount – Tablets, Desktop Devices and Iris scan machines, thus ensuring the ease of marking attendance for the employees. Through these devices, Biometric of the employee is captured and further authenticated from UIDAI via AUA/ASA servers and marked within seconds.

Subsequently, NIC also maintains centralized MIS portal and dashboard on public platform which work through the application infrastructure and the process of biometric authentication and attendance marking works through application programming interface model. The dashboard presents real time statistical information on attendance and details. Furthermore, features such as SMS & Email is also integrated through the application as an added feature.

2. Scope Of Work

The **Scope Of Work** for vendor is to provide end point terminals (Wall mounted tablets, Desktop Compatible Finger Print Scanning Devices and IRIS Scanning Devices), Application Support and AMC of the existing devices which are currently operational on

BAS platform. Vendor empanelled through this tender are required to undertake work across PAN India. Broadly, the scope of work for vendor shall be as follows:

a) **Device Management and Commissioning**: Supply, Installation, Site Survey (if required), Maintenance, Application APK/ Patches/ Updates.

The vendor empanelled through this tender will be responsible to supply and install end point terminals as defined through this tender however the responsibility of providing internet connectivity and power will be sole responsibility of the user. After installing all the devices at the user location, it is imperative to note for vendor to ensure that the BAS application at the client end is installed on end point terminals for marking of attendance. Once installed, vendor has to provide demo to the user department regarding functionality of the devices and ensure all devices are running smoothly for attendance marking purposes. Failure to do so, penalty will be applicable as defined in this tender. Further, vendor must ensure that the devices installed are periodically checked and tested with updated version of client application. Further, the devices must be complied with all security measures as defined by UIDAI at the application level. Any problem related to hardware and software (OS and Client application) at client location will be the sole responsibility of the empanelled vendor.

The user department MAY procure SIMs of any network that suits their location, so that, even if any network or power fault happens, the tablets that they have installed in their premises may work continuously without any hassle. This portion should be the individual user department responsibility. Empanelled vendor or NICSI or NIC will NOT hold the responsibility of the working condition of SIMs that they hold or even otherwise for bill payments of those SIMs.

b) **AMC of the existing devices**- As defined through this tender, vendor will be required to provide AMC on the existing devices installed at the user site on needful basis. It will be the responsibility of NICSI or user department to provide detailed report to vendor which will constitute details such as no. of active devices, make and model of devices installed at the user site at different locations, no. of faulty devices and organizational details. Further, depending on the situation and the requirement, vendor may have to visit the user department on needful basis as requested by NICSI. Vendor must be able to provide AMC to the all existing functional devices and provide complete support against the devices and ensure the attendance marking is operational and linked to the centralized BAS system. The faulty device need to be included in AMC and shall be repaired by the vendor on chargeable basis.

c) **Application Roll Out services**- These type of services will be availed by such users who will be responsible to provide tablets or end point terminals at their own cost. The empanelled vendor will be responsible to provide application roll out services to such users and these services will include but not limited to:

   i. Installing client application and deployment of application on end point terminals.
   ii. Troubleshooting of issues pertaining to application software at client site.

d) **Device Warranty**: The agency shall provide onsite comprehensive Warranty of all devices supplied for a period of 03 (three) years from the date of final acceptance of the equipment.

e) **Warranty shall cover the below:**

i. Upon finding any defects in the device, the user will inform the selected agency or NIC/ NICSI stating the nature of any defect. Upon receipt of such request, the selected vendor shall expeditiously repair the defective equipment or replace it with brand new genuine/ authentic ones having similar or higher specifications at no cost to the user.

ii. During the warranty period, the vendor shall also be responsible to ensure adequate and timely availability of spare parts needed for repairing the supplied goods.

iii. During warranty period, besides service/maintenance of Hardware and System Software and all driver software upgradation, installing patches and services shall also be provided by the empanelled agency at no extra cost.

iv. During the term of warranty, the service/repair calls will have to be attended by the agency within 24 hours from the time of such calls. Remote support or on-call services should be provided without any further delay and if needed replacement should be done within 5 days. Failure to do so, a penalty will be charged as per the clause defined in the tender. In case of major defects requiring the defective card/item/equipment to be taken to the agency's workshop, it should be returned within a week duly repaired and an immediate substitute equipment will be provided by the agency for the smooth operation.

v. If the performance of any individual equipment or device fails to meet the contract specifications then the same shall be replaced by the agency free of cost during the term of the warranty period.

vi. The agency shall provide necessary Software updation related to devices free of cost during the warranty period and also during the period of AMC.

f) **Application Support Services**: It will be the responsibility of the vendor to ensure that all devices installed at different locations are operational and marking of attendance is done on daily basis. Once the new devices are installed, vendor must ensure that client application is installed and connected to the centralized BAS system. Any device level support will be responsibility of vendor. Further, queries received by NICSI/ NIC related to devices, installation and application support at the device level will be forwarded to the vendor directly which should be facilitated and closed within stipulated timeframe. There will be cases pertaining to queries which will be received directly from user department which has to be resolved by the vendor. Thus, vendor should have a web based call management system with ticket generation for each call or queries received from various users. The vendor shall also provide MIS dashboard with complete report on no. of queries received, tickets raised, open tickets and closed tickets. The MIS dashboard should be accessible by NICSI to monitor the SLA's during warranty/ AMC period. The Support must be provided in both languages i.e. Hindi and English. Vendor must provide atleast one toll free number to all user department for the support.

g) **Capacity Building**- Vendor must ensure hands on training to user department on portal and devices.

h) Coordination with different stakeholders (NIC, NICSI & User department) for smooth functioning of attendance system.

3. EMPANELMENT CONDITIONS

3.1 This empanelment will be valid up to **06.11.2022** in the first instance. It may be extended for **another year** depending upon the need of NIC / NICSI's project requirements with mutual consent.

3.2 All empanelled Vendors must honor all tender conditions and adherence to all aspects of fair trade practices in executing the purchase orders placed by NICSI on behalf of its clients. Failing this, NICSI may forfeit their EMD.

3.3 In the event, an empanelled Company or the concerned division of the Company is taken over /bought over by another company, all the obligations and execution responsibilities under the agreement with NICSI, should be passed on for compliance by the new company in the negotiation for their transfer.

3.4 Empanelled Vendor cannot sub contract any part of scope of work under any category of the tender to any other company.

3.5 In case an empanelled Vendor is found in breach of any condition(s) of tender at any stage during empanelment, legal action as per rules/laws, shall be initiated against the vendor and EMD/Security Deposits shall be forfeited.

3.6 NICSI may, at any time, terminate the empanelment by giving written notice before 30 days to the empanelled Vendor without any compensation, if the empanelled Vendor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to NICSI.

3.7 In case vendor empanelled through this tender is not providing services as per SLA's defined or fails to provide services as per agreed timelines or SLA's or Terms and conditions defined in Work order/ Purchase order/ RfP document, NICSI has right to call revised financial bids from all technically qualified vendors.

3.8 Tender process will be over after the issue of empanelment letter to the selected vendor. Thereafter, information submitted by the participating vendors before and during the bidding process may be put by NICSI in the public domain. Competent Authority in NICSI may not exercise the privilege given under Right to Information Act Section 8(1) (d) which says "there shall be no obligation to give any citizen information including commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party, unless competent authority is satisfied that larger public interest warrants the disclosure of such information".

4. SECURITY DEPOSIT

In the case of the Vendor who has been selected for empanelment, the vendor must give Security Deposit for the equivalent amount of EMD. Security Deposit will be in the form of Bank Guarantee (BG) of any commercial bank drawn in the name of National Informatics Centre Services Inc, New Delhi, valid till empanelment. EMD of successful vendors will be returned after they sign letter of empanelment with NICSI and submit a security deposit of equal amount for the period of empanelment/extended empanelment. The BG will be released after the empanelment or extended empanelment or complete execution of all the purchase orders issued under this empanelment, whichever is later and thereafter the Security Deposit / BG shall be returned to the empanelled vendor without any interest. In case of default by the empanelled vendor on non-acceptance of the

purchase orders, this Security Deposit/BG will be forfeited and empanelment will be cancelled.

Security deposit must be made in the form of Bank Guarantee equal to the EMD amount

Validity	Valid for the period of empanelment / extended empanelment. The BG will be released after the empanelment or execution of all pending Purchase Orders, whichever is later
Instrument	One single deposit in the form of Bank Guarantee
Amount	Equal to EMD amount

5. PAYMENT TERMS

5.1 The agency will submit Pre-receipted bills in triplicate (having details of concerned work-order number, Date and Project-Number of NICSI) in the name of National Informatics Centre Services Incorporated, New Delhi along with relevant supporting documents. Payment will be made only upon submission of the Bill along with all the completed documents. An invoice will contain the items ordered under one Purchase Order only. Bill / Invoice shall not be combined for more than one purchase order.

5.2 Payment shall be done as per Payment Terms for Delivery of Devices.

5.3 Payments shall be subject to deductions of any amount for which the supplier is liable under the empanelment or tender conditions. Further all payments to agency will be made subject to deduction of applicable penalty and TDS (Tax deduction at Source) as per the income Tax Act, 1961, and other taxes, if any, as per Government of India rules

5.4 Any delay beyond the delivery and installation schedule as per purchase order will render the Vendor liable for penalty at the rate as mentioned in this tender document.

5.5 Penalty will also be charged in case of failure in providing Maintenance support during warranty period.

5.6 In case the submission of bills to NICSI, along with the necessary documents, is delayed by the agency beyond 30 days from the date of issue of bill, the entire liability towards payment of interest/penalty to the tax authorities would be on the cost of respective agencies. The entire amount will be deducted from the payment due to respective Vendor.

5.7 All the Vendors/Channel Partners should raise their bills in the name of National Informatics Centre Services Incorporated, New Delhi. However, the ordered items should be delivered to the user locations as per the Purchase Order by the Supplier, after Stock Entry and billing at NICSI Headquarters.

5.8 All payments will be made through RTGS only.

Payment Terms for Delivery of Devices

A.   Payment Schedule

S. No.	Project Activity/ Scope of Work	Deliverables	Payment
1.	Supply of items	Delivery Certificate	80%
2.	Installation and Integration	Installation Certificate	20%
3.	AMC	AMC certificate	Quarterly

B. For payment on Item Delivery:

i. The Vendor will deliver the items at designated locations as per the purchase order and obtain signature with date and stamp on Delivery Proof (s) of the concerned user.

ii. The Vendor will submit a copy of Proof of Delivery along with the bill duly signed by the NIC/NICSI/User Department Project Coordinator, with his name, date of delivery, designation and office seal, legibly recorded.

iii. The Vendor will submit the bills & delivery certificate to the NICSI Head Quarters, New Delhi.

C. For payment on Item Installation:

i. Vendor has to install the ordered items and will prepare installation report for each location as per the purchase order and get it signed by the concerned User/Officer In-charge or his/her authorized person/officer.

ii. The Vendor will submit all installation reports, to NICSI Headquarters, New Delhi.

iii. In the case of Vendor unable to bring installation report even after 180 days of delivery and there is no written complaint from the User about the System Installation, it will be assumed that the installation is complete and the bills will be processed.

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6.   PENALTY Terms

S. No	Activity	Rate
i.	Devices Supply, Installation and Commissioning	Any unjustified and unacceptable delay in delivery, installation and commissioning schedule will render the agency liable for liquidated damage at the rate of 0.1% (point one percent) of the purchase order value per day for first 10 days, 0.2%(point two percent) per day for next 10 days, 0.3% (point three percent) per day for next 10 days, subject to maximum 30 days in total. After that the purchase order may be cancelled. NICSI will have option to get it done through alternate sources, the cost of supply, installation or commission on such default shall be recovered from agency from its outstanding payment or BG/ Security Deposit

ii.	Maintenance during warranty/AMC period	Under warranty support, penalty per day per equipment at the rate of 0.2% (point two percent) of the purchase value of the equipment. Maximum penalty will be limited to 10% of the purchase order value. If system remains down beyond 10 days, the devices should be replaced with new one with same or higher specification as empanelled. Failure to replace the device within 5 days will attract an additional penalty of 0.2% of PO value per day subjected to maximum of 5 (five days). Beyond this, NICSI will have an option to get it rectified/ procured through alternate sources. The cost of repair/ procurement along with applicable penalty will be settled from the security deposit submitted by the vendor.

iii. In case of delays beyond 30 days, for reasons solely attributable to the agency, NICSI reserves the right to cancel the purchase order and levy purchase order cancellation charges at 10% of purchase order value.

iv. For three consecutive cases of cancellation of work orders on account of delays by the agency, NICSI reserves the right to either invoke the termination Clause or terminate the Contract altogether

v. NICSI also reserves the right to invoke the Security Deposit furnished by the Selected Agency at the time of signing the Contract with NICSI, if for any reason of default stated in the tender, the Contract of the Selected Agency is terminated

Part-III

7. TECHNICAL SPECIFICATION Of THE DEVICES

A. Casing

i. The rugged casing should be inflexible, durable and any other tough material of at least 5mm thickness with black and the like colors to withstand daily usage.

ii. The casing should not suffer any damage or disfiguration on being dropped from a height of up to 2 meters. Display screen can be vertically/horizontally oriented in the casing.

iii. The casing should be designed to cover/hide android taskbar of the tablet, to prevent misuse of any other functionality.

iv. The casing should have provision to access the power/reset button of the tablet. The access should be easy but controlled. The Vendor should make arrangements to provide an external tool to perform the power on/off and/or reset function of the tablet through the casing.

v. The fingerprint scanner should be ergonomically placed to support ease of usage for biometric attendance in standing posture of the users.

vi. Inbuilt replaceable battery with min. battery backup of up to120 minutes. Charging/operation on AC 100-240 volt range with inbuilt surge protection.

B. Connectivity

i. Mandatory Edge/3G/4G mobile data support.

ii. Both Wi-Fi IEEE 802.11b/g/n and LAN (Ethernet) interface are mandatory.

C. Operating system

i. Should be un-rooted and Safety Net passed (As per UIDAI Guidelines)

ii. Or Android 4.4 OS or above (1.0 GHz Processor or above) for Tablets

iii. Or Linux OS 4.4.12 or above (800 Mhz ARM Cortex A8 Processor or above) for Tablets

iv. Or Windows 7.0 and above (for Desktop Devices)

D. Software

i. Full featured Web Browser

ii. STQC certified Single Finger-print biometric device for Aadhaar Authentication with driver, in-built template extractor software/SDK (mandatorily with license, if required)

iii. API/SDK for Android (4.4.2 or above) platform.

iv. Should be a plug & play device needless for any additional license deployment.

v. The device should have integrated micro USB or standard USB type connector.

E. Tablets / Wall mount Devices

i. RAM 1GB or above with Built-in Storage 4GB or above

ii. Integrated STQC Certified finger print scanner

iii. Expandable storage through micro SD, minimum 8 GB in Android/4 GB in Linux

iv. USB Port- Minimum one Micro USB port and an optional additional USB Port

v. Front facing Camera with VGA resolution (if any)

vi. Built-in Speakers, Mic Earphone 3.5 mm jack

vii. 3.5" or above TFT LCD for Android with Capacitive touch screen, 1024X600. For Linux 3.5" or above.

viii. Ethernet LAN port with RJ45 for wired LAN 802.3. USB circuits can be used for Ethernet Port

ix. Wi-Fi wireless LAN 802.11b/g/n

x. GSM 3G/ 4G Data SIM card slot/GPRS Dongle/GPS

xi. SAR (radiation values) within acceptable range as per Indian Standards

xii. Battery 2500 mAH or above (120 mins)/ External UPS/ POE (Power over Ethernet)

xiii. Separate charging non-USB port with AC adapter 200-240 volt range

xiv. Wall mount rugged attractive casing with ABS

F. Desktop Devices

i. STQC certified single finger-print biometric device for Aadhaar Authentication and extractor software/SDK (STQC Certificate must be submitted).

ii. API/SDK for Windows (7.0 and above) platform.

iii. Device should be plug & play with any Windows (7.0 and above) without need of any additional license to be deployed.

iv. The device should have integrated USB 2.0 type connector.

v. Device must come with connector cables to allow connection of the device to Micro USB and Standard USB ports

G. Iris Devices

i. STQC certified single finger-print biometric device for Aadhaar Authentication and extractor software/SDK (STQC Certificate must be submitted).

ii. API/SDK for Windows (7.0 and above) platform.

iii. Device should be plug & play with any Windows (7.0 and above) without need of any additional license to be deployed.

iv. The device should have integrated USB 2.0 type connector.

v. Device must come with connector cables to allow connection of the device to Micro USB and Standard USB ports.

Note: The vendor must provide all necessary technical support for integration of device drivers with attendance software and associated UIDAI applications.

Part-IV

8. GENERAL TERMS & CONDITIONS

CONDITIONS

8.1 All terms and conditions governing prices and supply given above, as applicable to NICSI, will be made equally applicable to NIC.

8.2 In the event of an selected agency or the concerned division of the company being taken over /bought over by another company, all the obligations and execution responsibilities under the agreement with the NIC/NICSI, should be passed on for compliance by the new company in the negotiation for their transfer.

8.3 Vendors agrees with NICSI for honoring all aspects of fair trade practices in executing the work orders placed by NICSI.

8.4 The selection and work awarded under this tender is not assignable by the selected agency. The selected agency shall not assign its contractual authority to any other third party. The agency should not assign or sublet the work or any part of it to any other agency in any other form than defined in this tender. If found doing so, shall result in termination of contract and forfeiture of Security Deposit.

8.5 In case the selected agency is found in breach of any condition(s) of tender or work order, at any stage during the course of services or warranty period of devices, the legal action as per rules/laws, shall be initiated against the Vendor and EMD/Security Deposits shall be forfeited, besides being liable to be debarred and blacklisted for at least three years, for further dealings with NICSI.

8.6 No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by NICSI. Any notification of preferred Vendor status by NICSI shall not give rise to any enforceable rights by the Vendor. NICSI may cancel this tender/empanelment at any time prior or after the empanelment being executed by NICSI.

8.7 NICSI may use this tender for executing any projects anywhere in India during the validity of this tender.

8.8 NICSI, without assigning any reason can reject any tender(s), in which any prescribed condition(s) is/are found incomplete in any respect and at any processing stage.The selected agency should not use NICSI empanelment to take orders directly from any other departments. Doing so will result in cancellation of empanelment and

forfeiture of Security Deposit and the Vendor will be debarred from participating in any NICSI Tender for at least three years.

8.9 The decision of NICSI arrived during the various stages of the evaluation of the bids is final & binding on all vendors.

8.10 Printed/written conditions mentioned in the tender bids submitted by vendors will not be binding on NICSI.

8.11 Upon verification, evaluation / assessment, if in case any information furnished by the vendor is found to be false/incorrect, their total bid shall be summarily rejected.

8.12 NICSI will not be responsible for any misinterpretation or wrong assumption by the vendor, while responding to this tender.

8.13 NICSI may by written notice sent to the vendor; terminate the work order and/or the contract, in whole or in part at any time of its convenience. The notice of termination will specify that termination is for NICSI's convenience, the extent to which performance of work under the work order and /or the contract is terminated, and the date upon which such termination becomes effective. NICSI reserves the right to cancel the remaining part and pay to the selected vendor the amount for partially completed Services.

8.14 During the contract period, if any product becomes end of life, the selected agency must ensure that an equivalent or better product is offered to NICSI. Due to any unavoidable circumstances, if the vendor is not in a position to execute future orders, NICSI should be intimated the same with convincing justifications, at least three months in advance. NICSI will conduct independent enquiry about such claims and the availability of equivalent/better product. The decision arrived at by NICSI in such matters will be final. If the inability shown by the Vendor is only due to some financial/technical reasons, such requests will not be considered. However for all cases in which the User Department has transferred fund to NICSI for procurement, the Vendor must supply equivalent or better product to fulfill NICSI's obligation to the User Department. Any failure to adhere to this will result in forfeiting the Security Deposit and debarring the Vendor from participating in NICSI tenders for minimum three years.

