

**MINIMUM STANDARD REQUIREMENTS FOR  
THE MEDICAL COLLEGE  
FOR 250 ADMISSIONS ANNUALLY  
REGULATIONS, 1999**



**(AMENDED UP TO NOVEMBER 2010)**

**MEDICAL COUNCIL OF INDIA  
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**MINIMUM STANDARD REQUIREMENTS FOR  
THE MEDICAL COLLEGE  
FOR 250 ADMISSIONS ANNUALLY  
REGULATIONS, 2010**

**Scheme for permission of the Central Govt. to increase the admission capacity in the existing recognized medical colleges/institutions – Qualifying criteria.**

**New Delhi, the 16<sup>th</sup> April, 2010**

No. MCI.34(41)/2010-Med./3492. - In exercise of the powers conferred by Section 33 of the Indian Medical Council Act, 1956(102 of 1956), the Medical Council of India with the previous sanction of the Central Government hereby makes the following regulations to further amend “The Opening of a New or Higher Course of Study or Training (including Post Graduate Course of Study or Training) and Increase of Admission Capacity in any Course of Study or Training (Including a Post Graduate Course of Study Or Training), Regulations 2000”namely:-

1. (i) These regulations may be called “The Opening of a New or Higher Course of Study or Training (including Post Graduate Course of Study or Training) and Increase of Admission Capacity in any Course of Study or Training (Including a Post Graduate Course of Study Or Training) (Amendment), Regulations 2010 (Part-II)”.  
(ii) They shall come into force from the date of their publication in the Official Gazette.
2. (i) Clause 6 of the “The Opening of a New or Higher Course of Study or Training (including Post Graduate Course of Study or Training) and Increase of Admission Capacity in any Course of Study or Training (including a Post Graduate Course of Study or Training) Regulations, 2000” was substituted vide notification dated 09/12/2009 but no such Minimum Standard Requirements for the Medical College were notified for 200/250 Admissions Annually and now the same shall be as per Annexures A and B respectively annexed herewith.  
(ii) The following shall be added in clause 6 of the “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and Increase of Admission Capacity in any Course of Study or Training (Including a Post Graduate Course of Study Or Training), Regulations 2000” as substituted vide notification dated 09/12/2009: -

“The Essentiality Certificate shall be submitted by the Applicant Institute in the following proforma: -

**‘ESSENTIALITY CERTIFICATE FOR INTAKE OF 200/250 SEATS**

No.

Government of \_\_\_\_\_

Department of Health & Family Welfare

Dated, the.....

To

The

(applicant),

Course : \_\_\_\_\_

Sir,

The desired certificate is as follows:

- (1) It is certified that the \_\_\_\_\_ is recognized u/s  
(name of institute)  
u/s 11(2) of the IMC Act, 1956 for \_\_\_\_\_ seats in MBBS course
- (2) No. of institutions already existing in the State :
- (3) No. of institutions offering MBBS course :
- (4) No. of seats available in the MBBS course in the State:
- (5) Full justification for increasing the intake of MBBS course:

The (Name of the institute) \_\_\_\_\_ has applied for increasing the annual intake of MBBS course to 200/250 seats. On careful consideration of the proposal, the Government of \_\_\_\_\_ has decided to issue an essentiality certificate to the applicant for increasing the annual intake in MBBS course to 200/250 seats.

It is certified that:-

- (a) It is desirable to increase the annual intake in MBBS course to 200/250 seats in the public interest.
- (b) Increasing the annual intake in MBBS course to 200/250 seats by \_\_\_\_\_  
(the name of institution) is feasible.
- (c) The institute has \_\_\_\_\_ number of teaching beds with the standing of \_\_\_\_ years.
- (d) The average OPD strength per day is \_\_\_\_\_.

- (e) The average bed occupancy is \_\_\_\_\_%.
- (f) The affiliated teaching hospital is unitary in character.
- (g) The number of teaching beds, average OPD strength and average bed occupancy available at \_\_\_\_\_ (name of institute) is not less than the criteria prescribed under the “Opening of a New or Higher Course of Study or Training (including Postgraduate course of Study or Training ) and increase of Admission Capacity in any course of Study or Training (including a Postgraduate Course of Study or Training) Regulation, 2000” as notified in the Gazette of India vide Notification dated 9<sup>th</sup> December, 2009.

It is further certified that in case the applicant fails to create infrastructure for the course as per MCI norms and fresh admissions are stopped by the Central Government, the State Government shall take over the responsibility of the students already admitted in the above said course at this college with the permission of the Central Government.

Yours faithfully,

**(SIGNATURE OF THE COMPETENT AUTHORITY)”**

**(Lt. Col. (Retd.) Dr. A.R.N. Setalvad)**  
**Secretary**

**Foot Note :** The Principal Regulations namely, “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and Increase of Admission Capacity in any Course of Study or Training (including a Postgraduate Course of Study or Training) Regulations, 2000” were published in Part III, Section 4 of the Gazette of India on 7<sup>th</sup> October, 2000 vide Medical Council of India Notification No.34(41)/2000/Med., dated the 14<sup>th</sup> August, 2000 and amended vide Medical Council of India Notifications dated 22<sup>nd</sup> March, 2005, 29<sup>th</sup> July, 2008, 23<sup>rd</sup> September, 2009, 9<sup>th</sup> December, 2009 & 11<sup>th</sup> January, 2010.

(PUBLISHED IN PART III, SECTION 4 OF THE GAZETTE OF INDIA DATED THE 3<sup>RD</sup> NOVEMBER, 2010)

No. MCI. 34(41)2010-Med./29127.- In exercise of the powers conferred by Section 33 of the Indian Medical Council Act,1956 (102 of 1956), the Medical Council of India with the previous sanction of the Central Government hereby makes the following regulations to further amend “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and increase of Admission Capacity in any Course of Study or Training (including a Postgraduate course of Study or Training) Regulations, 2000” namely:

- 1 (i) These regulations may be called “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and increase of Admission Capacity in any Course of Study or Training (including a Postgraduate course of Study or Training) (Amendment) Regulations, 2010”.
- (ii) They shall come into force from the date of their publication in the Official Gazette.
2. In “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and increase of Admission Capacity in any Course of Study or Training (including a Postgraduate course of Study or Training) Regulations, 2000”, the following additions/modifications/deletions/substitutions shall be as indicated therein:-
3. In Part II under the heading “Scheme for permission of the Central Govt. to increase the admission capacity in any course of study or training (including postgraduate course of study or training) in the existing medical college/institutions”, clause 6 as amended vide notification dated 9.12.2009 shall be substituted as under:-

“6. The maximum number of admissions in MBBS course shall not exceed 250 annually provided that the eligibility criteria for fixing upper ceiling of annual intake to 200/250 admissions annually shall be as under:-

**(a) For annual intake capacity of 200**

- (i) Number of teaching beds not less than 900 with standing of not less than 10 years.
- (ii) OPD strength per day not less than 2000
- (iii) Bed occupancy : Average not less than 75%
- (iv) The hospital must be unitary.

**(b) For annual intake capacity of 250**

- (i) Number of teaching beds not less than 1100 with standing of not less than 10 years.
- (ii) OPD strength per day not less than 3000
- (iii) Bed occupancy : Average not less than 75%
- (iv) The hospital must be unitary.

**(Dr. P. Prasannaraj)**  
**Additional Secretary**  
**Medical Council of India**

**Foot Note :** The Principal Regulations namely, “The Opening of a New or Higher Course of Study or Training (including Postgraduate Course of Study or Training) and increase of Admission Capacity in any Course of Study or Training (including a Postgraduate course of Study or Training) Regulations, 2000” were published in Part III, Section 4 of the Gazette of India on 7<sup>th</sup> October vide Medical Council of India Notification No.34(41)/2000-Med, dated the 14<sup>th</sup> August, 2000 and amended vide Medical Council of India Notification dated 22<sup>nd</sup> March, 2005, 29<sup>th</sup> July, 2009 and 23<sup>rd</sup> September, 2009 and 9<sup>th</sup> December, 2009.

**(PUBLISHED IN PART III, SECTION 4 OF THE GAZETTE OF INDIA DATED THE  
3<sup>RD</sup> NOVEMBER, 2011)**

No. MCI 35(1)98-med (ii) / 3492 In exercise of the powers conferred by section 33 of the Indian Medical Council Act, 1956 (102 of 1956), the Medical Council of India with the previous sanction of the Central Government, hereby makes the following regulations namely:-

1. (i) Short title and commencement: These regulations may be called the “Minimum requirements for 250 M.B.B.S. Admissions Annually Regulations, 2010.  
(ii) They shall come into force on the date of their publication in the Official Gazette.
2. Objective :- the objective of these regulations is to prescribe for a medical college and Medical Institution approved for two hundred fifty admissions of MBBS students annually, the minimum requirements of accommodation in the college and its associated teaching hospitals, staff (teaching and technical both) and equipment in the college departments and hospitals.
3. Every medical college and Medical Institution for 250 M.B.B.S admissions annually shall have the following departments, namely :-
  - (1) HUMAN ANATOMY
  - (2) HUMAN PHYSIOLOGY
  - (3) BIOCHEMISTRY
  - (4) PATHOLOGY (INCLUDING BLOOD BANK)
  - (5) MICROBIOLOGY
  - (6) PHARMACOLOGY
  - (7) FORENSIC MEDICINE INCLUDING TOXICOLOGY
  - (8) COMMUNITY MEDICINE
  - (9) MEDICINE
  - (10) PAEDIATRICS
  - (11) PSYCHIATRY
  - (12) DERMATOLOGY, VENEREALOGY AND LEPROSY
  - (13) TUBERCULOSIS AND RESPIRATORY DISEASES
  - (14) SURGERY
  - (15) ORTHOPAEDICS
  - (16) RADIO-DIAGNOSIS
  - (17) RADIOTHERAPY
  - (18) OTO-RHINOLARYNGOLOGY
  - (19) OPHTHALMOLOGY
  - (20) OBSTETRICS AND GYNAECOLOGY
  - (21) DENTISTRY

Beside the above-said departments the Medical colleges and Medical institution running Postgraduate degree/diploma courses in various specialties may have other departments to meet teaching needs of the college or Medical Institution and healthcare needs of the public.