8.15 The vendor shall be solely responsible for discharge of all the legal obligations/ statutory requirements under various labour legislations as may be in force from time to time so far as the workmen engaged by him for this work are concerned. Such engaged manpower or the vendor will have no right or claim of any kind from NICSI or its clients.

8.16 Staff of the agency must carry Identity card issued by the agency while on duty at NICSI or client site. Be it private or public areas, the employees are to be frisked/ checked by the security personnel, both while entering and leaving the premises

8.17 NICSI will not reimburse any amount towards Provident Fund, Employees Insurance or Bonus or any other funds/contribution in the scheme which Government may make it mandatory or introduced in future. These issues must be settled between the

empanelled agencies and the manpower engaged by them from time to time as per the government rules and regulations.

8.18 The responsibility of fulfilling the requirements of EPF, ESIC and other allowances of the engaged manpower shall be of the empanelled agency. NICSI or its clients shall remain indemnified of any conflict of such nature arising between the agency and its employees. NICSI may ask the empanelled agency to submit documentary proofs of such nature as and when need arises.

8.19 Outsourcing/Consortiums/Sub-contracting is not allowed for the purpose of participating in this RFP.

8.20 The selected agency should not use NICSI empanelment to take orders directly from any other departments. Doing so will result in cancellation of empanelment and forfeiture of Security Deposit and the Vendor will be debarred from participating in any NICSI Tender for at least three years.

9. PRICE VARIATION CLAUSE

9.1 During the validity of the empanelment including the extended period, if any, if the Vendor quotes, sells or exhibits written intention to sell any empanelled item of the same or equivalent configuration/specification to any other Department/ Organization at a price lower than the price fixed for NICSI under same terms and conditions as defined in this tender, the Vendor shall voluntarily pass on the price difference to NICSI. The effective date will be date of selling / intent to sell at lower rate.

9.2 In the event of lowering of government levies subsequent to the finalization of the panel, the vendor shall automatically pass on the benefits to NICSI, and in the event of increasing of government levies subsequent to the finalization of the panel; NICSI shall consider the case on merit and the pro-rata benefits to the Vendor may be considered if full reference with documentary evidence is submitted.

9.3 During the validity of the empanelment including the extended period, if any, in case NICSI notices **that the market rates have come down** from the time the rates were finalized or selection of new system configuration based on market trends or for the reasons of technological changes, NICSI may ask the **technically qualified** vendors to re-quote the prices and the Vendor(s) will be selected on the basis of financial evaluation procedure given earlier. All those technically qualified vendors, whose EMD have been returned by NICSI during/after the evaluation of the tender, will have to submit the EMD of the same amount along with the revised price quotations. The time gap between such re-quotes/revision of rates will be as per tender document.

9.4 **Exchange Rate Fluctuation:** Vendor will submit the foreign exchange rate (USD) applicable on bid submission date, as given on the RBI website (if applicable as per financial bid format). The foreign exchange rate published at RBI site on the last day of bid submission (closing rate) will be recorded as the reference rate. The request by empanelled Vendors for rate revision due to the fluctuation in foreign exchange rate (USD), will be considered only when the fluctuation is more than 10% of the defined reference value. Method of rate revision due to above fluctuation is given below. If the fluctuation is downwards, NICSI will revise price downwards as per the defined method.

The following method shall be adopted for **Exchange Rate Variation Calculation**

B_1 = Base Rate, as per RBI website as of last date of bid submission
B_2 = Current Rate, as of date when calculation of payment to be processed.
FC = Foreign Currency Component (in %)
L_1 = Empanelment Rate before Exchange Rate Variation,
$ERV = \{[(B_2 - B_1)/B_1] \times FC\% \times L_1\}$

For example:

* Foreign Exchange of INR 60/$ is assessed from RBI website (closing rate) during financial evaluation and is finalized as Base Rate.

* During issuance of PI, it is assessed that foreign exchange rate is INR 66/$ (i.e. +10%).

* Base rate "B_1" will now shift from INR 60/$ to INR 66/$ for all calculation purposes.

Note: Base Rate "B_1" changes as-and-when a variation of ±10% is assessed during issuance of PI or as indicated by the rate revision committee.

9.5 For subsequent revisions, the rate revision committee will record the foreign exchange rate applicable on the finalization date. In such cases, NICSI will take decision of giving complete / partial benefit of the variation by examining other existing similar government empanelment and prevalent market rates. NICSI may also invite revised financial bid from technically qualified vendors (if number of such vendors is more than two) and empanelment size will be reduced to at most two Vendors Decision of NICSI in this regard will be final and no representation of any kind will be entertained.

10. Award of Work

10.1 NICSI has the right to choose any subset of the tendered items for placement of purchase/work orders.

10.2 NICSI will be free to allocate the work to any of the empanelled Vendors or to an agency of User Department's choice.

10.3 In case Work Orders are placed on more than one agency, the distribution of work orders will be at the sole discretion of NICSI or the User Department.

10.4 Work/Purchase order will be placed on the empanelled Vendor (or partner) in hardcopy format or in softcopy mode either through e-mail containing the scanned copy of the Purchase Order or an alert through e-mail for downloading the Purchase Order.

10.5 Objection, if any, to the Purchase Order must be reported to NICSI by the supplier within Seven (7) working days counted from the Date of Purchase Order for modifications, otherwise it is assumed that the supplier has accepted the Purchase Order in totality. This is applicable in case of electronic publishing/delivery of Purchase Order also.

10.6 After receiving the Purchase Order, amendment if any, is requested by the supplier or done by NICSI, the timelines of the work/purchase order shall be from the amendment date and not from the original Purchase Order date.

10.7 Subsequent to the issue of Purchase Orders, the supplier shall collect necessary related documents (copy of final Pro-forma Invoice from NICSI issued in the name of user-department) from NIC/ NICSI/End User for getting State Entry/Road Permit (wherever required) for complete, safe and timely delivery of the ordered products

11. Stock Entry and Billing to End User

11.1 The suppliers will have to raise their invoices from New Delhi in the name of NICSI New Delhi, for all NICSI procurements. In case of NICSI direct procurement tender clause 14 will not be applicable.

11.2 After carrying out the Acceptance Testing, the supplier will have to submit its invoice/bill and the copy of the Acceptance test report/Certificate at NICSI Stores at New Delhi, so that NICSI can book the purchase and issue their Sale-Invoice in the name of user-department.

11.3 For all NICSI procurements under projects, after collecting the Sale-Invoice from NICSI, the supplier has to ensure the safe and onward transportation of the items from NICSI store /Delhi to the end user location at their own responsibility and expenditure. The Supplier is responsible for safe and secure delivery and installation of these items at user location(s). The supplier may use the insurance policy of NICSI for getting the item insured for safe delivery and settle the claim, if any, directly with insurer. NICSI may issue NOC in favor of supplier if needed for settling the claim.

12. Acceptance Testing, Delivery and Installation

12.1 The items must be supplied in full as per ordered configuration for acceptance testing.

12.2 Vendor shall preload the BAS client application in the ordered devices, wherever applicable.

12.3 No item with short supply or alternate product with different technical specifications shall be taken up for acceptance testing under any circumstances. The supplier must ensure the availability of ordered items/spares in their stock before accepting the purchase order. The acceptance tests will include the verification of specification of ordered item, functional testing and reliability test, running of the evaluation test as conducted during technical evaluation of the items quoted by vendor. The systems must give same performance results as shown during initial Technical Evaluation tests. In case of urgent user requirement, the process of acceptance testing may be relaxed to successful installation of equipment at customer site. In such cases user/project manager's request is mandatory.

12.4 The offered items, in addition to meeting the evaluation tests, should also contain the same subsystems (Brand/Manufacturer) as were given at the time of initial evaluation tests.

12.5 Failure to fulfill any of the aforementioned conditions will entail cancellation of the Purchase Order along with forfeiture of the Security Deposit/Performance Bank Guarantee. Further, NIC/NICSI can procure same items from alternate sources at the risk and cost of the defaulting vendor.

12.6 During empanelment period, if any item's specifications / model changes & becomes non-available due to obsolescence/ up-gradation of technology, vendor within already approved cost may offer the item with equivalent or having better features in terms of performance and specifications. The item should be offered to NICSI for evaluation with full configuration at least one month prior to the acceptance testing date. The item(s) so offered will be evaluated at NICSI /any other site as decided by NICSI for its acceptance. The vendor should provide detailed technical documents and technical manpower support so as to enable NICSI to carry out the evaluation process again on the new item. In evaluating such change request, only the tender specification will be referred. In the case of main components, any change in the empanelled configuration due to technological up-gradation/ non-availability will be permitted by equivalent/better item of the same OEM. If no equivalent product meeting tender specification is available with that OEM, a communication from the OEM is mandatory in this regard before offering product of a different OEM.

12.7 The tentative schedule for conducting of acceptance testing shall be provided along with comprehensive material details by supplier within 15 working days from the date of purchase order to NICSI, so that all the related documentation work by NICSI could be completed and tested products can be delivered and installed within the stipulated time frame as per purchase order.

12.8 The testing of items must be generally completed as specified in the purchase order before the delivery date as per purchase order.

12.9 Normally, testing and acceptance of the Systems will be done at the Factory premises/Testing Lab of the Vendor/Authorized Partner, or at NIC/NICSI Headquarters in India (as the case may be) or any other premises in India or abroad suggested by supplier where it will be tested as per ordered specifications where representatives from supplier and NIC/NICSI will be present. The testing location/premises must be suitable/ agreeable to NIC/NICSI.

12.10 NIC/NICSI reserves the right to reject any item, if found unsuitable and /or not conforming to the approved specifications. The rejected items, if any, shall have to be taken back and replaced by good items forthwith at the cost of the vendor. No payment will be made for rejected items.

12.11 The items which are accepted after testing should be sealed inside carton under the joint signatures of the representative(s) of NIC/NICSI and supplier's representative and then sent along with the packing list giving serial numbers and part numbers of all possible Items and copy of the acceptance test report to the specific location or to the actual sites of installation. The top cover of the carton must have a label carrying the complete NIC/NICSI Purchase Order Number, supplier's bill number and Delivery location.

12.12 A sticker mentioning the Service Support Call Centre Number of the vendor and warranty details should be pasted by vendor on each box.

12.13 For a product becoming end of life, it is the responsibility of the empanelled vendor to get the replacement product approved pro-actively. If there is no replacement product available, the same has to be communicated to NICSI with justification from OEM, at least three months in advance so that NICSI do not quote rate for such product to users. For all such cases where either NICSI has issued Pro-forma Invoice (PI) or the fund has come to NICSI from user departments, the vendor will supply Systems, if necessary with higher configuration at the empanelled rates. If the vendor fails to follow the above requirement, Security Deposit of that vendor will be forfeited and empanelment may be cancelled. If the vendor follows the procedure of intimating NICSI well in advance about the non-availability with proper documentary evidence, the empanelment can be kept in suspension till a suitable and equivalent product is approved by NICSI. However, for any pending POs such relaxation will not be applicable. All aspects of safe delivery shall be the exclusive responsibility of the vendor. The schedule to be given for delivery at site is to be strictly adhered to in view of the strict time schedule for implementation of various Projects. Proof of

Delivery as per the format provided in Annexure-4: Delivery and Installation duly signed by the NIC/ NICSI Project Coordinator/User Department, should reach NIC/NICSI Head Quarters (as the case may be), New Delhi within 4 weeks of the delivery. All aspects of safe delivery shall be the exclusive responsibility of the vendor. The schedule to be given for delivery at site is to be strictly adhered to in view of the strict time schedule for implementation of various Projects. Proof of Delivery as per the format duly signed by the NIC/ NICSI Project Coordinator/User Department, should reach NIC/NICSI Head Quarters (as the case may be), New Delhi within 4 weeks of the delivery.

12.14 At the destination site, the cartons will be opened only in the presence of authorized person/user and vendor's representative.

12.15 Supplier must apply to the respective authority for issue of road permit /e-waybill well in time. Necessary documents needed for applying for Road Permit will be collected by the vendor from NIC/NICSI/End User immediately on getting the Purchase Order from NIC/NICSI. If after proper and timely communication with the User Department, there is any delay in the issuance of road permit, the vendor will be entitled to get appropriate extension for delivery period provided that the acceptance testing was done and complete material was ready for dispatch 7 days before the due date of delivery as specified in purchase order.

12.16 Delays on account of getting relevant permits shall not make vendor eligible for waiver of penalties.

12.17 In case any discrepancy with regard to sign, stamp or date etc on the delivery certificate, a mail from concerned user/NICSI Coordinator/NIC user may be treated as delivery challan.

12.18 The vendor shall provide equipment manual and User manual along with each equipment, even if more than one equipment is ordered for a single location.

13. LIMITATION OF LIABILITY

a) Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.

b) Except in the case of Gross Negligence or Willful Misconduct on the part of the selected agency or on the part of any person acting on behalf of the selected agency executing the work or in carrying out the Services, the Selected Agency, with respect to damage caused by the Selected Agency including to property and/or assets of NICSI or its clients shall regardless of anything contained herein, not be liable for any direct loss or damage that exceeds (A) the Contract Value or (B) the proceeds the Selected Agency may be entitled to receive from any insurance maintained by the Selected Agency to cover such a liability, whichever of (A) or (B) is higher. For the purposes of this Clause, "Gross Negligence" means any act or failure to act by a Party which was in reckless disregard of or gross indifference to the obligations of the Party under the Contract and which causes harmful consequences to life, personal safety or real property of the other Party which such Party knew, or would have known if it was acting as a reasonable person, would result from such actor failure to act. Notwithstanding the foregoing, Gross Negligence shall not include any action taken in good faith for the safeguard of life or property. "Willful Misconduct" means an intentional disregard of any provision of this Contract which a Party knew or should have known if it was acting as a reasonable person, would result in harmful consequences to life, personal safety or real property of the other Party but shall not include any error of judgment or mistake made in good faith.

c) This limitation of liability slated in this Clause, shall not affect the Selected Agency's liability, if any, for direct damage by Selected Agency to a Third Party's real property, tangible personal property or bodily injury or death caused by the

Selected Agency or any person acting on behalf of the Selected Agency in executing the work or in carrying out the Services.

14. INDEMNITY

I) The Selected Agency shall indemnify NICSI from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:

    a. Any negligence or wrongful act or omission by the Selected Agency or any third party associated with Selected Agency in connection with or incidental to this Contract or;

    b. Any breach of any of the terms of this Contract by the Selected Agency, the Selected Agency's Team or any third party

    c. Any infringement of patent, trademark/copyright arising from the use of the supplied goods and related services or any party thereof

II) The Selected Agency shall also indemnify the Purchaser against any privilege, claim or assertion made by a third party with respect to right or interest in, service provided as mentioned in any Intellectual Property Rights and licenses.

III) NICSI/User department stand indemnified from any employment claims that the hired manpower / agency's manpower may opt to have towards the discharge of their duties in the fulfillment of the work orders.

IV) Each party also stands indemnified from any compensation arising out of accidental loss of life or injury sustained by such party's manpower while discharging their duty towards fulfillment of the purchase orders caused by the negligence or willful misconduct of the other Party or its agents and representatives.

15. Confidentiality and Security

i. The selected agency and their personnel will not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract or business or operations of NICSI or its clients without the prior written consent of NICSI or the concerned User Department.

ii. The agency will ensure that no information about the software, hardware, and database, the policies of NICSI/User Department is taken out in any form including electronic form or otherwise, from the client site by the manpower posted by them.

16. FORCE MAJEURE

If at any time, during the continuance of the empanelment, the performance in whole or in part by either party of any obligation under the empanelment is prevented or delayed by reasons beyond the control of a party such as war, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics quarantine restrictions, strikes, natural calamities, lockouts, acts of state or acts of God

(hereinafter referred to as "events"), provided notice of happenings of any such event is duly endorsed by the appropriate authorities/chamber of commerce in the country of the party giving notice, is given by party seeking concession to the other as soon as practicable, but within 21 days from the date of occurrence and termination thereof, neither party shall, by reason of such event, be entitled to terminate the empanelment/contract, nor shall either party have any claim for damages against the other in respect of such nonperformance or delay in performance, and deliveries under the empanelment/contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, provided further, that if the performance in whole or in part or any obligation under the empanelment is prevented or delayed by reason of any such event for a period exceeding 60 days, NICSI may at its option, terminate the empanelment. Neither Party shall be liable for any failure or delay in the performance of its obligations under the contract or Work Orders hereunder to the extent such failure or delay or both is caused, directly, without fault by such Party, by reason of such event. NICSI shall however, be responsible to pay the empanelled Vendor for the services successfully rendered to the satisfaction of NICSI/user department under the work orders/ purchase orders issued pursuant to the contract.

17. TERMINATION Of CONTRACT

I. NICSI may, terminate this Empanelment/Work Order by giving the Selected Agency a 30 (Thirty) days prior and written notice indicating its intention to terminate the Contract under the following circumstances:

   i. NICSI is of the opinion that there has been such event of default on the part of the Selected Agency which would make it proper and necessary to terminate this Contract and may include failure on the part of the Selected Agency to respect any of its commitments with regard to any part of its obligations under this Contract.

   ii. The Selected Agency has failed to commence the provision of Services, or has without any lawful excuse under these conditions suspended the work for 30 consecutive days.

   iii. Where it comes to NICSI's attention that the Selected Agency is in a position of actual conflict of interest with the interests of the Purchaser in relation to any of Terms and Conditions of the Contract or has without authority committed breach of Terms of the Contract in best judgment of NICSI.

   iv. In the event of the quality of Temporary Staffing Personnel and/or services as per the Scope of Work under the Contract with NICSI not found acceptable by NICSI/User Department.

   v. The Selected Agency has neglected or failed to observe and perform all or any of the terms acts, matters or things under this Contract to be observed and performed by it.

   vi. The Selected Agency has acted in any manner to the detrimental interest, reputation, dignity, name or prestige of NICSI.

   vii. The Selected Agency has been declared insolvent/bankrupt.

II. Consequences of Termination
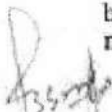
i. NICSI shall have the right to carry out the unexecuted portion of work either by itself or through selecting other Empanelled Agency.

ii. In the event of termination of this Contract, NICSI shall be entitled to impose any such obligations and conditions and issue any clarifications as maybe necessary to ensure an efficient transition and effective business continuity which the Selected Agency shall be obliged to comply with.

iii. In the event that the termination of this Contract is due to the expiry of the Term of this Contract, a decision not to grant any (further) extension by NICSI, or where the termination is prior to the expiry of the stipulated term due to the occurrence of any event of default on the part of the Selected Agency, the Selected Agency herein shall be obliged to provide all such assistance to the successor or any other person as may be required by NICSI.

iv. Where the termination of the Contract is prior to its stipulated term on account of a default on the part of the Selected Agency or due to the fact that the survival of the Selected Agency as an independent corporate entity is threatened/has ceased, NICSI shall pay the Selected Agency for that part of the Services which have been authorized by NICSI and satisfactorily performed by the Selected Agency up to the date of termination. Without prejudice any other rights, NICSI may retain such amounts from the payment due and payable by NICSI to the Selected Agency as may be required to offset any losses caused to NICSI as a result of any act/omissions of the Selected Agency.

v. NICSI may take possession of the works and all deliverables of the Selected Agency and use or employ the same for completion of the work or employ any other Selected Agency or other person or persons to complete the works. The Selected Agency shall not in any way object or interrupt or do any act, matter or thing to prevent or hinder such actions, other Empanelled Agencies or other persons employed for completing and finishing or using such deliverables.

vi. When the Contract is terminated by NICSI for all or any of the reasons mentioned above, the Selected Agency shall not have any right to claim compensation on account of such termination.

18. Dispute Resolution

The Vendor and NICSI shall endeavor their best to amicably settle, by direct negotiation, all disputes arising out of or in connection with the empanelment.

In case any dispute between the Parties, does not settle by negotiation, the same may be resolved exclusively by arbitration and such dispute may be submitted by either party for arbitration. Arbitration shall be held in New Delhi and conducted in accordance with the provisions of Arbitration and Conciliation Act, 1996 or any statutory modification or re-enactment thereof. Each Party to the dispute shall appoint one arbitrator each and the third to be appointed by the Department of Information Technology, Government of India.