4. Every Medical college and Medical institution and its associated teaching hospitals for 250 MBBS admissions annually shall have the accommodation for teaching and technical staff and equipment for each department as given in the Schedule-I, II, III respectively annexed with these regulations.



**SCHEDULE - I**  
**ACCOMMODATION IN THE MEDICAL COLLEGE**  
**AND ITS ASSOCIATED TEACHING HOSPITALS**

**A-COLLEGE**

**A.1 GENERAL:**

**A.1.1 CAMPUS**

Companies registered under Company Act may also be allowed to open medical colleges. Permission shall be withdrawn if the colleges resort to commercialization.

The medical college or medical institution shall be housed in a unitary campus of not less than 25 acres of land. However, this may be relaxed in a place especially in Urban areas where the population is more than 25 lakhs, hilly areas, and notified tribal areas where the land shall not be in more than two pieces and the distance between the two pieces shall not be more than 10 kms. The hospital, college building including library and hostels for the students, interns, PGs/Residents and nurses shall be in one piece of land which shall not be less than 10 acres. Other facilities may be housed in the other piece of land. Proper landscaping should be done.

However, in metropolitan cities and “A” class cities (Ahmedabad, Hyderabad, Pune, Bangalore and Kanpur), the permissible FAR/FSI would be the criterion for allowing the medical colleges provided that the total built up area required for adequate infrastructure including medical college, hospital, hostels, residential quarters, and other infrastructure required as per Minimum Standard requirement Regulations is made available in an area of not less than 10 acres based upon the permissible FAR/FSI allowed by the competent authority.”

**A.1.2 Administrative block.**

Accommodation shall be provided for – Principal/Dean’s office (36 Sq.m.), staff room (54 sq.m.), college council room (80 Sq.m.) office superintendent’s room (10 Sq.m.), Office (150 Sq.m.), record room (100 Sq.m.), separate common room for Male and Female students with attached toilets (200 Sq.m.each), cafeteria (400 Sq.m.).

**A.1.3 College Council:**

Every medical college or 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 interdepartmental meetings like grand rounds, statistical meetings and clinico pathological meetings including periodical research review in the Institution regularly.

#### **A.1.4. Central library**

There shall be an air-conditioned Central Library (4000 Sq.m) with seating arrangement for at least 500 students for reading and having good lighting and ventilation and space for stocking and display of books and journals. There shall be one room for 250 students inside and one room for 250 students outside. It should have not less than 20000 text and reference books. In a new medical college the total number of books should be proportionately divided on yearly basis in five years. The number of journals shall be 100 out of which one-third shall be foreign journals and subscribed on continuous basis. The number of copies of textbooks in each subject of undergraduate teaching shall be ten.

There shall be provision for –

- a. Staff reading room for 50 persons;
- b. Rooms for librarian and other staff;
- c. Journal room;
- d. Room for copying facilities;
- e. Video and Cassette room (desirable);
- f. Air-conditioned Computer room with Medlar and Internet facility with minimum of 50 nodes.

Medical colleges should have skill labs and adopt information technology in teaching medicine. There shall be provision for e-library also.

#### **A.1.5 Lecture theatre**

There shall be a minimum of **seven lecture theatres preferably air conditioned**, of gallery type in the Institution out of which six will be of seating capacity for 300 students each and one will be of capacity for 650 students. Lecture theatre shall be provided with necessary independent audio-visual aids including overhead projector, slide projector, LCD projector and a microphone. These lecture theatres shall be shared by all the departments **in a programmed manner**. There shall be provision for E-class. Lecture halls must have facilities for conversion into E-class/Virtual class for teaching. The existing colleges shall introduce these facilities in their lecture hall within one year.

#### **A.1.6 Auditorium/Examination Hall (Multi-purpose):**

There shall be an auditorium-cum-examination hall of 2000 sq.m. area in not more than three levels.

#### **A.1.7 Central Photographic Section:**

Central photographic and audiovisual sections with accommodation for studio, dark room, enlarging and Photostat work. Accommodation shall be provided for Artist and Medical Illustrators and Modelers. Facilities for microphotography and mounting shall be provided.

**A.1.8. Central Workshop:**

There shall be central workshop having facilities for repair of mechanical, electrical and A/c and Refrigeration equipments of college and the hospitals. It shall be manned by qualified personnel.

**A.1.9. Animal house:**

Department animal house may be maintained by the department of Pharmacology. In addition to the animal house, experimental work on animals can be demonstrated by Computer Aided Education.

**A.1.10 Incinerator**

An incinerator Plant commensurate with hospital bed strength may be provided. Alternatively any other system approved by the respective State Pollution Control Board may be provided.

**A.1.11 Medical Education Unit:**

There shall be a Medical Education Unit or Department for faculty development and providing teaching or learning resource material.

**A.1.12 Research work:**

Space as indicated in the concerned departments shall be provided in each department, duly furnished and equipped for research work and further expansion of its activities.

**A.1.13 Intercom Network:**

Intercom network including paging and bleep system between various sections, hospitals and college shall be provided for better services, coordination and patient care.

**A.1.14. Playground and Gymnasium:**

There shall be a play ground and Gymnasium for the staff and students. A qualified physical education instructor shall look after the sports activities and maintenance.

**A.1.15 Electricity:**

There shall be continuous electricity supply, with adequate number of, as well as standby UPS or Generator arrangements must be made so that electricians are available round the clock.

#### **A.1.16 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. Arrangements must be made so that plumbers are available round the clock.

A.1.17 There shall be 6 laboratories (375 Sq.m.area each) which will be provided with continuous working tables. Every seat shall be provided with stainless steel wash basin. Every working table shall have drawer or steam proof top, and individual lighting. One preparation room each of 15 Sq.m. area shall be provided with all the laboratories.

There shall be two laboratories of 150 Sq.m. area each.

All of these laboratories may be used in common with various departments e.g. Histology and Histopathology; Biochemistry and Clinical Pharmacology; Hematology and Pathology; Microbiology and Community Medicine.

#### **Central Research Laboratory**

There shall be one well-equipped Central Research Laboratory in the medical college, which will be under the control of the Dean of the college. The existing colleges shall install the laboratory within two years. Each medical college shall have Pharmacovigilance Committee.

#### **A.1.18 Training of teacher in Medical Education Unit.**

The period of training of a teacher in a Medical Education Unit shall be increased from one week to two weeks.

#### **A.1.19 Rural Health Training Centre**

Every medical college shall have one rural health training centre under Administrative control of Dean of the college for training of students in community oriented primary health care and rural based health education for the rural community attached to it. This health centre shall be within a distance of 30 km. or within one hour of commuting distance from the medical college. Separate residential arrangements for boys, girls and 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.

## **A.2. DEPARTMENTS**

### **(1) DEPARTMENT OF ANATOMY**

- (A) Lecture theatre – As per item A.15.
- (B) Demonstration Room – there shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.
- (C) Dissection Hall – There shall be a dissection hall (500 sq.mt.) to accommodate at least 250 students at a time. It shall be well lit, well-ventilated with exhaust fans and preferably centrally air-conditioned. There shall be an ante-room for students with lockers and ten Wash basins. There shall be adequate teaching aids in the hall. In addition, there shall be an embalming room (12 sq.m.area), space for 3 storage tanks (one of 3 sq.m. & two of 1.5 sq.m.each) and cold storage room with space for 25-30 dead bodies (25 sq.m.area) or cooling cabinets.
- (D) Research- There shall be one research laboratory (50sq.m.area) for research purposes.
- (E) Museum-There shall be a museum (300 sq.m.)-provided with racks and shelves for storing and proper display of wet and dry specimen and embryological sections, models, revolving stands for skiagrams, CT scan, MRI and trolley tables, X-ray view boxes shall be multistand type to take 4 plates standard size 4 boxes (4 view boxes for 250 students). Adequate seating accommodation for 50 students to study in the museum shall be provided. There shall be two attached rooms (15 sq.mt. each) for the preparation of models/specimens and for artists and modellers.
- (F) Departmental Library-  
There shall be a Departmental library-cum-seminar room (30sq.m. area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.
- (G) Accommodation for Staff- Accommodation shall be provided for the staff as under namely;
  - 1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
  - 2. Associate Professor/Reader- 3 (Three rooms) (15 Sq.m.area each);
  - 3. Asstt. Professor/Lecturers -4 (Four rooms) (20 Sq.m.area each);
  - 4. Tutor/Demonstrators-6 (Two rooms 20 Sq.m. area each)
  - 5. Department office cum Clerical room - one room (12 Sq.m.area); and
  - 6. Working accommodation for non-teaching staff (12sq.m. area)

### **(2) DEPARTMENT OF PHYSIOLOGY**

- (A) Lecture Theatre – As per item A.1.5.