The "Arbitration Notice" should accurately set out the disputes between the parties, the intention of the aggrieved party to refer such disputes to arbitration as provided herein, the name of the person it seeks to appoint as an arbitrator with a request to the other party to appoint its arbitrator within 45 days from receipt of the notice. All notices by one party to the other in connection with the arbitration shall be in writing and be made as provided in this tender document.

Each Party shall bear the cost of preparing and presenting its case, and the cost of arbitration, including fees and expenses of the arbitrators, shall be shared equally by the Parties unless the award otherwise provides. The Vendor shall not be entitled to suspend the Service/s or the completion of the job, pending resolution of any dispute between the Parties and shall continue to render the Service/s in accordance with the provisions of the Contract/Agreement/Empanelment notwithstanding the existence of any dispute between the Parties or the subsistence of any arbitration or other proceedings.

19. APPLICABLE LAW

The empanelment/work-order(s) will be governed by the laws and procedures established by the Govt. of India within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing. All disputes in this connection shall be settled in Delhi jurisdiction only.

Any other clauses not specifically mentioned in this Empanelment, but were part of the terms and conditions of the tender no. NICSI/End Point Terminal for BAS/2018/07 shall ipso facto be applicable to this empanelment.

You are requested to acknowledge receipt of this letter immediately and submit a signed copy of each and every page of this letter within seven days (7 days) from the date of the issue this letter as your acceptance of this empanelment letter along with all the terms and conditions. You are also requested to submit the security deposit as per tender terms and condition within 7 days.

Yours faithfully,

(J.B.Singh)
Management Consultant-Tender

Copy to: -

1. HOD, Tender Process Section, NIC, New Delhi
2. Project Coordinators, NICSI, New Delhi
3. Account Section, NICSI, New Delhi
4. Project Coordinators NIC/NICSI, New Delhi
5. Company Secretary, NICSI, New Delhi
6. Guard File

***END**

पॉकेट - 14, सेक्टर-8, द्वारका,
फेस 1 , नई दिल्ली 110077-
Pocket- 14, Sector- 8,Dwarka,
Phase – 1, New Delhi-110077

राष्ट्रीयआयुर्विज्ञानआयोग
National Medical Commission
(Administration Section)

File No. NMC/DS(NMC)/Misc/2022-406   Dated the 27ᵗʰ July, 2022

ADVISORY
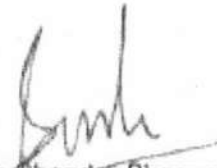
Sub:- To install cameras in Medical Colleges - Regarding.

All Medical Colleges and Institutions are hereby advised to install cameras in their institute premises at the following prescribed places with suggested numbers of cameras -

Sr. No.	Prescribed Places for Camera Installation	Prescribed Numbers of Cameras to be installed
1	Main Entrance of the Hospital & College	1
2	Patient Registration Counter	2
3	OPDs (depending upon number of OPDs in the college); It should cover the Medicine OPD, Surgical OPD, Gynaecological OPD, Paediatrics OPD, Ortho OPD etc.	5
4	Pre anesthesia area and recovery area in the operation theatre complex	2
5	Faculty Lounge and Attendance marking area	2
6	All 5 Lecture Theatres	5
7	Anatomy Dissection Hall	1
8	Physiology Lab/Bio Chemistry UG Labs	2
9	Patho and Micro Biology Labs	2
10	Pharmacology Lab	1
11	Patient Attendant waiting area	1
12	Emergency and Casualty Ward	1
	Total	25

2.   Suggesting specifications of the cameras to be installed are as under-

   a. DVR with High Procession Power, with networking for remote accessibility, recommended with 16 channels

   b. CCTV cameras with 4K resolution

(Dr Suresh Chandra Sharma)
Chairman, NMC
27.7.2022

राष्ट्रीय आयुर्विज्ञान आयोग
National Medical Commission

F.No. D-130024/07(3)/2022/NMC/DMMP   **Date: 27ᵗʰ Aug, 2022**

To,

    The Directors/Principal/ Deans
    All the Govt. /Private Medical Colleges/
    Medical Colleges of Deemed Universities
    All States & UTs

Sub: **Clarification regarding the installation of CCTV cameras in Medical Colleges - regarding.**

Dear Madam/Sir,
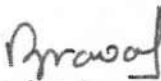
    I am directed to refer to NMC's **ADVISORY** no. NMC/DS(NMC)/Misc/2022/406 dated 27.7.2022 (copy enclosed) on the subject mentioned above. A lot of queries were being received in the NMC seeking clarifications regarding CCTV installation/infrastructure. Based on the same, the Medical Colleges are required to follow the following specifications for smooth functioning/integration of CCTV:

i.   The Camera should be on if the compliant IP is ready.

ii.   MCs may use NVR for local storage and can send the feed to NMC CCC through MCs router provided by local internet service provider. In case MCs want to share feed directly to NMC CCC through local switch and Internet service provider router without local storage on NVR then such cases Camera should be with minimum 3 days full storage.

iii.   Based on the service availability, performance and reliability, Colleges may use existing bandwidth (MPLS or ILL). For any future bandwidth requirement, NMC will inform the colleges.

iv.   The Colleges do not have to purchase any analytics software.

v.   For procurement of CCTV cameras and other related infrastructure required at the college's end, they may choose their approved procurement rule/channel.

vi.   2Konvif compliant camera may also fulfill the requirement except at Lecture Hall where 4K Camera must require. Positioning of the camera is equally important.

vii. Once the camera and associated LAN infrastructure will be ready, colleges will request NMC to provide an IP pool. IP pool will be provided by the NMC only.

viii. For connectivity colleges either can use their existing LAN or create a separate VLAN to segregate the traffic and transfer the data via a router or need to purchase a 24-port L2 switch and connect directly with the college router. This switch is in addition to the existing 8-port CISCO switch supplied under the DMMP-II project

ix. College having multiple standalone buildings can either connect all the building LAN to a particular point may be a NOC room and that connects to a router or may provision a separate router for each building and drop the ISP connectivity directly to the respective building.

x. For furfur clarification please write to director.nmc@nmc.org.in

2. All Medical colleges have to follow the aforementioned guidelines/specifications while installing the CCTV.

3. This issues with the approval of the Competent Authority.

With Regards,

(Pankaj Agrawal)
Director, NMC

Copy forwarded for necessary information and action to:

1. The ACS/Principal Secretaries/Secretaries, Deptt. of Medical Education of all States/UTs
2. DME of all States/UTs
3. PPS to Hon'ble Chairman, NMC

Pro-Forma for Display of Information on the College Website

The Following Details are mandatory to be filled up by the Medical College and displayed on their website (once entered should be updated without removal of data)

S No.	Information of the medical college/institution Year of Inception: Government/private:	
1.	Name	
2.	Address with pin code	
3.	University address with pin code	
4.	Official website	
5.	Dean/ Principal/ Director	
6.	Mobile Number	
7.	Email ID of Dean	
8.	Hospital	
9	Date and Year of Registration of the Hospital (DD/MM/YYYY)	
10.	Number of Beds	
11.	Number of Beds for emergency	
12.	Date of the First Letter of Permission(LoP) of MBBS (DD/MM/YYYY) & number of seats	
13.	Status of Recognition	
14.	Number of MBBS and PG broad specialty and super specialty students admitted in this session*	MBBS: MD/MS: DM/MCh:

15.	Inpatients registered and admitted (Previous month record)	
16.	Outpatients registered (Previous month record)	
17.	Number of Deaths reported to the Municipality/ village register(month-wise) (Previous month record)	
18.	Address and pin code of the Corporation/ Village where the Death records are reported	
19.	Website link/ email ID/ hyperlink of the corporation in case Death Records are reported	
20.	Number of Births reported(Month-wise)	
21.	Address and pin code of the Corporation/village where the Birth records are reported	
22.	Website link/ email ID/ hyperlink of the corporation in case Birth Records are reported	
23.	Number of Rooms in Men's Hostel and students accommodated	
24.	Total Number of Rooms in Women's Hostel and students accommodated	
25.	Name of the Grievance Redressal Officer (PIO & CPIO):	
26.	Address with Pin code	

27.	Telephone Number Email Id	
28.	Grievances reported (Previous month record)	

29. Details of Post- Graduation Courses offered

Post Graduate Course	Year of Commencement of the Course	Number of Students Currently pursuing the Course	Number of Students admitted in the current session

30. Department wise list of Faculty Members

Department	Name of the faculty Qualification IMR Number	Current Designation & Date of promotion	Nature of employment Regular/ permanent or contract/outsourced	Details of Service in the Last 5 years					Number of lectures taken/year, small teaching group with Topics covered
				1	2	3	4	5	

N.B.

1. Publications by faculty should be attached as annexure.

2. Publications should be quoted in Vancouver referencing style.

3. Medical Educator Training/ research methodology and dates.

4. Additional Information, if any, may also be provided.

ANNEXURE-1

Sr. No	Faculty Name	Publication in Vancouver referencing style.	Pubmed Indexed Yes/No	Scopes

Hospital Management Information System (HMIS) Integration with NMC Dashboard

NMC Dashboard will provide a consolidated picture of all Medical Colleges. Medical Colleges may be using different HMIS applications. The objective of NMC Dashboard is to provide a seamless and unified view of OPD and IPD transactions happening in medical colleges. Patient Level data will be sent from each HMIS application for OPD and IPD initially. Data for other modules like Lab, OT, etc. will be added later on.
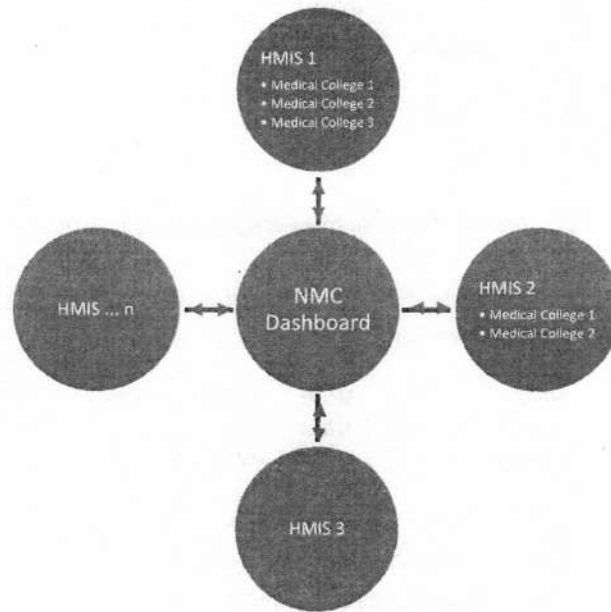
NMC Dashboard will pull and sync data from multiple HMIS Applications

To enable the viewing of data on NMC Dashboard, Multiple HMIS applications need to integrate with dashboard by submitting basic details and getting HMIS ID. The list of NMC Medical Colleges using the HMIS should be submitted in prescribed format so that they may be displayed at dashboard. The details include the API endpoint that will be exposed by HMIS to share the data with dashboard. NMC Dashboard will use this API to sync data, consolidate it and display at Dashboard.
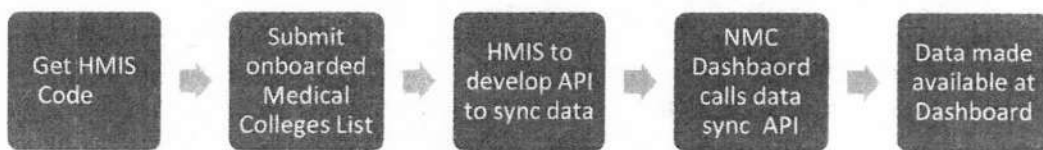
NMC Dashboard Integration Process

Medical College - HMIS and NMC Dashboard Integration Steps

1. To get ABDM Health Facility ID, visit https://facility.abdm.gov.in/ and follow the instructions. In case of any issue, please contact Shri Ashish Agnihotri of NHA/ABDM; Mobile: +91-8800328879.

2. Every HMIS has been given a unique code, like

HMIS CODE	HMIS NAME
001	eHospital
002	NextGen eHospital
003	e-Sushrut

   To get code for your HMIS, please send mail to vaibhav.khokhar@nic.in

3. The details of HMIS being used in Medical College should be sent on mail to vaibhav.khokhar@nic.in in the following format:

MEDICAL COLLEGE NAME	ABDM HEALTH FACILITY ID	HMIS HEALTH FACILITY ID	HMIS CODE	HMIS NAME	STATE LGD CODE	STATE LGD NAME	DISTRICT LGD CODE	DISTRICT LGD NAME

   All location codes like state and district should be LGD compliant. To get the LGD code for state and district, please visit https://lgdirectory.gov.in/

4. Frequency of data exchange will be hourly/6 hourly/ 12 hourly etc. NMC Dashboard will pull data from API Endpoint provided by Medical College. The API to provide data will be developed by Medical College through HMIS developer.

5. To open the port for data exchange in secure manner, please provide following details:
   a. API endpoint
   b. Public IP (if hosted outside NICNET) / Private IP (if hosted within NICNET)
   c. Port
   d. Credentials to access the API
      i. Client id
      ii. Client secret
      iii. Token endpoint URL

6. De-duplication of data will be done on the bases of UHID for a given health facility id (Medical College).

7. Module Codes used:

Module Code	Module Name
01	OPD REGISTRATION
02	IPD (including Admission, Discharge, Transfer)

API Specification for Data syncing with NMC Dashboard

API endpoint: hmis.nmc.com (API endpoint to be shared by HMIS)

Method: GET

"Inputs in Request Header":

```
"hfidABDM": "IN0710000001", // either hfid ABDM or hfid HMIS must be sent
"hfidHMIS": "66", // either hfid ABDM or hfid HMIS must be sent
"fromDate":"25/05/2022 00:00:00", // DD/MM/YYYY HH:MM:SS time is inclusive
"toDate":"29/05/2022 23:59:59"  // DD/MM/YYYY HH:MM:SS time is inclusive
 "Content-Type": "application/json"
 "Authorization": "bearer: token obtained from token endpoint"
```

"Output": {

```
 "metadata": {
  "code": 200,
  "message": "transaction successful",
  "timestamp": "02/04/2020 19:12:15",
  "version": "1.0.0"
 },
"result":[
  {
    "from_date":"25/05/2022 00:00:00",
    "to_date":"25/06/2022 23:59:59",
    "hf_id_hmis":"66", // either hfid ABDM or hfid HMIS must be sent
    "hf_id_abdm": "IN0710000001", // either hfid ABDM or hfid HMIS must be sent
    "health_facility_name":"Andhra Hospital", // required
    "module_wise_kpi": [
     {
      "module_code":1,
      "module_name": "OPD",
      "hmis_code": 002,// required. Refer HMIS Codes listed in table above ,
      "opd_count": 2, // required. Count of data returned in below listed patient details array
      "patient_details":[
       {
            "patient_name": "Harsh Tyagi", // required
            "patient_age": 32, // *required
            "address": "319 B, Pocket - N, Sarita Vihar, New Delhi - 110076", // required
            "patient_abha_id": "",
            "patient_identification_proof":"Aadhaar Card",
            "patient_identification_number":"302545687895",
            "patient_mobile_number": "8945465478",
            "transaction_type":1,//(1=new, 2= Revisit, 3=Casualty), required
            "uhid_number" : "20220000587", // required
            "department_visited_name": "",  // required
            "department_visited_code": "",   // required
            "datetime_of_transaction": "25/05/2022 05:26:45" // required
       },
```

```
        {
                "patient_name": "Atul Kumar", // required
                "patient_age": 20, // *required
                "address": "319 B, Pocket - N, Sarita Vihar, New Delhi - 110076", // required
                "patient_abha_id": "",
                "patient_identification_proof":"Aadhaar Card",
                "patient_identification_number":"402545687897",
                "patient_mobile_number": "9945465465",
                "transaction_type":1,//(1=new, 2= Revisit, 3=Casualty), required
                "uhid_number" : "20220000587", // required
                "department_visited_name": "",   // required
                "department_visited_code": "",    // required
                "datetime_of_transaction": "25/05/2022 05:26:45" // required

        }
        ]
    },
    {
    "module_code":2,
    "module_name": "IPD",
    "hmis_code": 002,//(001- eHospital, 002 – NextGen eHospital) , required,
    "ipd_count": 1, //required. Count of data returned in below listed patient details array
    "patient_details":[
      {
                "patient_name": "Harsh Tyagi", // required
                "patient_age": 32, // required
                "address": "319 B, Pocket - N, Sarita Vihar, New Delhi - 110076", // required
                "patient_abha_id": "",
                "patient_identification_proof":"Aadhaar Card",
                "patient_identification_number":"302545687895",
                "patient_mobile_number": "8945465478",
                "transaction_type":1,//(1=admission, 2= discharge, 3=transfer) , required
                "uhid_number" : "20220000587", // required
                "admission_number" : "45548544", // required
                "department_admitted_name":"", // required
                "department_visited_code": "", // required
                "datetime_of_transaction":"25/05/2022 05:26:45" // required

        }
        ]
        }
    ]
    }
  ]

}
```

NextGen
eHospital

User Manual

NextGen eHospital

Ministry of Health
and Family Welfare
Government of India

NextGen
eHospital

Health Facility Configuration

DOCUMENT RELEASE NOTE:

Health Facility Configuration

Version	1.0
Date of Release	01 June, 2022
Department	NextGen eHospital and ORS Division, NIC

Table of Contents

User Manual for NextGen eHospital Configuration

1. Introduction: Nodal Officer of the Health Facility receives Login Credentials on approval of on boarding request. Nodal Officer needs to Login using the provided credentials and configure the health facility to make different modules functional. The processes to configure the health facility is as described below.

2. Visit the homepage of application. The NextGen eHospital URL is https://nextgen.ehospital.nic.in. Following screen will appear.

Figure 1

3. **Login using the credentials of Nodal Officer or any other user who has roles to configure OPD Module.**

   ✓ Enter Username.
   ✓ Enter Password.
   ✓ Enter the Captcha Code.
   ✓ Click on the LOGIN button.

Figure 2

4. **User can reset the password by clicking on Forgot Password.**
   - ✓ Enter User id
   - ✓ Click on Forgot link
   - ✓ OTP Will be received on registered mobile number
   - ✓ Verify OTP
   - ✓ Enter new password
   - ✓ Confirm new password
   - ✓ Click of Set Password Button.
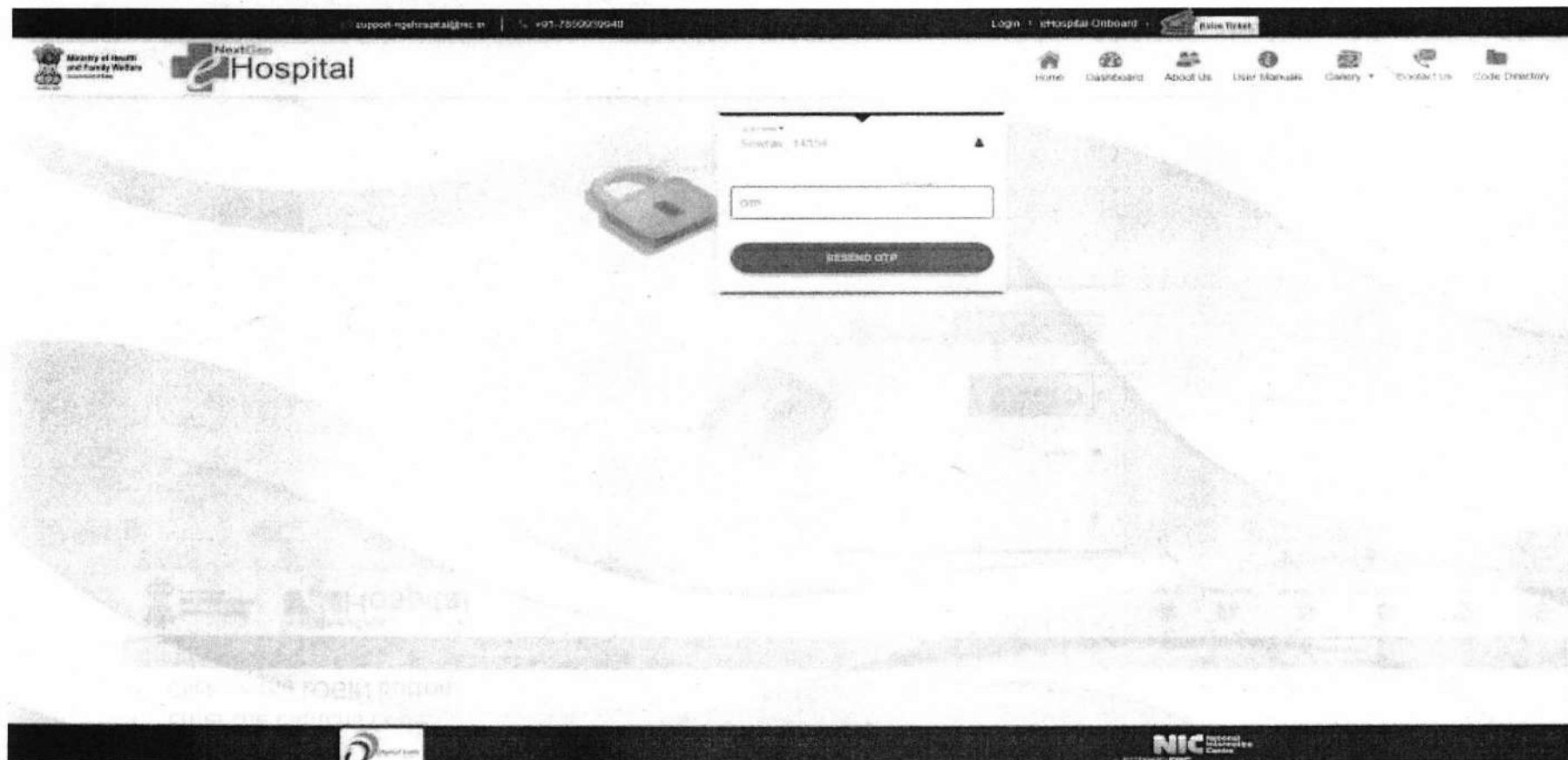
Figure 3

5. Following Screen will appear on successful login by Nodal Officer:
   - ✓ Nodal Officer will see different tabs.
   - ✓ Generate Health ID.
   - ✓ Health Facility Configuration contains the configurations which are necessary for making any module (like OPD/IPD) functional.
   - ✓ Module Specific configurations tabs will appear based on modules requested by health facility. e.g. OPD Configuration, OPD Clinic OPD Registration and Billing tab is visible as the healthfacility has selected OPD Module.
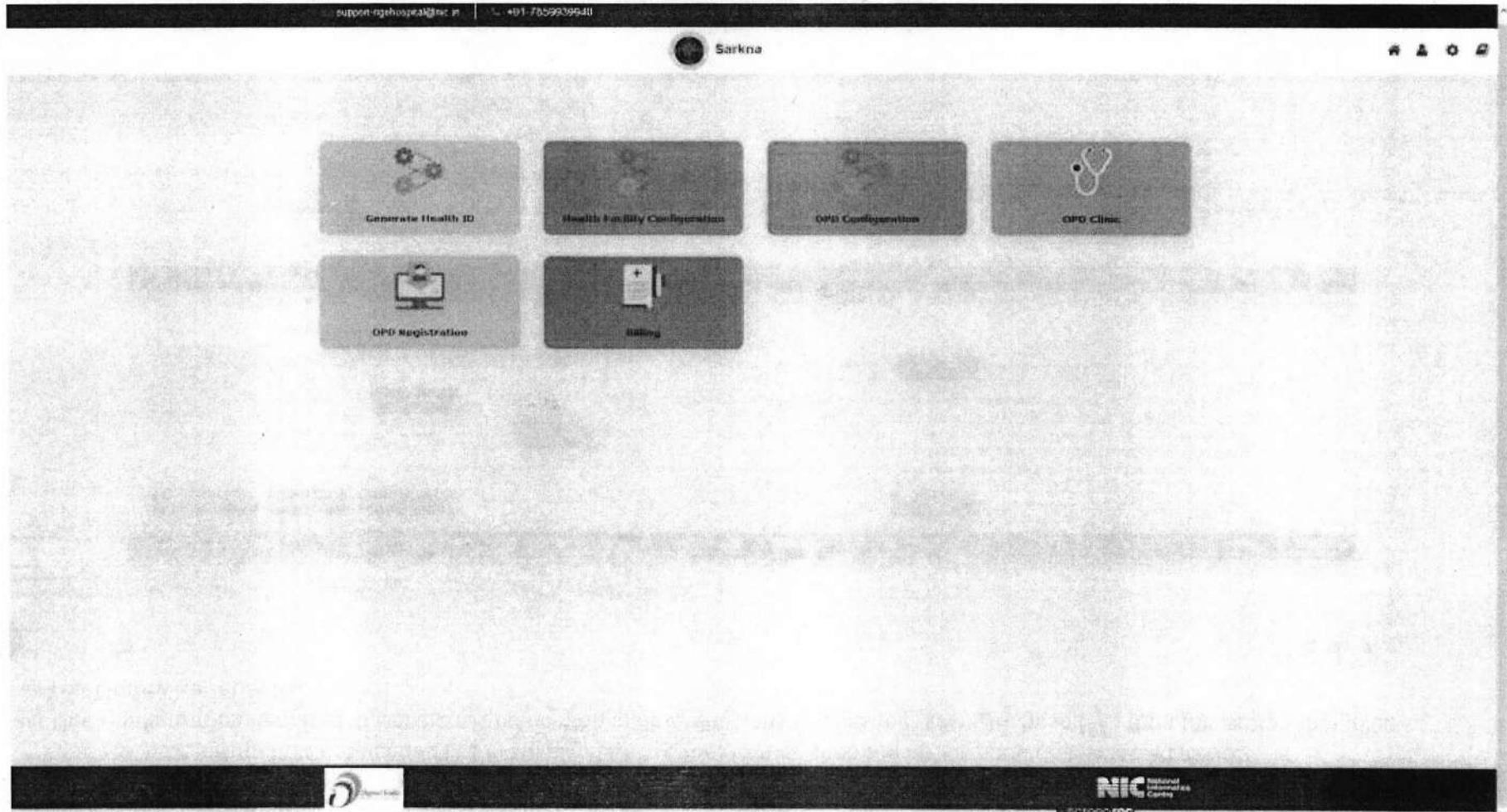
Figure 4

6. Health Facility Configuration

i. Department Unit Configuration:

✓ Select Department Configuration Required: If health Facility has multiple Departments like Medicine, EYE, Cardiology, etc. this should be selected asYes. If Department is not needed like in small health facilities/clinics, then the option should be selected as No.

✓ Select Unit Configuration Required: If Departments function in different Units like in super specialty hospitals, then this option should be set as Yes. Otherwise set as No.

Figure 5

ii. Configure Units:

✓ Select Department.
✓ Select Unit.
✓ Click on the Add/Update Unit.
✓ Selected Departments and Units shown in available units.

Figure 6

iii. **Configure Registration Charge and Logo:**
   - ✓ Select the Basic Registration Charges (Rs.).
   - ✓ Choose File- Browse the health facility logo.
   - ✓ Click on save button.

Figure 7

7. **Manage Users:** Nodal Officer of health facility will register users for his health facility.

   ✓ Enter Name, Gender, Date of Birth
   ✓ Select User Type: e.g. Doctor, Nurse, Registration Desk Operator, etc.
   ✓ Enter Mobile Number and Email ID.
   ✓ Select User ID (Auto Generate).
   ✓ Select Department: e.g. Biochemistry, Anatomy, Anesthesiology, etc.
   ✓ Assign Roles: the roles assigned will be visible to the user on login. So a combination of menus which need to be shown to the user should be selected.
   ✓ Correct Mobile number of the user should be provided. Password will be sent on SMS to this number. This mobile number will also be used to send OTP for resetting password.

Figure 8

8. **Building Configuration** -> Hospital Building Infrastructure: This link is used to manage health facility building infrastructure. The following screen will appear:
   - ✓ Nodal Officer should configure health facility building infra.
   - ✓ Multiple Buildings, Blocks, Floors and Rooms can be added.
   - ✓ This configuration will be used to select location. e.g. in OPD Roster, only those rooms will appear which are configured here.

   Building Type:
   - ✓ Multi Block

Figure 9

✓ Single Block

Figure 10

User Manual

NextGen eHospital

Ministry of Health
and Family Welfare
Government of India

NextGen
Hospital

OPD Registration

DOCUMENT RELEASE NOTE:

OPD Registration

Version	1.0
Date of Release	03 June, 2022
Department	NextGen eHospital and ORS Division, NIC

Table of Contents

User Manual for NextGen eHospital Configuration

1. Introduction: OPD Registration module is used to Register patients and view MIS Reports related to OPD Registration.
2. Visit the homepage of application. The NextGen eHospital URL is https://nextgen.ehospital.nic.in. Following screen will appear.

Figure 1

3. **Login using the credentials of Nodal Officer or any other user who has roles to configure OPD Module.**
   - ✓ Enter Username.
   - ✓ Enter Password.
   - ✓ Enter the Captcha Code.
   - ✓ Click on the LOGIN button.
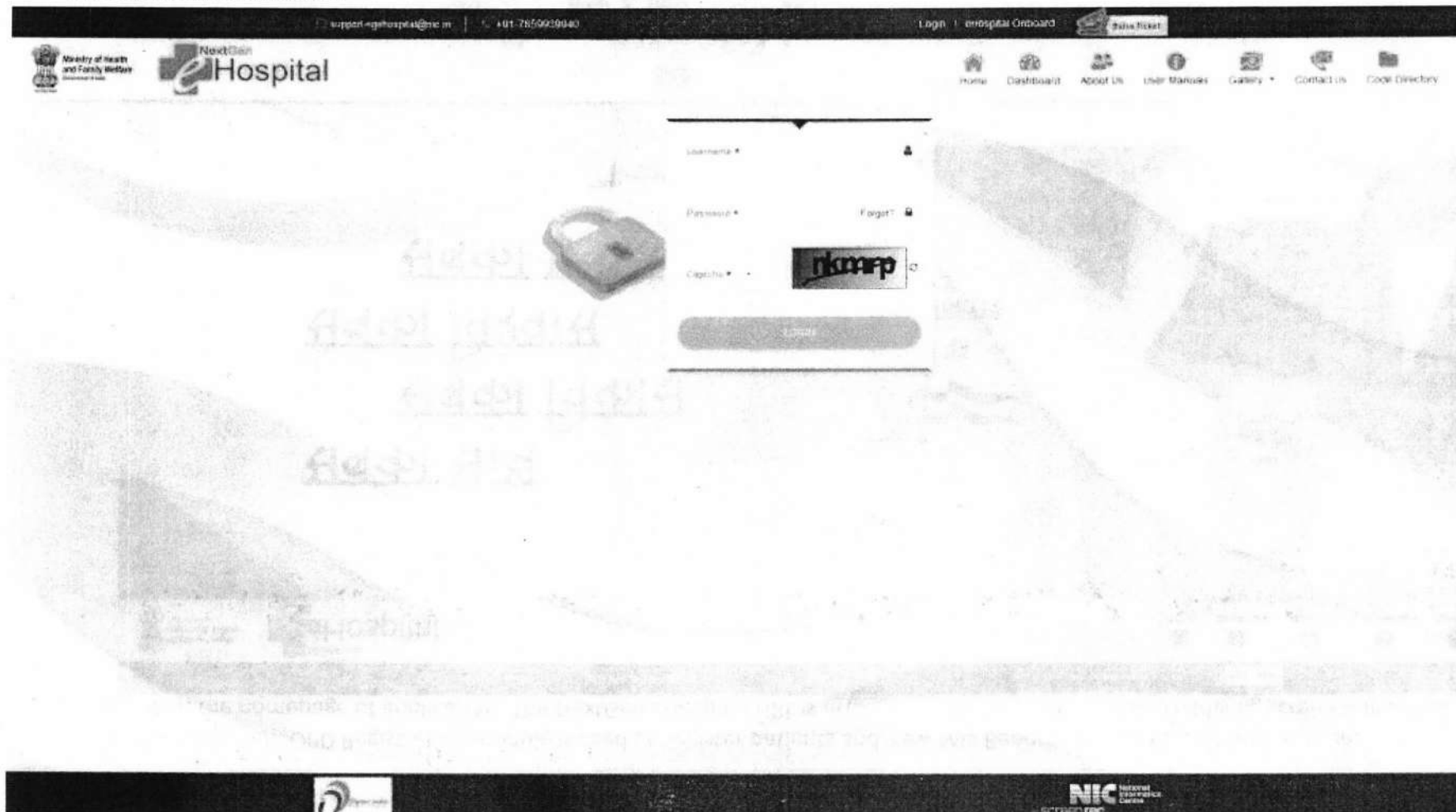
Figure 2

4. **User can reset the password by clicking on Forgot Password**
    - ✓ Enter User id
    - ✓ Click on Forgot link
    - ✓ OTP Will be received on registered mobile number
    - ✓ Verify OTP
    - ✓ Enter new password
    - ✓ Confirm new password
    - ✓ Click of Set Password Button.
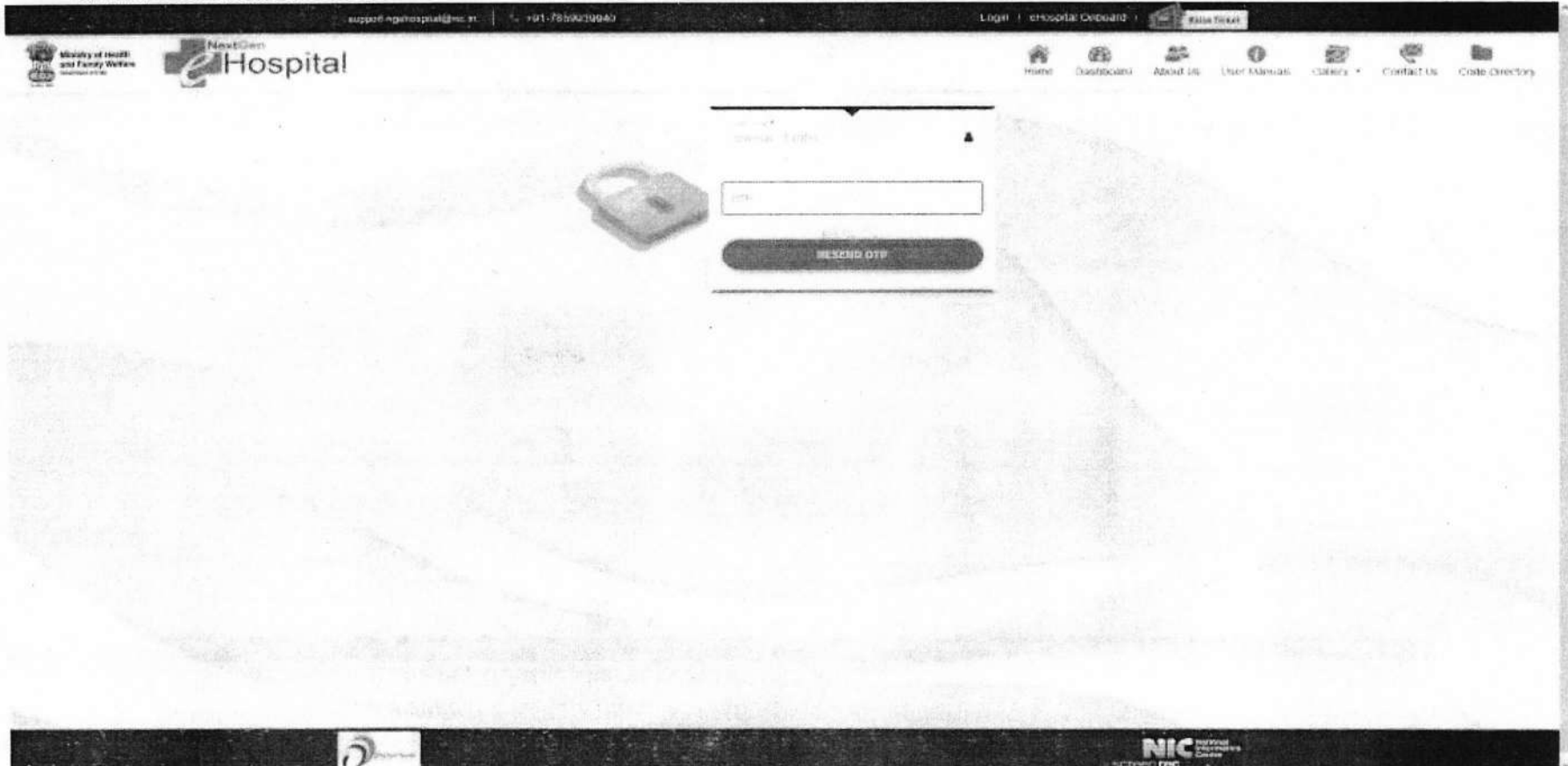
Figure 2

5. Following Screen will appear on successful login by Nodal Officer:
   ✓ Nodal Officer will see different tabs.
   ✓ Generate Health ID.
   ✓ Health Facility Configuration contains the configurations which are necessary for making any module (like OPD/IPD) functional.
   ✓ Module Specific configurations tabs will appear based on modules requested by health facility. e.g. OPD Configuration, OPD Clinic OPD Registration and Billing tab is visible as the healthfacility has selected OPD Module.
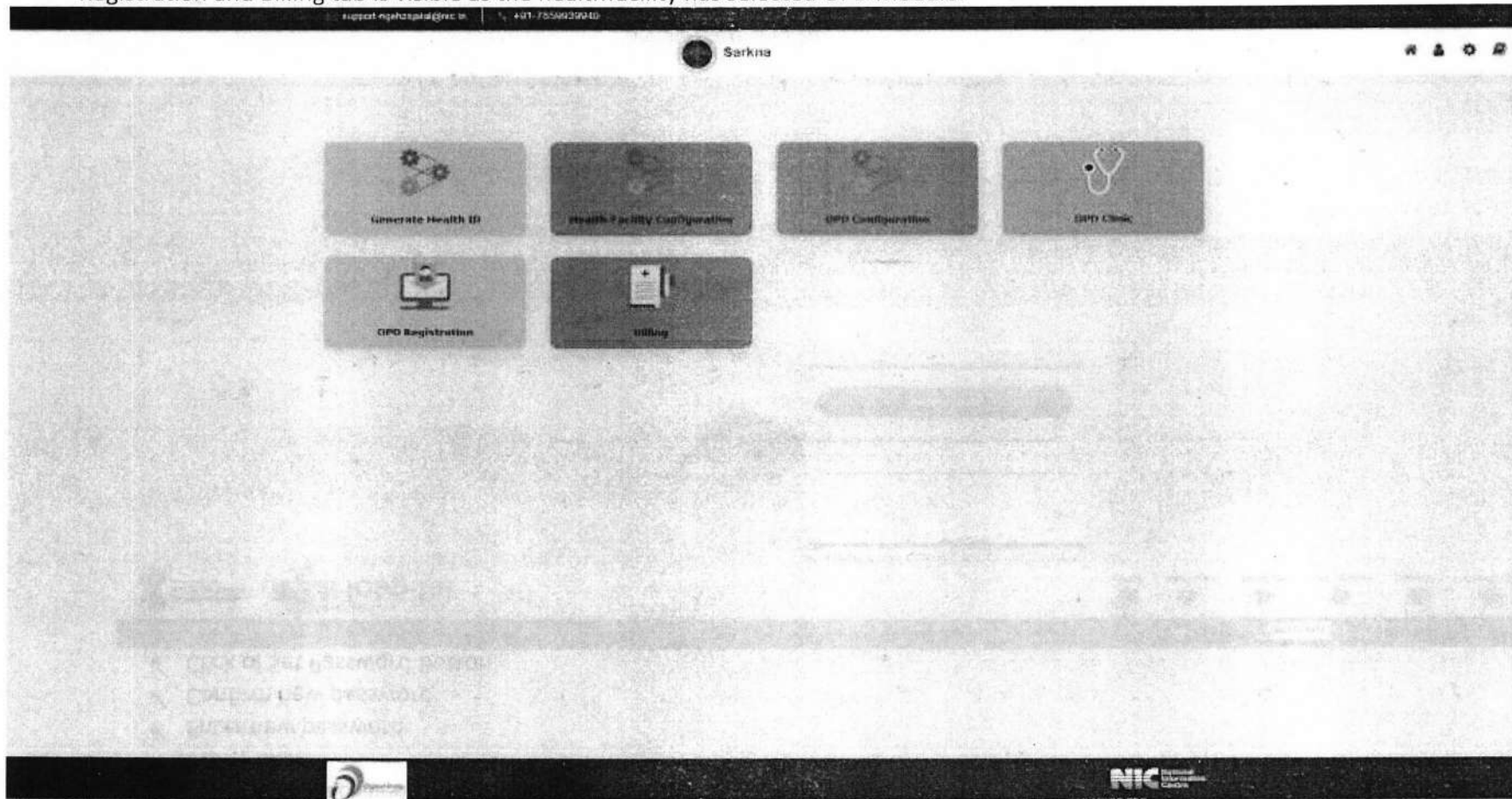
Figure 4

6. **New Registration:** Patient Registration Page will open as shown below.
   - ✓ The Registration parameters configured in OPD Registration will be visible in addition to mandatory parameters.
   - ✓ Parameters in Visit Details section will be as per the configuration of Registration Level in OPD Configuration. E.g. in below screen, registration level is configured as clinic.
   - ✓ Click on Add Referring Patient and Fill the Details: Referring Hospital, Referring Department, Referring Date and Registration Number.
   - ✓ Fill Patient Details: Insurance Scheme Name, Insurance Policy Number, Name, Gender, Date of Birth, Address, etc.
   - ✓ Fill Patient Other Information: Citizenship, Religion, Occupation, Education and Yearly Income.
   - ✓ Fill Covid-19 Patient Details.
   - ✓ Select Patient Visit Details (Select Department/clinic/unit) where patient has to visit.
   - ✓ Click on Register Button.
   - ✓ Registration slip will open on successful registration.
   - ✓ **In case of Follow Up Patient:** patient can be searched using Mobile Number, Patient Name or Health Facility Registration Number (generated during first visit of patient). The patient details will be auto-filled. Select Patient Visit Details and click on register button. Registration slip will be opened on successful registration.