- (B) Demonstration Room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.
- (C) Practical rooms- The following laboratories with adequate accommodation shall be provided to accommodate 125 students.
- (i) Amphibian laboratory (one)-(300 sq.m.area) shall be provided with continuous working tables. Every seat shall be provided preferably with stainless steel washbasin. Every workings table shall have one drawer and one cupboard, an electric point with fire and steam proof top. One preparation room (14 Sq.m. area) shall be provided with the amphibian laboratory.
  - (ii) Mammalian laboratory (one)-(120 Sq.m.area) shall be provided with Ten tables (2mx0.6,) with stainless steel top and operating light. The laboratory shall have attached instrument rack, two large size wash-basins (stainless steel) and cupboards for storing equipments. One preparation room (14 sq.m. area) shall be provided with the Mammalian laboratory.
  - (iii) Human Laboratories:
    - a) Haematology Lab. (250 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 Laboratory (120 Sq.m.area) provided with 12 tables (height 0.8 m.) with mattresses and adjustable hand-end.
- (D) Departmental Library-  
There shall be a Departmental library-cum-seminar room (30Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.
- (E) Research – There shall be one research laboratory (50 Sq.m.area) for research purposes.
- (F) Accommodation shall be provided for the staff as under:-
1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
  2. Associate Professor/Reader- 3 (Three rooms) (15 Sq.m.area each);
  3. Asstt. Professor/Lecturers -4 (Four rooms) (20 Sq.m.area each);
  4. Tutor/Demonstrators-6 (Two rooms 20 Sq.m.area each)
  5. Department office cum Clerical room - one room (12 Sq.m.area); and
  6. Working accommodation for non-teaching staff (12sq.m. area)

### **(3) DEPARTMENT OF BIOCHEMISTRY**

- (A) Lecture theatre – As per item A.1.5.

Demonstration Room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.

- (B) There shall be a Departmental library-cum-seminar room (30Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.
- (C) Research - There shall be one research laboratory (50 Sq.m.area) for research purposes.
- (D) Accommodation shall be provided for the staff as under:-
1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
  2. Associate Professor/Reader- 2 (Two rooms) (15 Sq.m.area each);
  3. Asstt. Professor/Lecturers -3 (Three rooms) (20 Sq.m.area each);
  4. Tutor/Demonstrators-6 (Two rooms 20 Sq.m.area each);
  5. Department office cum Clerical room - one room (12 Sq.m.area); and
  6. Working accommodation for non-teaching staff (12 sq.m. area)

### **(4) DEPARTMENT OF PATHOLOGY**

- (A) Lecture theatre – As per item A.1.5

Demonstration room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.

- (B) Museum-There shall be a museum (150 Sq.mt.) for specimens, charts, models with a sitting capacity of at least 80-100 students. All the specimens shall be labelled and at least 10 copies of catalogues for student use be provided. In addition, there shall be an ante room.
- (C) Autopsy Block- There shall be an Autopsy room (approx. 500 sq.mt. area) with facilities for cold storage, for cadavers, ante-rooms, washing facilities, with an accommodation capacity of 70-75 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.
- (D) Departmental library-  
There shall be a Departmental library-cum-seminar room (30 sq.m. area) with at least 80-100 books. However, not more than two copies of anyone books shall be counted towards computation of the total number of books.

(E) Research-There shall be one research laboratory(50 Sq.m. area) for research purposes.

(F) Accommodation shall be provided for the staff as under:

1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
2. Associate Professor/Reader- 4 (Four rooms) (15 Sq.m.area each);
3. Asstt. Professor/Lecturers -5(Five rooms) (20 Sq.m.area each);
4. Tutor/Demonstrators-8 (Two rooms 20 Sq.m.area each)
5. Department office cum Clerical room - one room (12 Sq.m.area); and
6. Working accommodation for non-teaching staff (12sq.m. area)

**(G) BLOOD BANK**

There shall be an airconditioned 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.

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) DEPARTMENT OF MICROBIOLOGY**

(A) Lecture Theatre - As per item A.1.5.

Demonstration room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.

(B) Museum- There shall be a museum (120 Sq. mt.) for specimens, charts, models, with a seating capacity of at least 75 students. All the specimens shall be labelled and at least 20 copies of catalogues for students use be provided

(C) Departmental Library-

There shall be a Departmental library-cum-seminar room (30Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.



(D) Research: There shall be one research laboratory (50 Sq.m. area) for research purposes.

(E) Accommodation shall be provided for the staff as under:

1. Professor & Head of the Department- 1 (One room ) (18 Sq.m.area);
2. Associate Professor/Reader- 3 (Three rooms) (15 Sq.m.area each);
3. Asstt. Professor/Lecturers -3 (Three rooms 20 Sq.m.area);
4. Tutor/Demonstrators-6 (Two rooms 20 Sq.m.area);
5. Department office cum Clerical room - one room (12 Sq.m.area); and
6. Working accommodation for non-teaching staff (12sq.m. area)

### **(6) DEPARTMENT OF PHARMACOLOGY**

(A) Lecture Theatre - As per item A.1.5.

(B) Demonstration room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.

(C) Practical laboratories-There shall be a Practical laboratory with accommodation for 125-150 students for the following, namely:-

- i) Experimental Pharmacology (300 Sq.m. area) with ante-room (14 Sq.m.area) for smoking and varnishing of kymograph papers.