Figure 3

7. Casualty/Emergency Registration :

- ✓ The Registration parameters configured in OPD Registration for Casualty/Emergency Registration will be visible in addition to mandatory parameters.
- ✓ Parameters in Visit Details section will be as per the configuration of Registration Level in OPD Configuration. E.g. in below screen, registration level is configured as clinic.
- ✓ Click on Add Referring Patient and enter the details: Referring Hospital, Referring Department, Referring Date and Registration Number.
- ✓ Click on the MLC Patient and Fill the Details: Unknown Patient, Brought By, Brought By Name, Brought Dead, 1st MLC Number and Police Station.
- ✓ Fill Patient Casualty Information: Unknown Patient, Brought By, Brought By Name and Brought Dead.
- ✓ Fill Patient Details: Mobile Number, Name, DOB, Gender, etc.
- ✓ Fill the Visit Details: Department and Clinic.
- ✓ Select Patient Visit Details (Select Department and Clinic) where patient has to visit.
- ✓ Click on Register Button.
- ✓ Registration slip will open on successful registration.
- ✓ **In case of Follow Up Patient:** Patient can be searched using Mobile Number, Patient Name or Health Facility Registration Number (generated during first visit of patient). The patient details will be auto-filled. Select Patient Visit Details and click on register button. Registration slip will be opened on successful registration.

Figure 6

NextGen eHospital

8. **Update Registration:** In Update Registration user can update the details of patient by using their UHID.
   ✓ Fill the Update Patient Data: Enter the UHID.
   ✓ Click on the Search Button.
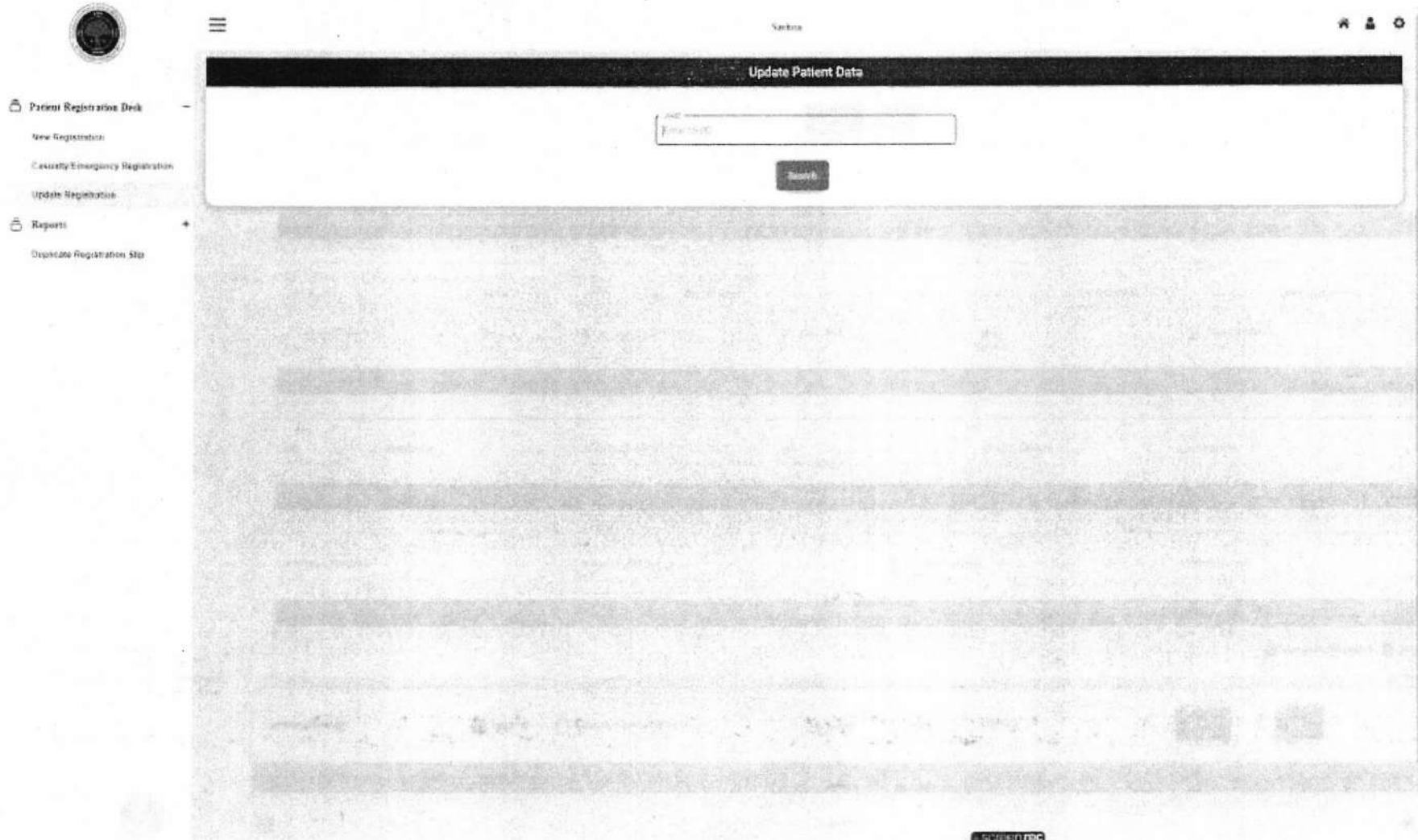
Figure 7

✓ Update Patient Demographic Details: Mobile Number, Name, Gender, DOB etc.
✓ Enter the ABHA ID AND Click on the Verify ABHAI ID Button.
✓ Enter the OTP and then ABHA number will show in screen page.
✓ Click on the Update Button.

Figure 8

9. **Patient Summary Report:** This report display patient count (New and Revisit) in a particular clinic.
   ✓ Click on Patient Summary Report.
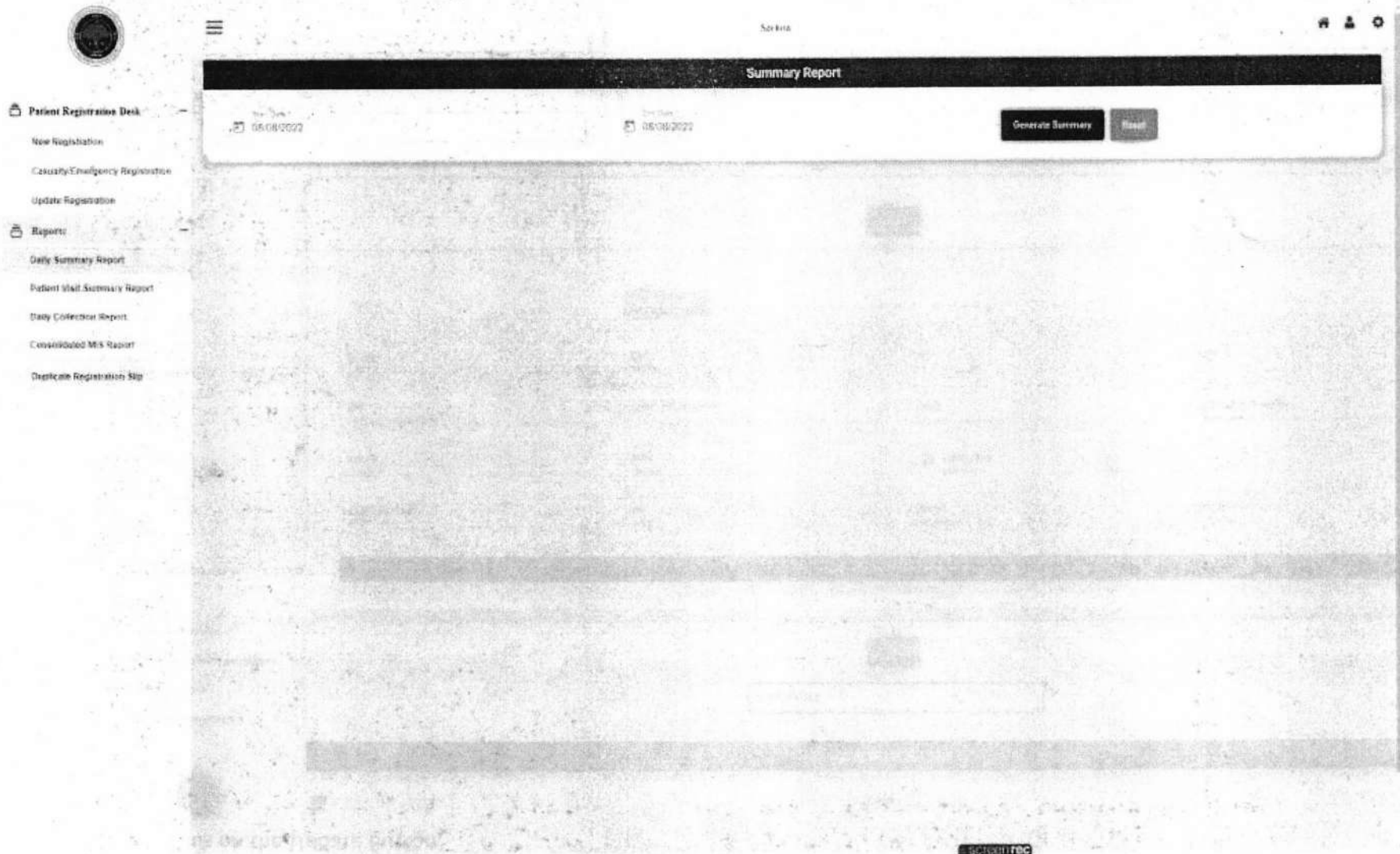
Figure 9

- ✓ Enter the Start Date and End Date.
- ✓ Click on the Generate Summary.
- ✓ Following screen will appear:

SARKNA

OPD Summary Report Clinic Wise

Report Period   08-08-2022 to 08-08-2022

Clinic Name	New Registration	Revisit	Total
Casualty Clinic	0	0	0
Medicine Clinic	0	0	0
Casualty Clinic	0	0	0
Cardiology Clinic	0	0	0
Total	0	0	0
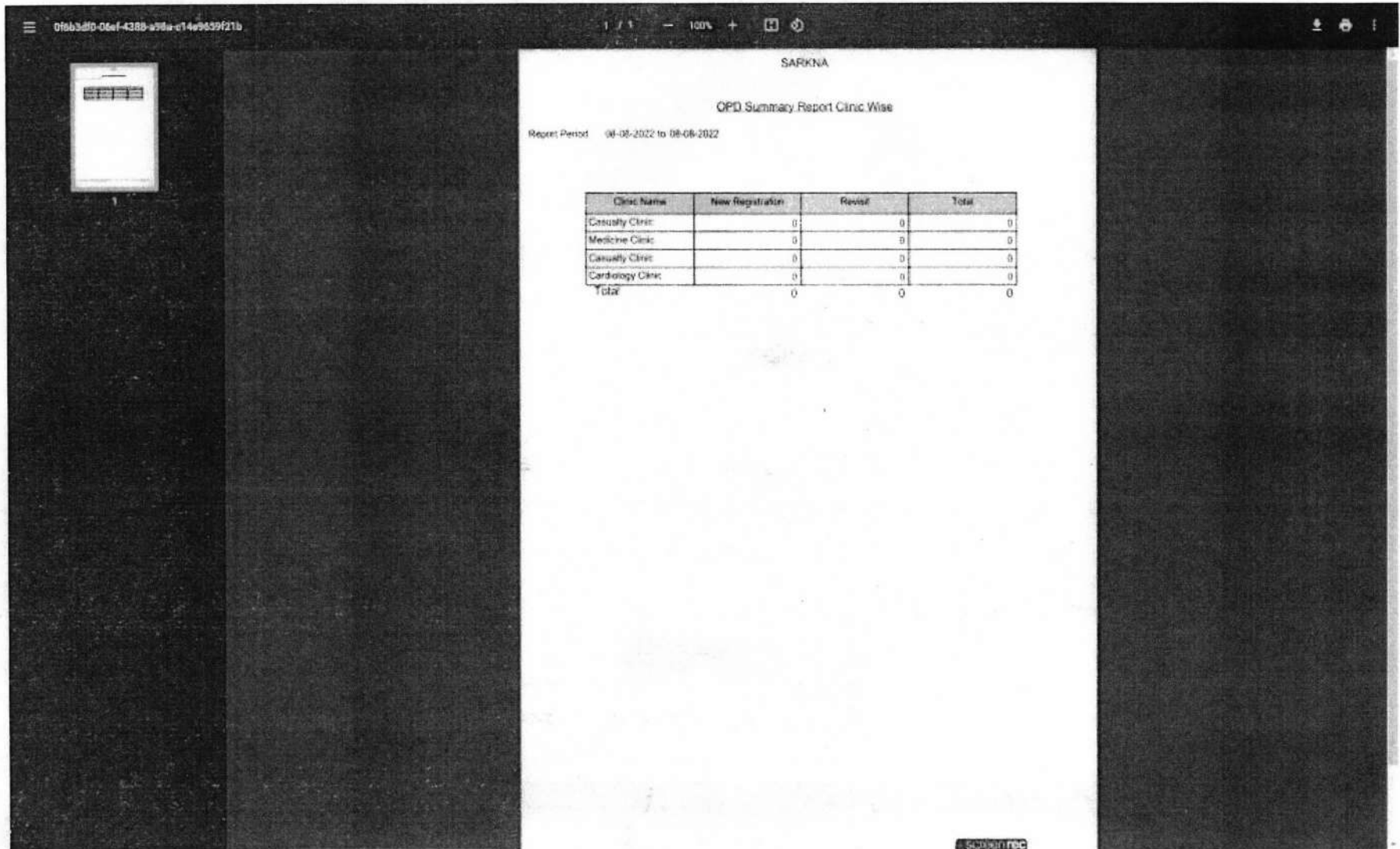
Figure 10

10. Patient Visit Details Report: This report display patient details (Name, DOB, Gender, etc).
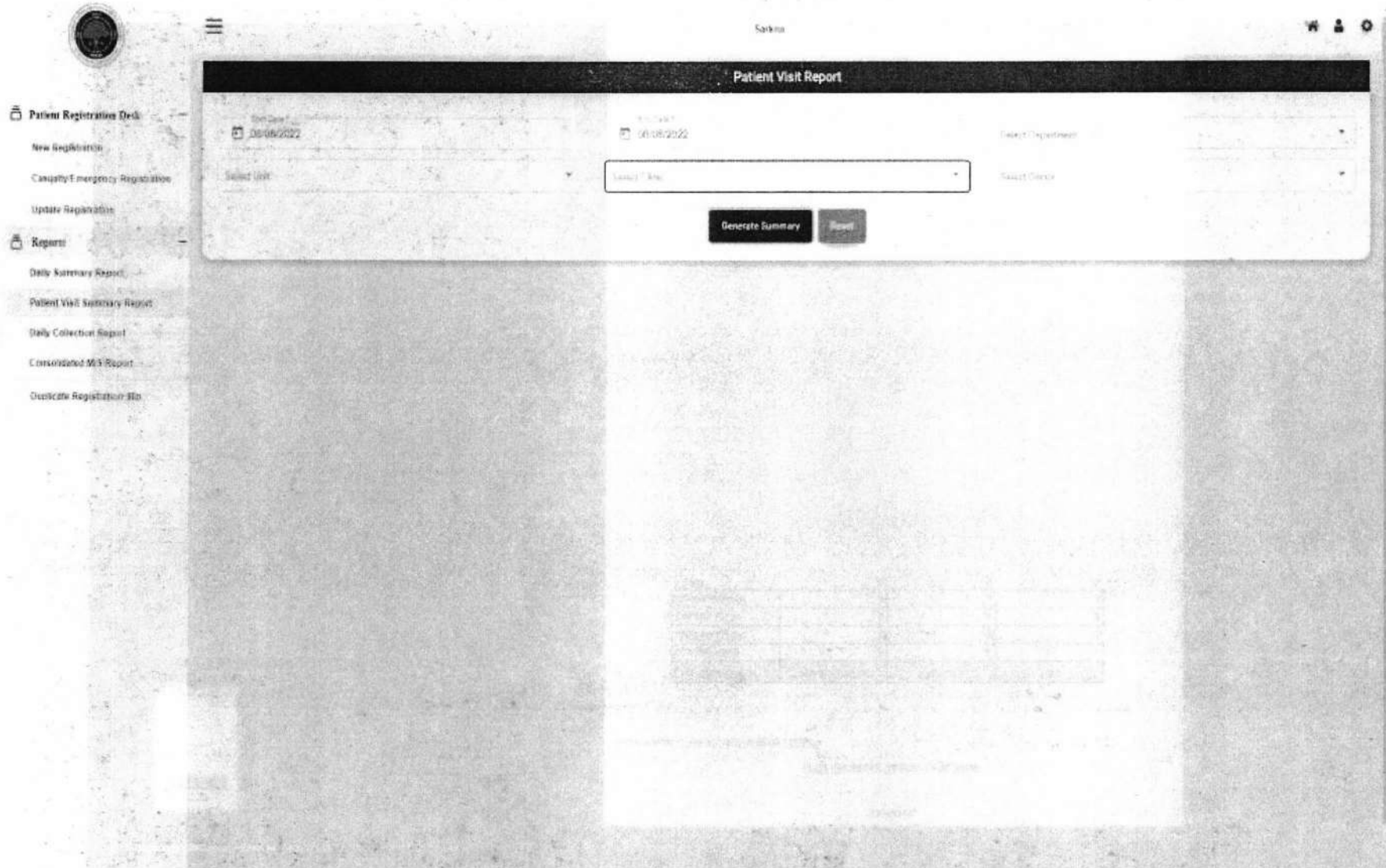
Figure 11