(D) Museum- There shall be a museum (175 Sq. mt.) for specimens, charts, models, with a separate section depicting "History of Medicine", with a seating capacity of at least 75 students. All the specimens shall be labelled and at least 20 copies of catalogue for students use be provided.

(E) Departmental Library- There shall be a Departmental library-cum-seminar room (30 Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.

(F) Research: There shall be one research laboratory (50 Sq.m.area) for research purposes.

(G) Accommodation shall be provided for the staff as under:

1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
2. Associate Professor/Reader- 3 (Three rooms) (15 Sq.m.area each);
3. Asstt. Professor/Lecturers - 3 (Three rooms 20 Sq.m.area);
4. Tutor/Demonstrators-5 (Two rooms 20 Sq.m.area);
5. Department office cum Clerical room - one room (12 Sq.m.area); and
6. Working accommodation for non-teaching staff (12sq.m. area)

**(7) DEPARTMENT OF FORENSIC MEDICINE INCLUDING TOXICOLOGY**

- (A). Lecture theatre – As per item A.1.5.
- (B). Demonstration room – There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.
- (C). There shall be a museum (225 Sq.m.area) to display medico-legal specimens charts, models, prototype fire arms, wax models, slides, poisons, photographs etc. with seating arrangements for 75 students. All the specimens shall be labelled and at least 20 copies of catalogues for student use be provided.
- (D). There shall be a laboratory (275 Sq. m. area) for examination of specimens, tests and Forensic histopathology, Serology, anthropology and toxicology.
- (E). Autopsy Block – there shall be an Autopsy room (approx.500 sq. mt. area) with facilities for cold storage, for cadavers, ante-rooms, washing facilities, with an accommodation capacity of 75-100 students, waiting hall, office etc. The location of mortuary/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 Pathology.
- (F). Department Library –
- There shall be Departmental library-cum-seminar room (30 Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.
- (G). Research – There shall be one research laboratory (50 Sq.m.area) for research purposes.
- (H). Accommodation shall be provided for the staff as under, namely:-
1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
  2. Associate Professor/Reader- 2 (Two rooms) (15 Sq.m.area each);
  3. Asstt. Professor/Lecturers -3 (Three rooms) (20 Sq.m.area each);
  4. Tutor/Demonstrators-5 (Two rooms 20 Sq.m.area each);
  5. Department office cum Clerical room - one room (12 Sq.m.area); and
  6. Working accommodation for non-teaching staff (12sq.m. area)

**(8) DEPARTMENT OF COMMUNITY MEDICINE**

- (A). Lecture theatre- As per item A.1.5.

- (B). Demonstration room- There shall be four demonstration rooms (90 sq.mt.each) fitted with strip chairs, Over Head Projector, Slide Projector, Television, Video and other audiovisual aids, so as to accommodate at least 60-75 students.
- (C). Museum-There shall be a museum (175 Sq.m. area) for the display of models, charts, specimens and other material concerning communicable diseases, Community Health, Family Welfare planning, Biostatistics, Sociology, National Health Programmes, Environmental Sanitation etc.
- (D). Departmental Library-
- There shall be a Departmental library-cum-seminar room (30 Sq.m.area) with at least 80-100 books. However, not more than two copies of anyone book shall be counted towards computation of the total number of books.
- (E). Research- There shall be one research laboratory (50 Sq.m.area) for research purposes.
- (F). Accommodation shall be provided for the staff as under, namely:-
1. Professor & Head of the Department- 1 (One room )(18 Sq.m.area);
  2. Associate Professor/Reader- 3 (Three rooms) (15 Sq.m.area each);
  3. Asstt. Professor/Lecturers -4 (Four rooms) (20 Sq.m.area each);
  4. Statistician cum Lecturer-One room (12 Sq.m.area);
  5. Epidemiologist cum Lecturer-One room (12 Sq.m.area);
  6. Tutor/Demonstrators-6 (Two rooms 20 Sq.m.area each);
  7. Department office cum Clerical room - one room (12 Sq.m.area); and
  8. Working accommodation for non-teaching staff (12sq.m. area)
- (G). Primary Health Centre/Rural Health Training Centre
- Every medical college shall have three primary health centres/rural health training centres for training of students in community oriented primary health care and rural based health education for the rural community attached to it. Out of these one primary health centre shall be with a distance of 30 km. or within one hour of commuting distance from the medical college. Separate residential arrangements for boys and girls, interns and undergraduates with mess facilities shall also be provided in at least one of the primary health centres/rural health training centres which shall be under the full administrative jurisdiction of the medical college. Adequate transport shall be provided for carrying out field work, teaching and training activities by the department of Community Medicine and other departments (both for staff and students).
- (H). Urban Health Training Centre- it shall be under the administrative control of Deptt. of Community Medicine. Adequate transport shall be provided for commuting the staff and students.