- ✓ Select Date Range, Department, Unit, Clinic and Doctor.
- ✓ Click on Submit Button.
- ✓ Visit Details report in following format will appear:
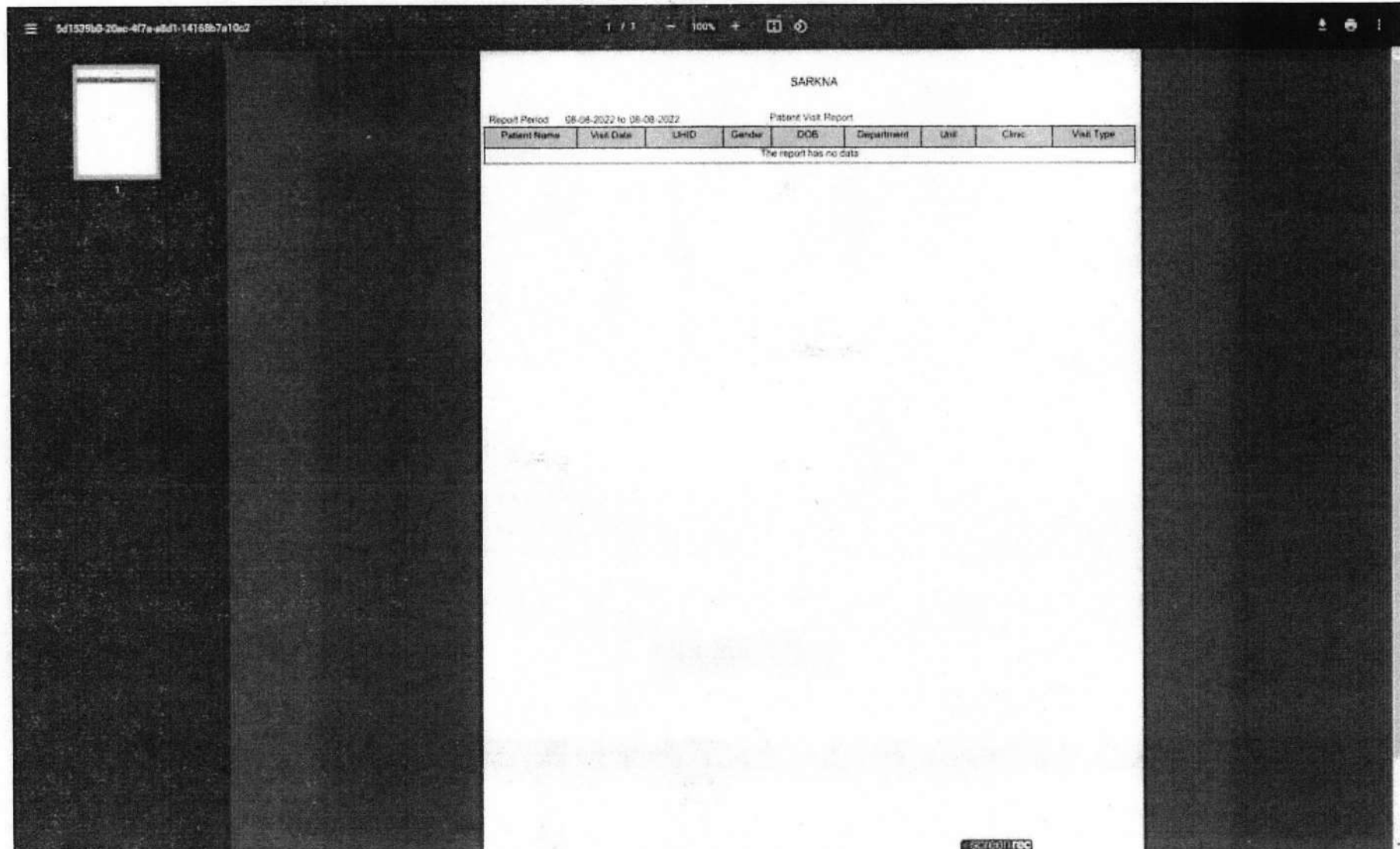
Figure 12

11. **User Wise Collection Report:** This report display Daily Collection Report.
    ✓ Click on Patient Summary report.
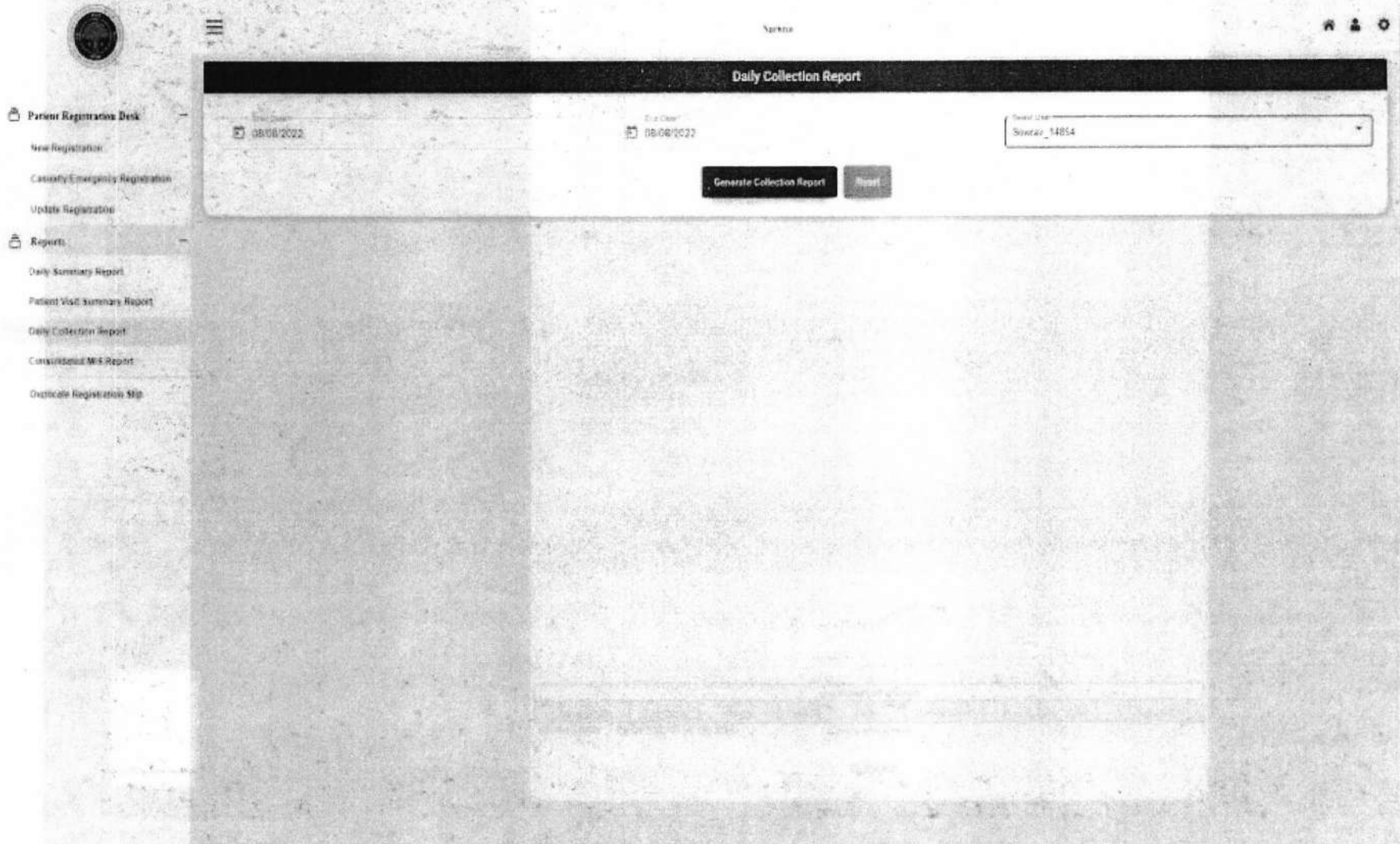
Figure 13

- ✓ Select Date Range.
- ✓ Select Clinic.
- ✓ Click on Generate Collection Report Button.
- ✓ Report in following format will appear:
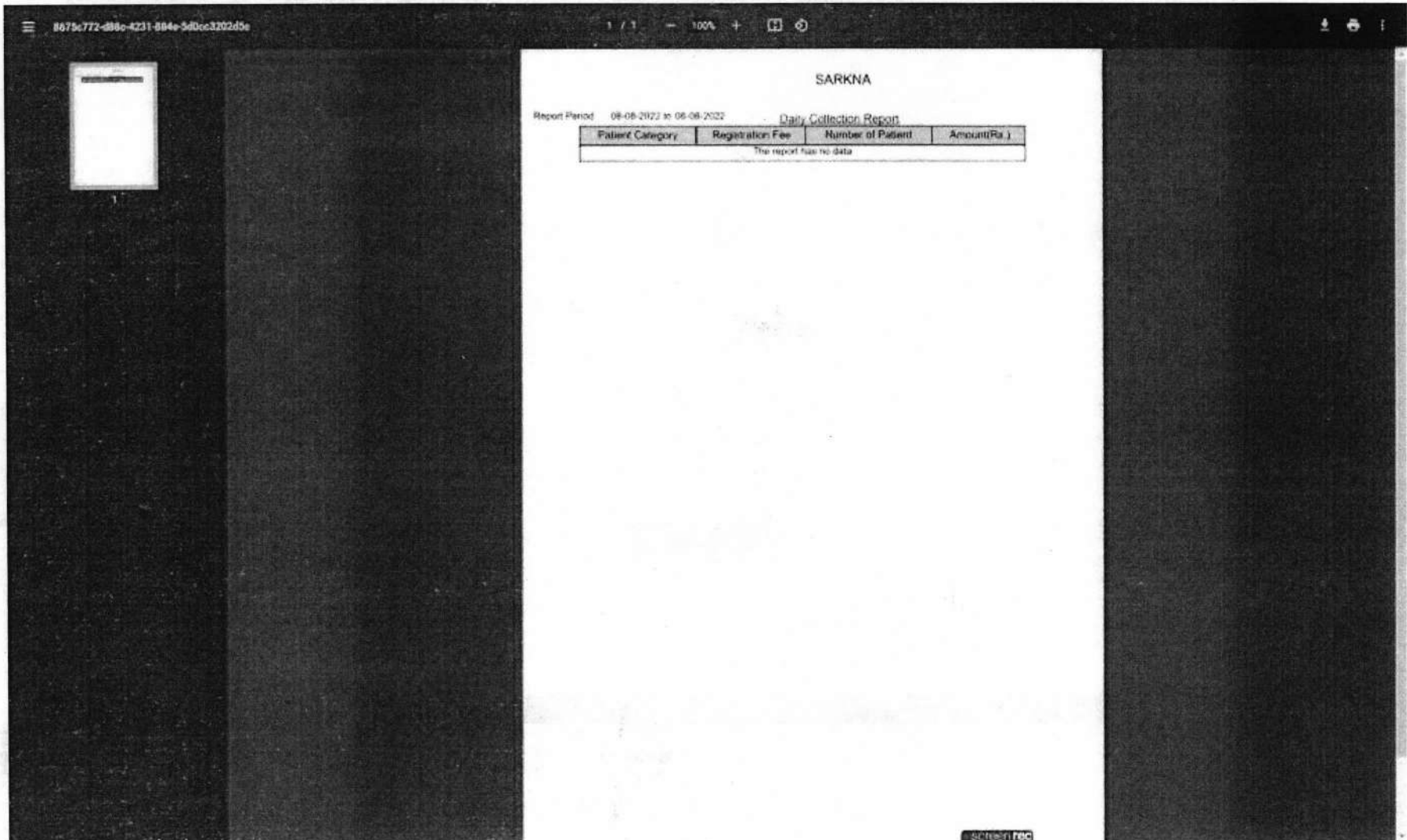
Figure 14

12. Consolidate MIS Report:

✓ Click on Patient Consolidate MIS Report.

✓ Fill the Consolidate MIS Report: Registration Type, Report Type, Date Range, Department, etc.

Figure 15

✓ Click on Generate Summary Button.
✓ Report in following format will appear:

Figure 16

13. Duplicate Registration Slip: Duplicate Registration Slip generate by UHID, Name or Mobile Number.
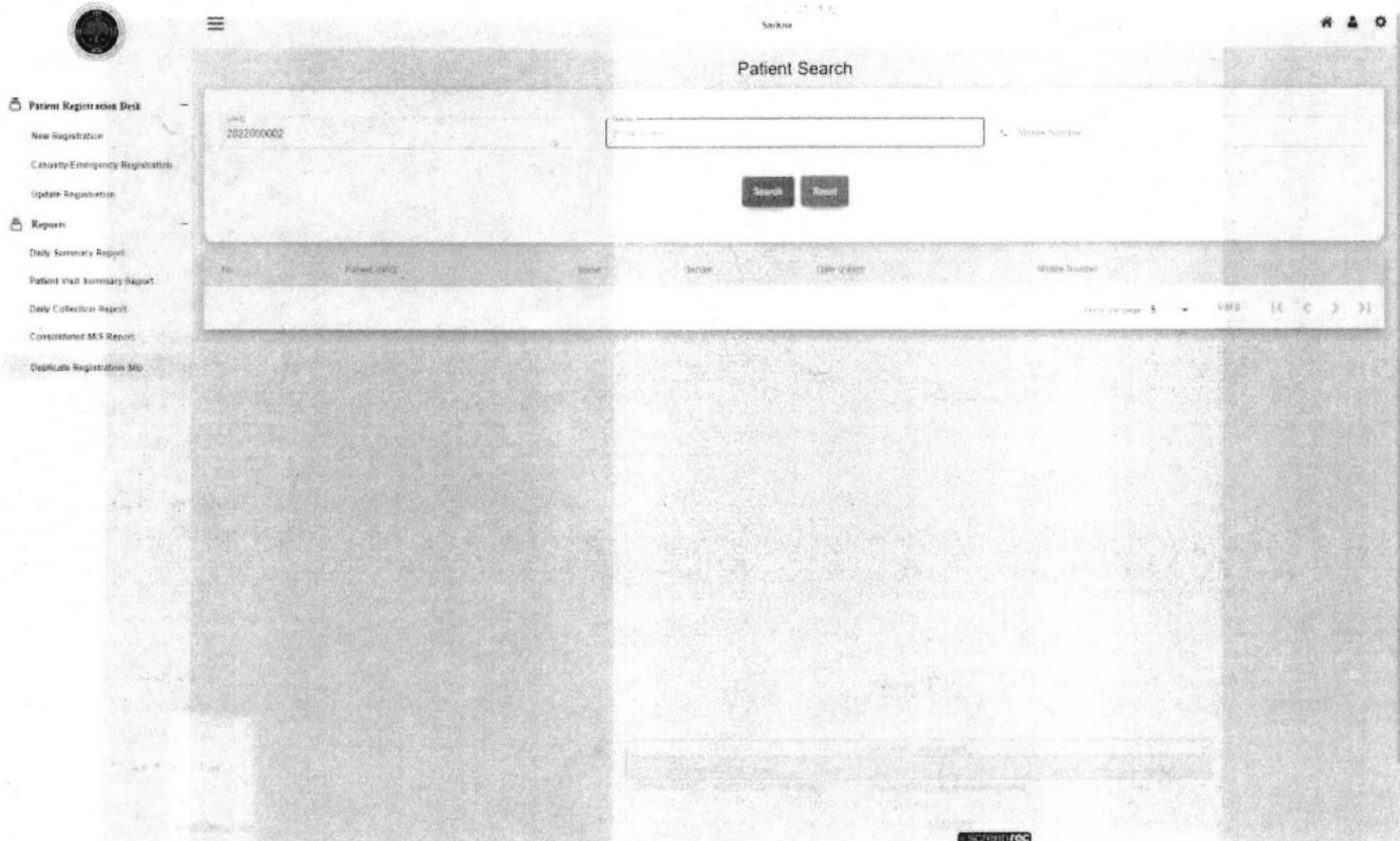
Figure 17

- ✓ Fill the Patient Search Details: UHID, Name and Mobile Number.
- ✓ Click in the Search Button.
- ✓ Patient Details will be shown in screen page.

Figure 18

✓ By Click in the Patient UHID a Duplicate slip will be generated in the screen page.

Figure 19

User Manual

NextGen eHospital

Ministry of Health and Family Welfare
Government of India

NextGen eHospital

OPD Configuration

DOCUMENT RELEASE NOTE:

OPD Configuration

Version	1.0
Date of Release	27 May, 2022
Department	NextGen eHospital and ORS Division, NIC

Table of Contents

OPD Configuration

1. **Introduction:** Configuration specific to OPD Module is performed in this module. It includes managing OPD Clinics, OPD Registration Level, OPD Roster and Revisit Fee

2. Visit the homepage of application. Following screen will appear:

Figure 1

3. Login using the credentials of Nodal Officer or any other user who has roles to configure OPD Module.

- ✓ Enter Username.
- ✓ Enter Password.
- ✓ Enter the Captcha Code.
- ✓ Click on the LOGIN button.
- ✓ Click on the Forget Password if user(s) forget the password.
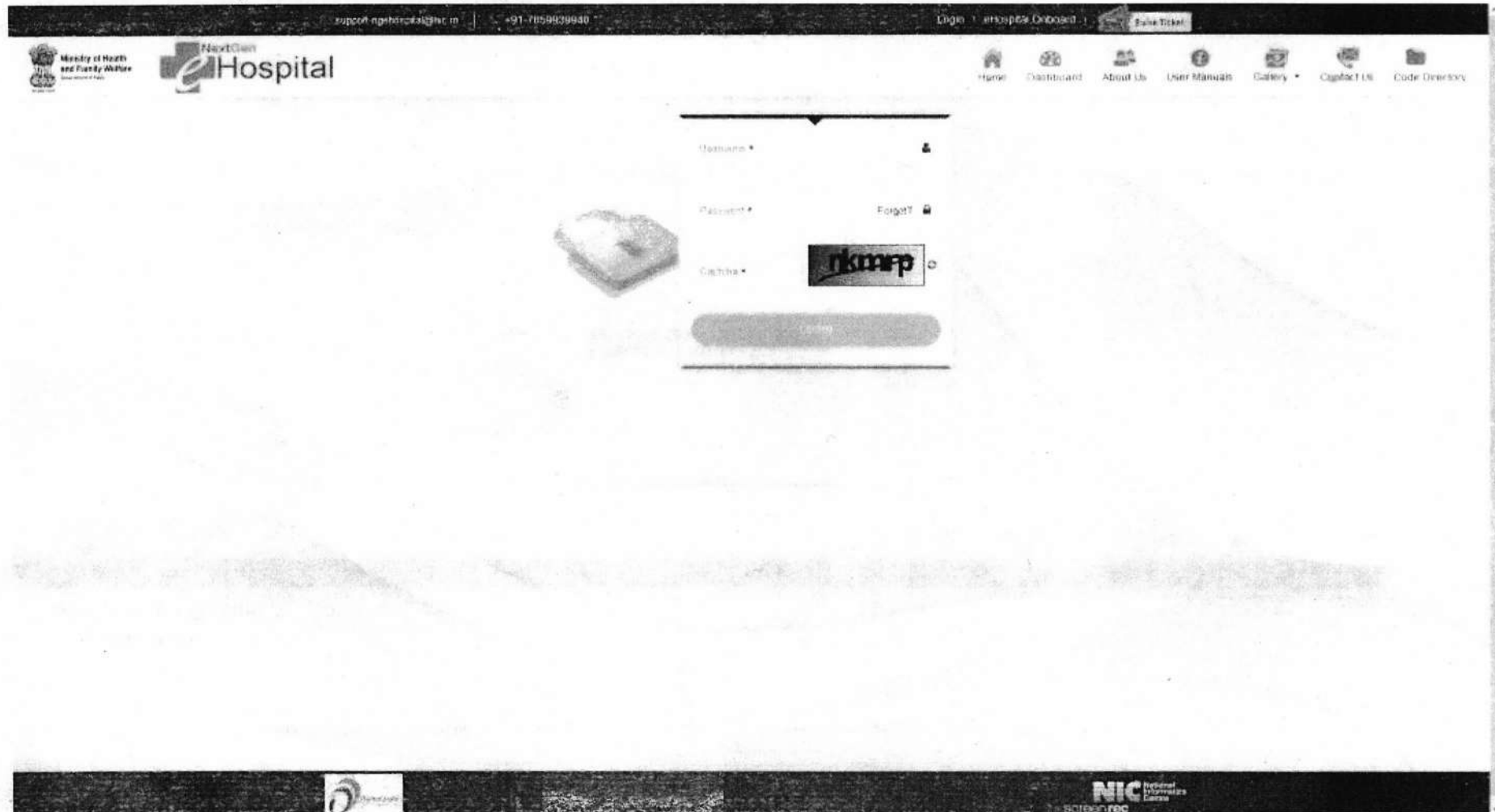
Figure 2