## **B. TEACHING HOSPITAL**

### **B.1 GENERAL REMARKS**

\*B.1.1 A functional teaching hospital with 750 beds having a minimum of 60% indoor bed occupancy shall be available at the time of submission of application to Medical Council of India, at the time of inception of the hospital by Medical Council of India and upto 2<sup>nd</sup> renewal of the medical college. There shall be a minimum of 75% bed occupancy at the time of inspection for third renewal and thereafter for subsequent renewals and recognition.

Lifts for the patients and ramp for fire protective services and for handicapped persons shall be provided in the hospital at the time of letter of permission. An electric generator of not less than 700 KVA shall be provided. A play area including T.V., Music, Toys, Books, etc. shall be provided for Paediatric patients. All the teaching hospitals shall be under the academic, administrative and disciplinary control of the Dean/ Principal/Director who shall not be concurrently Head of Department but can be a component of teaching faculty in the concerned respective department.

**\* As per the terms of Notification published on 03.11.2010 in the Gazette of India.**

B.1.2. Accommodation shall be provided for Dean (36 Sq.mt.) and Medical Superintendent (36 Sq.mt.) 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 (600 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 (350 Sq.m.)
- (e) Linen Rooms.
- (f) Hospital and Staff Committee room (120 Sq.mt.)

B.1.3. One **Central lecture theatre** of gallery type with a seating capacity of 300 persons and audio-visual aids shall be provided in the hospital in addition to those in medical college/institution.

B.1.4. **Central Registration and statistics department** with computer facilities shall be provided.

B.1.5. Intercom network along with paging and bleep system between various sections, hospitals and college shall be provided for better service, coordination and patient care.

B.1.6 **Residential accommodation** shall be provided in the hospital campus for interns, Jr. Residents and Senior Residents, etc.

B.1.7 There shall be a minimum **OPD attendance** of 4 patients (old & new) per day per student intake of the subjects of Undergraduate curriculum at the time of Letter of Permission. This should be increased in such a manner that at the end of fourth year it comes to 8 patients (old & new) per day per student intake.

B.1.8 **Indoor beds occupancy**-Average occupancy of indoor beds shall be a minimum of 80% per annum.

**B.1.9. Clinical Departments in the Hospital.**

Requirement of Beds and units:

The number of beds required for 250 admissions annually is 1100. They may be distributed for the purposes of clinical teaching as under, namely: -

**(i) MEDICINE AND ALLIED SPECIALITIES:-**

No. of beds and units required	Beds/units**
1. General Medicine	240/8
2. Paediatrics	120/4
3. Tuberculosis and Respiratory Diseases	50/2
4. Dermatology, Venereology and Leprosy	30/1
5. Psychiatry	<u>30/1</u>
	470/16

**\*\* As per the terms of Notification published on 03.11.2010 in the Gazette of India.**

Note: (1) There shall be well equipped and updated intensive Care Unit ( I.C.U.), Intensive Coronary Care Unit (I.C.C.U.) Intensive Care Paediatric beds and preferably Intensive care in Tuberculosis and Respiratory Disease.

(2) Wherever possible, the facilities available in larger tuberculosis and chest diseases hospitals, infectious diseases hospitals and mental hospitals may be utilised for training in these specialties. However, if these hospitals are not under the total administrative control of the Medical College, the required beds in these specialties shall have to be provided in the attached teaching hospital itself.

**(ii) SURGERY AND ALLIED SPECIALITIES:**

	No. of beds and units required**
1. General surgery	240/8
2. Department of Orthopaedics	150/5
3. Department of Ophthalmology	60/2

4. Oto-Rhinolaryngology	30/1
	480/16

Note: There shall be well-equipped and updated intensive Care Burn Unit and Surgical post operative critical care Unit.

**(iii) OBSETETRICS AND GYNAECOLOGY**

	No. of beds and units required**
Obstetrics	70
Gynaecology	60
Postmortem	20
	150/5

**(iv) GRAND TOTAL 1100/37**

Note : (1) In case a super speciality is developed, it shall necessitate creation of extra beds along with additional staff over and above the minimum requirement stated herein above in accordance with the provisions of the Postgraduate Medical Education Regulations, 2000.

(2) The teaching hospital may provide additional beds in any speciality depending upon their patients load.

B.1.10 Dean, Medical Superintendent and each department shall have independent computer and printer facility.

B.1.11 Each and every college /institute shall have its own website wherein the following details updated in the first week of every month shall be provided:-

- a. Details of Dean, Principal and Medical Supdt. including their name, qualification complete address with telephone and STD code, fax and E-mail etc.
- b. Teaching as well as non-teaching staff.
- c. Details of the sanctioned intake capacity of various courses UG as well as PGs by the MCI.
- d. List of students admitted merit-wise category-wise (UG & PG) for the current and previous year.
- e. Any research publications during the last one year.
- f. Details of any CME programmes, conferences and/or any academic activities conducted by the institution.
- g. Details of any awards and achievement received by the students or faculty.
- h. Details of the affiliated university and its Vice-Chancellor and Registrars.
- i. Result of all the examinations of last one year.
- j. Detailed status of recognition of all the courses.
- k. Details of clinical material in the hospital.