4. User can reset the password by clicking on Forgot Password.

- ✓ Enter User id
- ✓ Click on Forgot link
- ✓ OTP Will be received on registered mobile number
- ✓ Verify OTP
- ✓ Enter new password
- ✓ Confirm new password
- ✓ Click of Set Password Button.
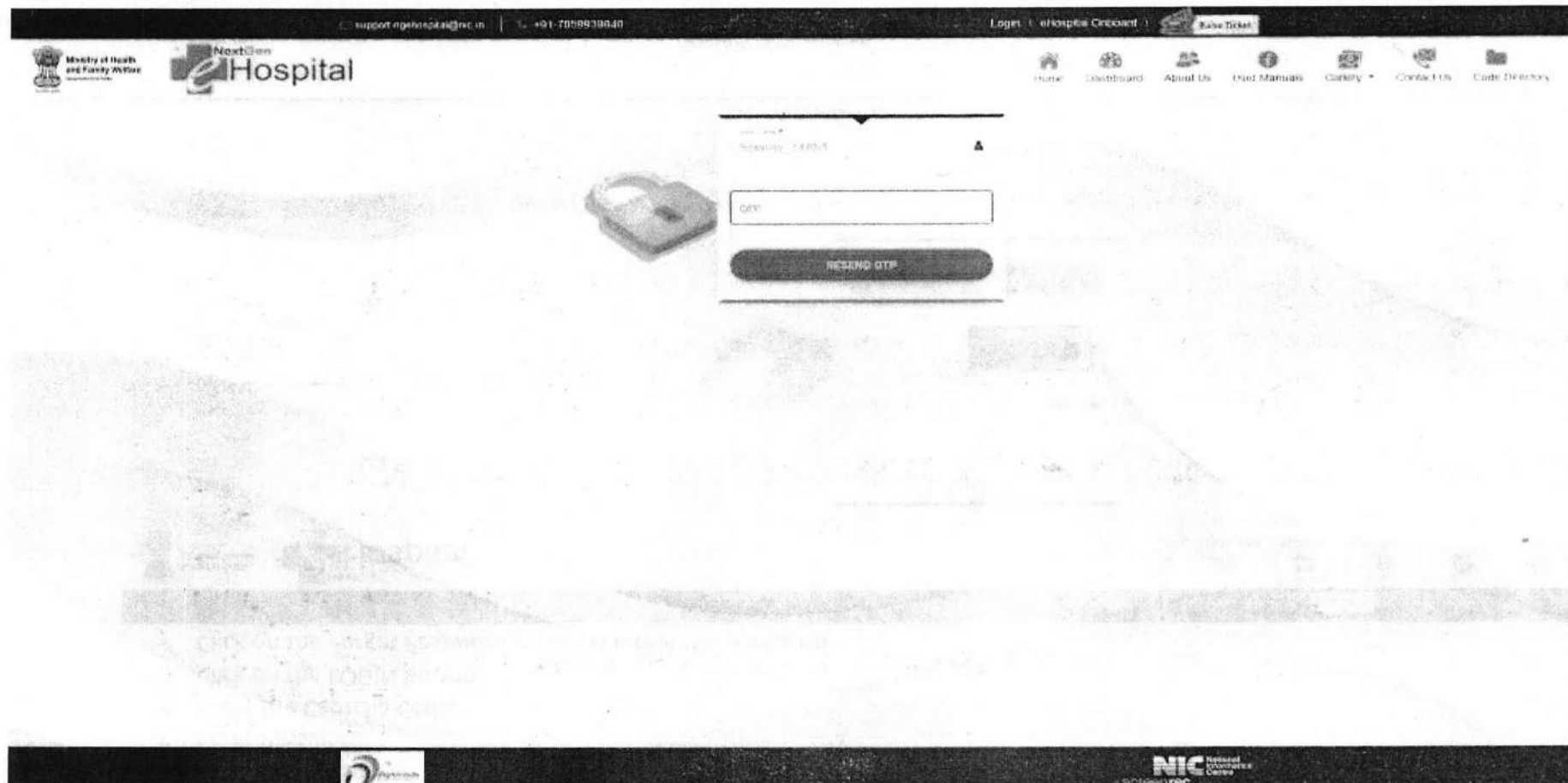
Figure 3

5. Add/Update/View OPD Clinic:

✓ Select Department (in case Department Configuration required is selected as Yes in health facility Configuration other Department option will not be visible).

✓ Enter Clinic Name.

✓ Enter Registration slip tagline: This tagline will be printed in OPD Registration Slip.

✓ Click on Save Clinic Button.

✓ List of added clinics is displayed.

✓ Select Existing clinic to update.
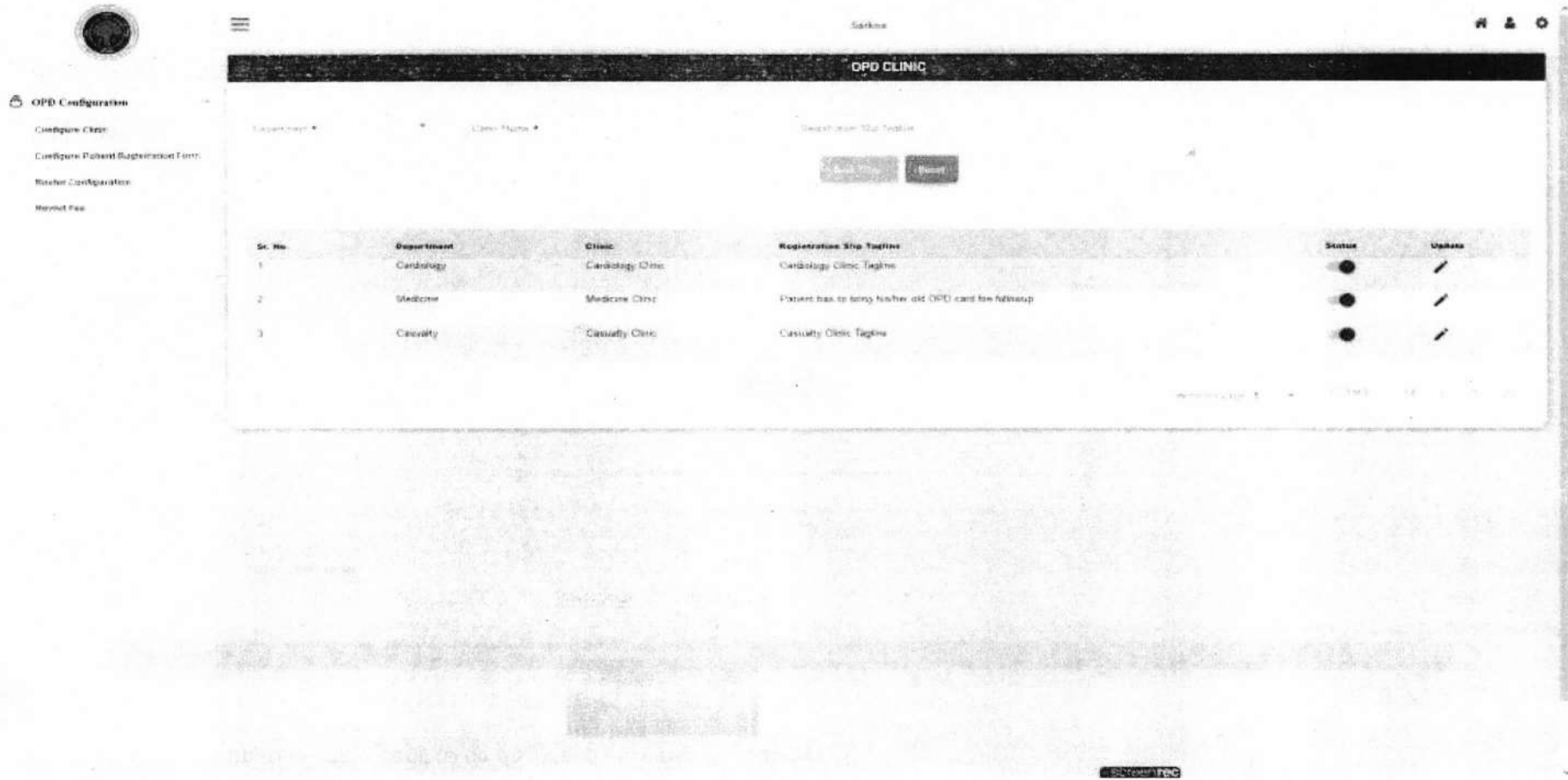
Figure 4

6. Configure OPD Registration Parameters: Registration Parameters that will be visible at Registration page can be configured using this option. Check (Tick) the registration parameters that needs to be displayed at registration page.
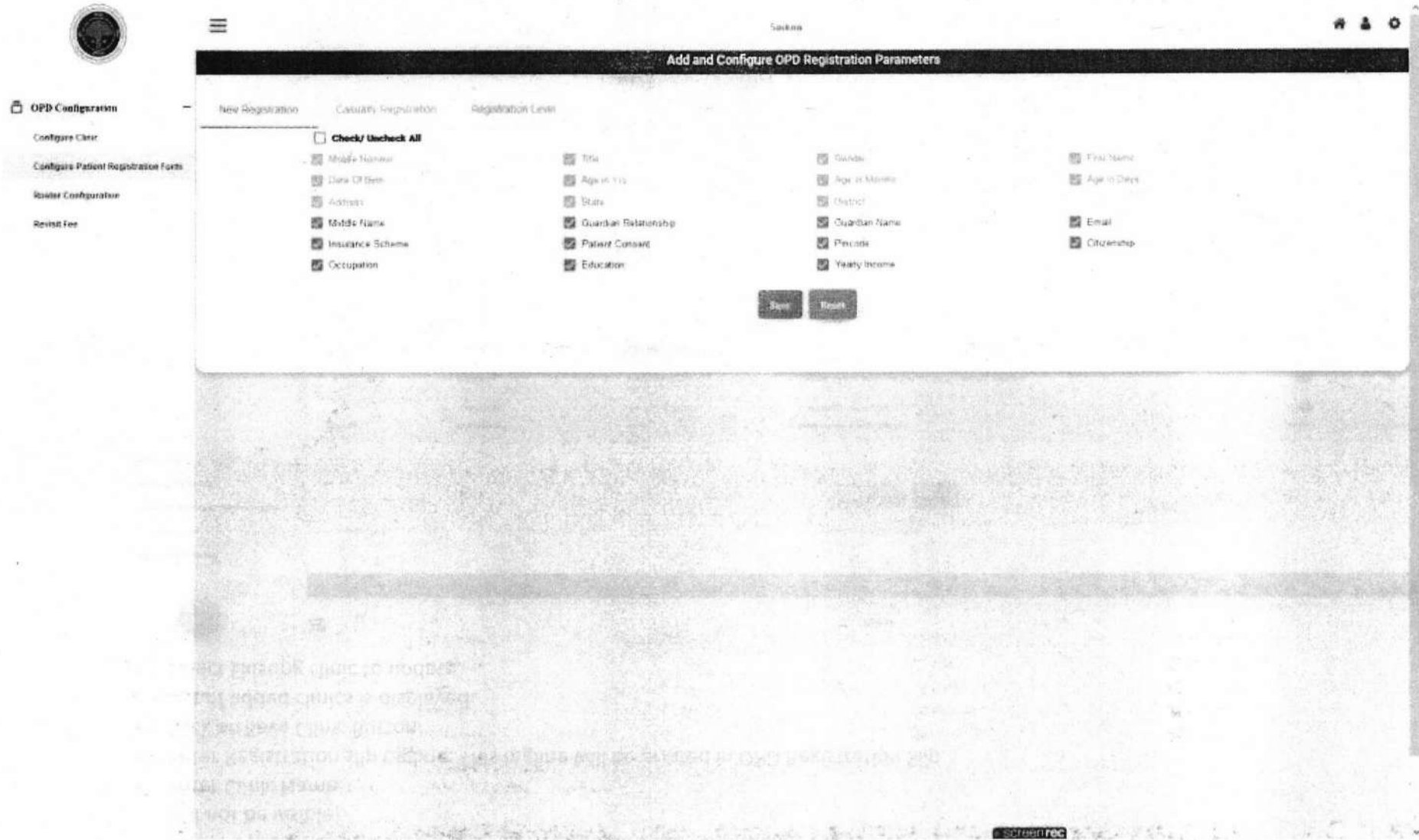
Figure 5

Sarkna

Add and Configure OPD Registration Parameters

OPD Configuration

Configure Clinic

Configure Patient Registration Form

Roster Configuration

Result Fee

New Registration   Casualty Registration   Registration Level

☐ **Check/ Uncheck All**

☑ Mother Number	☑ Title	☑ Gender	☑ First Name
☑ Date Of Birth	☑ Age in Yrs	☑ Age in Months	☑ Age in Days
☑ Address	☑ State	☑ District	☐ Middle Name
☐ Guardian Relationship	☐ Guardian Name	☐ Email	☐ Insurance Scheme
☐ Patient Consent	☐ Pincode	☐ Citizenship	☐ Occupation
☐ Education	☐ Yearly Income		

Save   Reset

Figure 6

7. Configure OPD Registration Level: Patient can be registered at different levels via Department/Clinic/Room/Practitioner.

✓ If Registration level is selected as Practitioner, then Practitioner's name will be displayed at Registration Page and Registration Desk Operator will have the option to register the patient to a particular practitioner.

✓ If registration Level is selected as Room, then only room no. will be visible to Registration Desk Operator at Registration Page. Practitioner will be automatically assigned based on OPD Roster.

✓ Similarly, in case of Department/Unit/Clinic; practitioner will be auto-assigned to patient based on OPD roster.

✓ Nodal officer should select registration level as per the requirement of health facility.
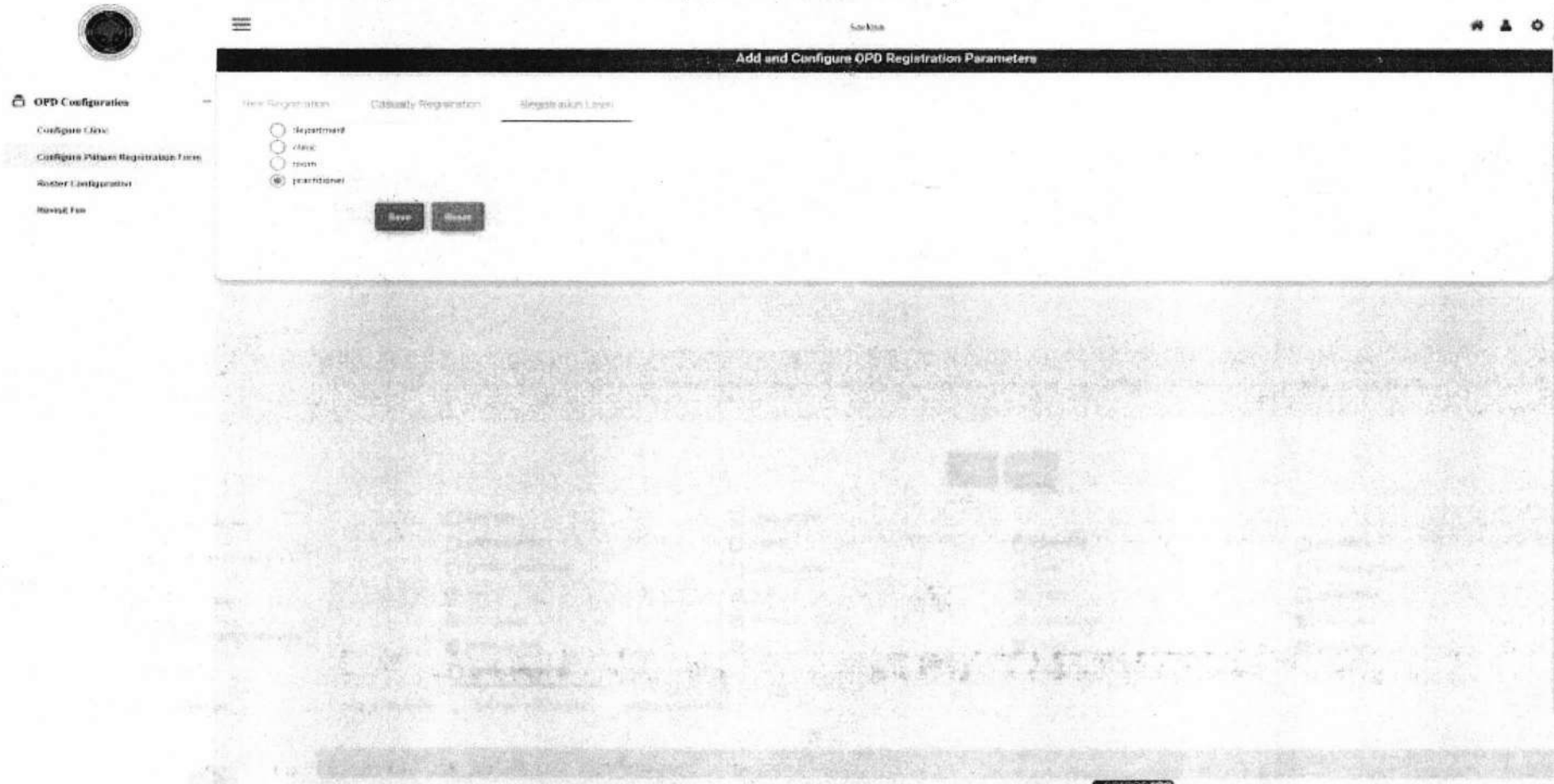
Figure 7

8. Configure OPD Roster: OPD Roster maps practitioners' of a department to clinic and rooms based on their duty assignment at the health facility.
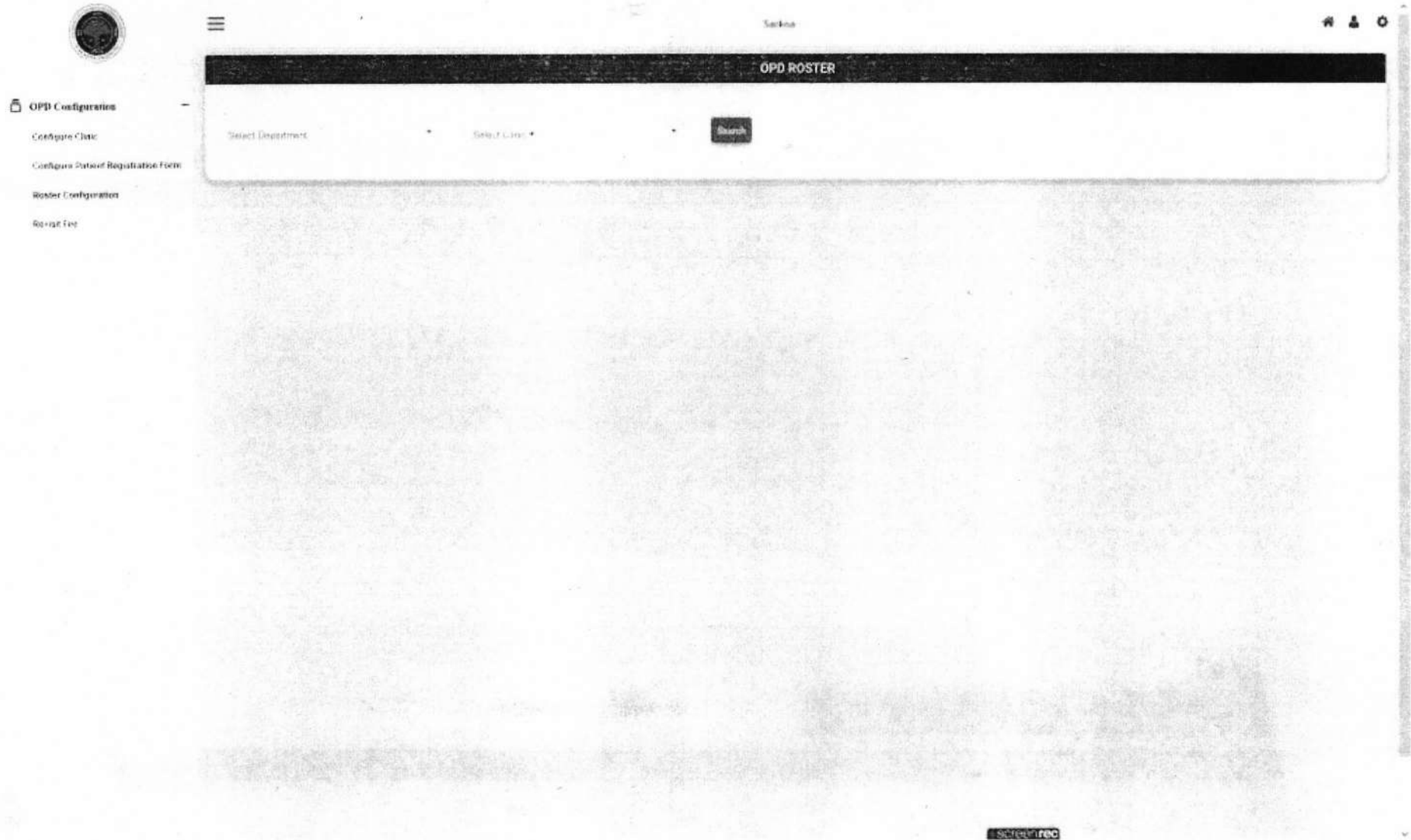
✓ Click on OPD Roster menu. Following screen will appear

Figure 8

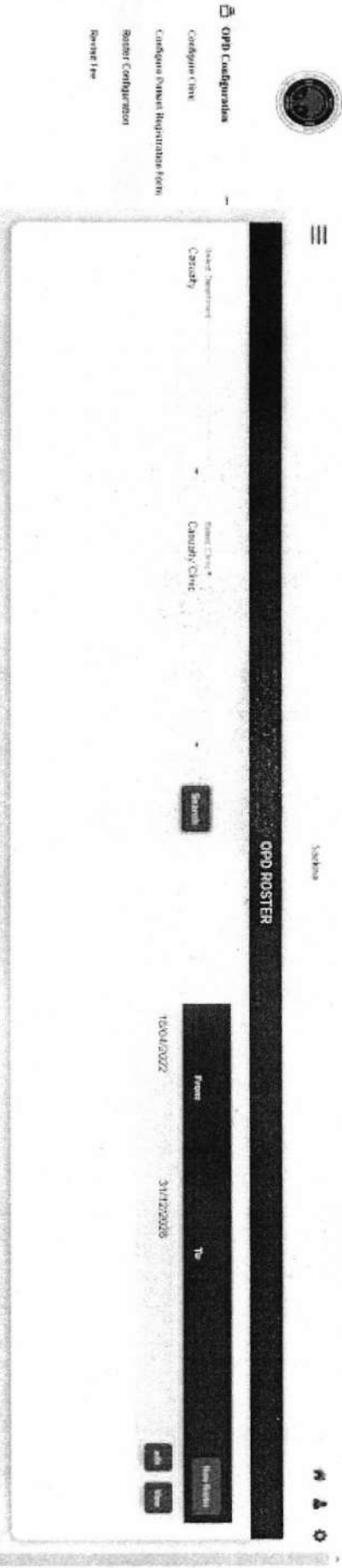✓ Select the Department and Clinic
✓ Click on the Search Button

OPD Configuration

Configure Clinic

Configure Patient Registration Form

Roster Configuration

Revise Fee

OPD ROSTER

Select Department
Casualty

Select Clinic *
Casualty Clinic

Search

From
15/04/2022

To
31/12/2026

Figure 9

✓ Select the Clinic for which roster is to be configure and click on New Roster button. Following screen appears:
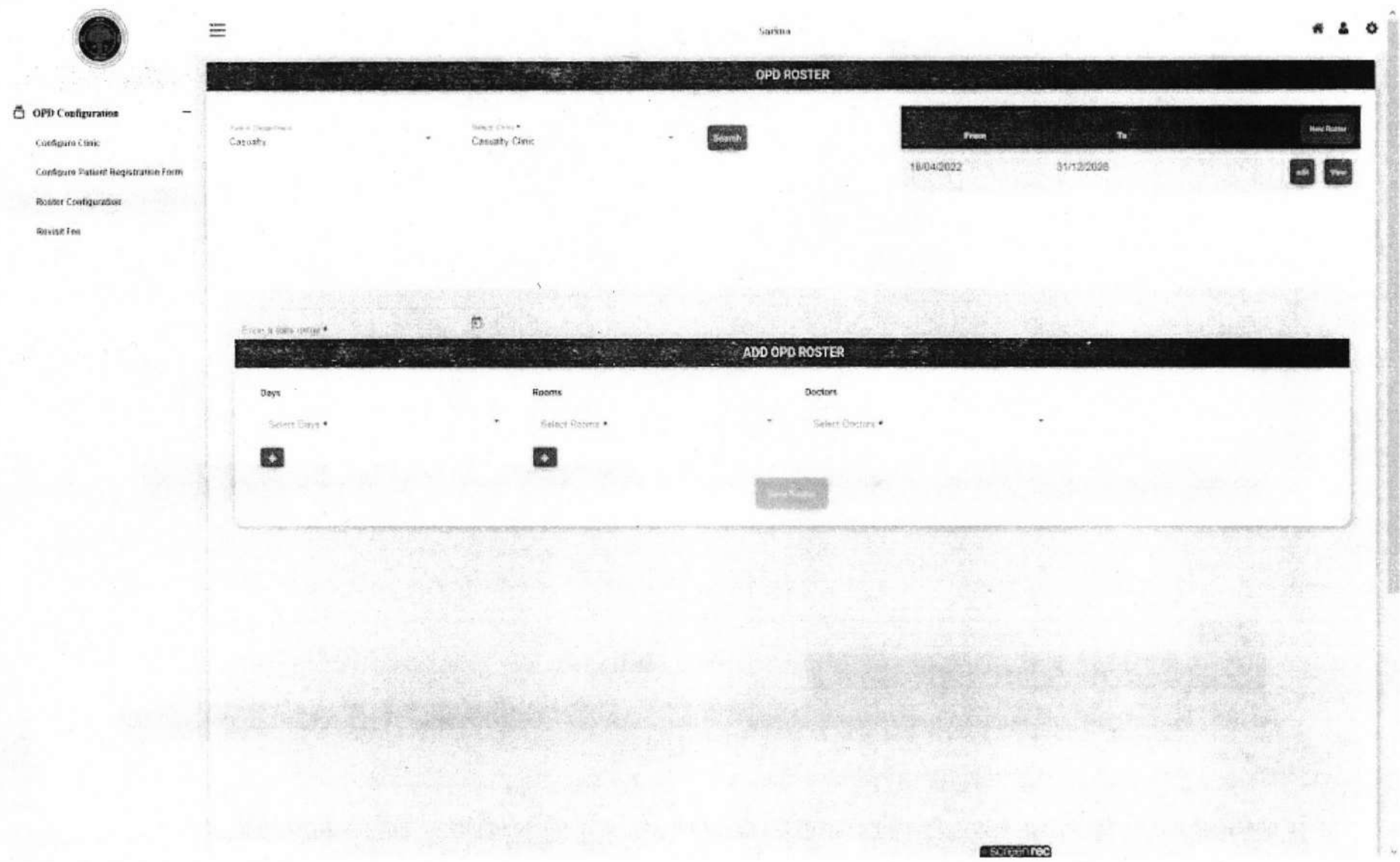
Figure 10

✓ Select Date range for which OPD Roster will be applicable.
✓ Select Days, Rooms and Practitioners/Doctors.
✓ Click on Save Roster
✓ View OPD Roster: Click on View button to see existing Roster. It can be updated in case of changes in roster. Its details will be displayed as below:
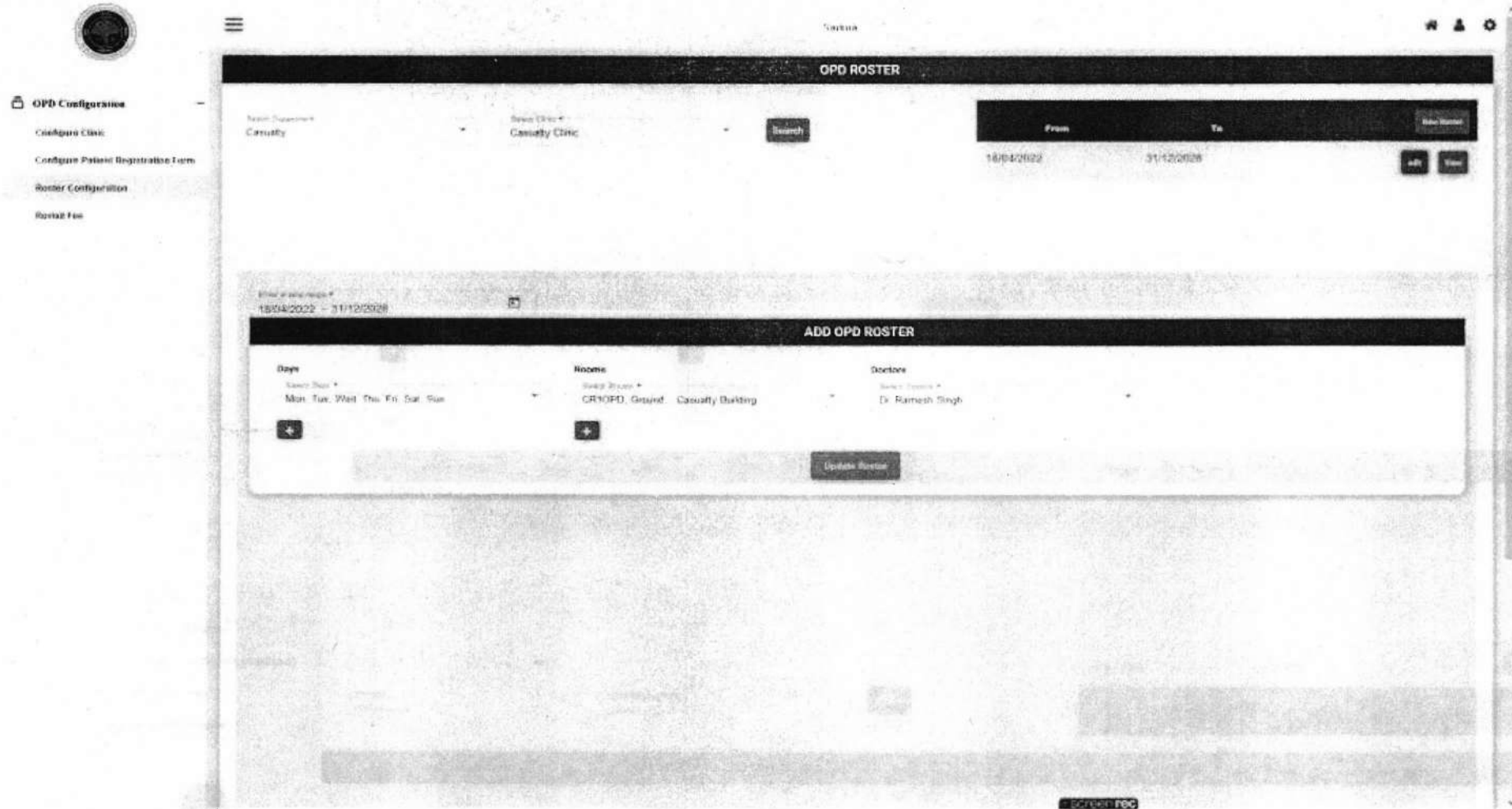

Figure 11

9. Revisit Fee

Hospital can configure revisit fee duration Day wise and Current Calendar Year wise. Hospital can configure revisit fee Day wise or Current Calendar wise as per requirement

Configure Revisit Fee Duration

Days wise:

✓ Select Revisit Days and Revisit Fee.
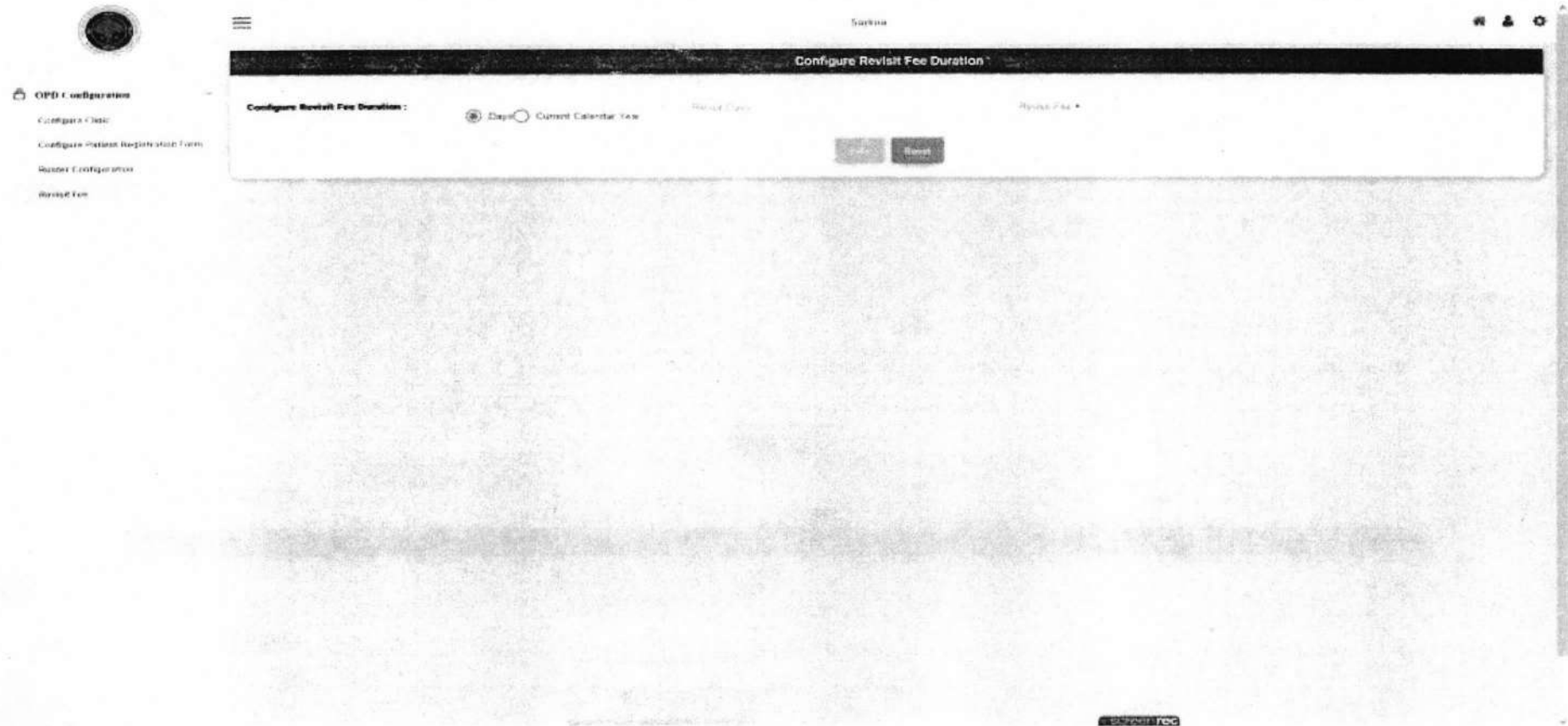✓ Click on the save button.
✓ Following screen will display.

Figure 12

Current Calendar Year wise:

- ✓ Select Revisit Fee.
- ✓ Click on the save button.
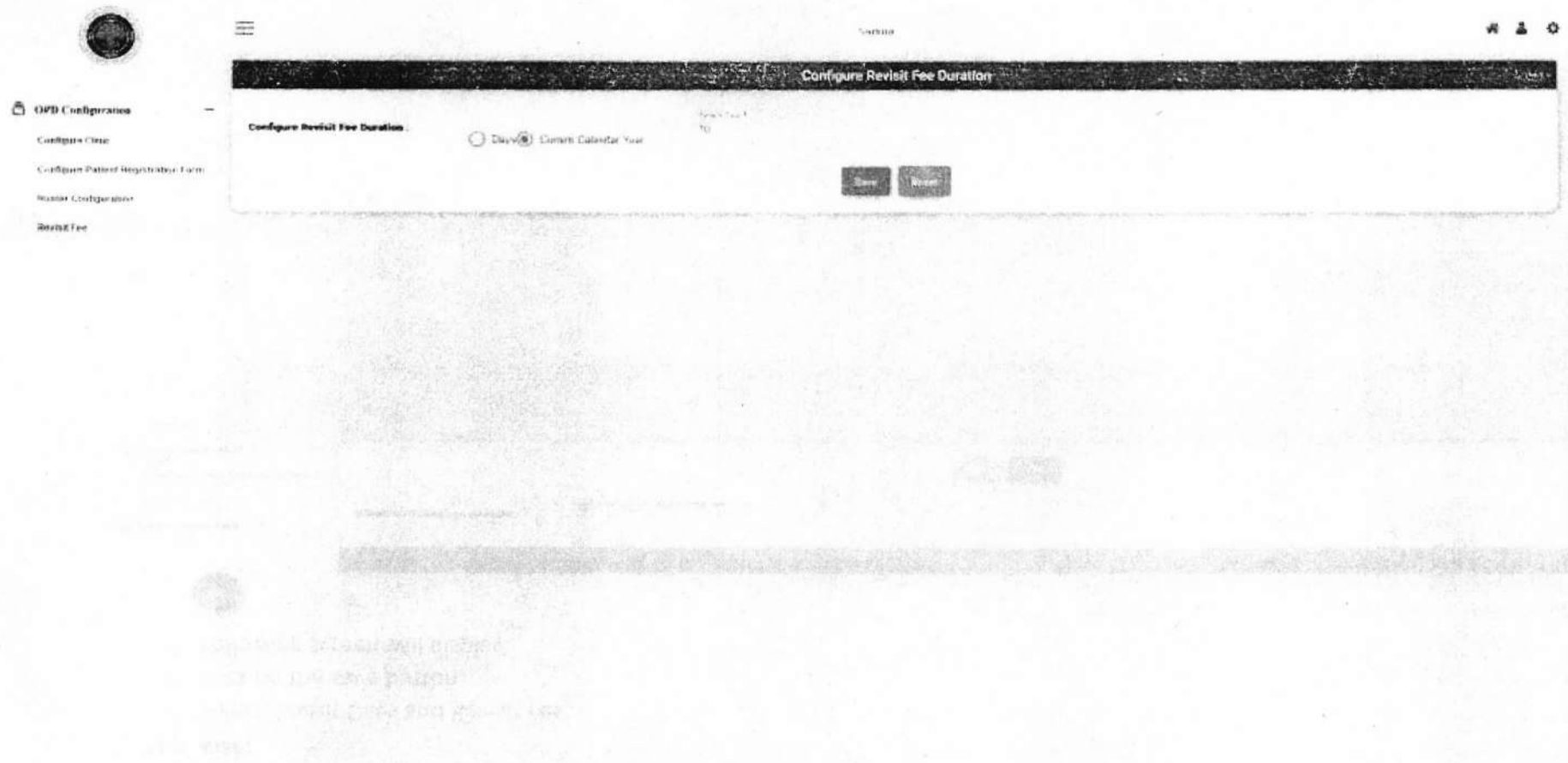- ✓ Following screen will display.

Figure 13