1. Measures undertaken to curb the menace of ragging in terms of Prevention and Prohibition of Ragging in Medical Colleges/Institutions Regulations, 2009.

## B.2. CLINICAL DEPARTMENTS-INDOOR

B.2.1. 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 1.5m.
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.

B.2.2. The following additional accommodation shall be provided for each of the departments.

1. Offices for Heads of Departments and Heads of Units.
2. Accommodation for other unit staff.
3. Clinical demonstration rooms (at least one for each department).

Note: The size and number of staff rooms shall be as per the guidelines in the pre and para clinical departments for the prescribed number of staff members in a department.

## B.2.3. OPERATION THEATRE UNIT:

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

1. Waiting room for patients.
2. Pre-Anaesthetic/Preparation room – at least 4 beds.
3. Operation theatre.
4. Post-operative recovery room (minimum of 20 beds).
5. Soiled Linen room.
6. Instrument room.
7. Sterilisation room.
8. Nurses rooms.
9. Surgeon's and anaesthetist's room (separate for male and female).
10. Assistant's room.
11. Observation gallery for students.
12. Store rooms
13. Washing room for Surgeons and Assistants; and
14. Students washing up and dressing up room.

Five such units may be provided for General Surgery, one for ENT; one for Orthopaedics; one for Ophthalmology and two for Obstetrics and Gynaecology and one for septic cases”.

Other surgical specialities shall have independent separate OT.

Additional space need to be provided for various Endoscopy procedures.

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.

#### **B.2.4 CENTRAL STERILISATION SERVICES:**

There shall be an independent Central Sterilization unit capable of taking the total working load of 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 sterile, Ethylene oxide sterile, freon ethylene instruments and mattress sterilize, sterile racks, mixers, and trays for instruments.

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

#### **B.2.5 LAUNDRY**

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

#### **B.2.6. 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, 600mA. I.I.T.V. System, Fluroscopy System (36 sq.m.).
- (b) Ultrasound Room (15 sq.m.)
- (c) Room for 60 mA Mobile X-ray system (15 sq.m)
- (d) Accommodation for CT Scan system. There shall be three equipment rooms, (examination room, control room, control room and computer room). In addition,



a service room for Electrical Panels, UPS and Servo Stabilizer shall be provided. The total area requirement is 80 sq.m.

- (e) There shall be preferably a Magnetic Resonance Imaging (MRI) system. The space requirement shall be according to the standard specifications.
  - (f) Store room for X-Ray films related material (15 sq.m)
  - (g) Museum (25 sq.m.)
  - (h) Waiting room for patient, enquiry office and staff rooms for Professor & HOD, Assoc. Profs., Asstt. Profs., Residents, Tutor shall be provided as per requirement.
  - (i) Accommodation for demonstration room shall be provided.
- (2) The room sizes for various Diagnostic Imaging Systems shall be as per the following provision of the Atomic Energy Regulatory Board Safety Code, namely:

The room 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.

## **B 2.7 DEPARTMENT OF ANAESTHESIOLOGY**

Accommodation for the department of Anaesthesia shall be provided for staff on duty in operation theaters in that block itself as far as possible in addition to following accommodation; namely:-

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

## **OPTIONAL DEPARTMENTS**

### **B.2.8 DEPARTMENT OF RADIOTHERAPY;**

The department needs to be planned in such a way that there is a minimum movement of Radio-active sources through the general corridors of the Hospital. It is therefore desirable that the outpatient wing, treatment wing, dosimetry/planning equipments, wards, operation theatre and other facilities are located in the same block, may be on two floors. It should 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. Separate rooms should be provided for Teletherapy Unit (100 Sq.m.area), intra cavitary treatment room (50 sq. m.area) interstitial, endocavitary, surface mould therapy room (50 sq. m.area), planning room (50sq.m.area), rooms for metalling treatment

planning equipments, mould room (50 sq.m.area), record room (100sq.m.area), medical physics laboratory (50sq.m.area) outpatient waiting room (200 sq.m.area), indoor beds (at least 30 beds and an isolation ward) (200 sq.m.area), day care ward for short chemotherapy/radiotherapy procedures etc. (70 sq.m.area). The minimum floor area shall be 2000-2500 sq.m. Prior BARC approval of the radiation therapy rooms/plan alongwith complete layout of the entire department is mandatory.

### **B.2.9 DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION:**

Accommodation (2500 sq.meter) shall be provided for professor and other teaching staff, paramedical personnel and non-medical staff, evaluation room, physiotherapy, Electrotherapy, Hydrotherapy, Occupational Therapy, Speech therapy, separately, as far as possible.

### **B. 3 CLINICAL DEPARTMENTS-OUT DOOR**

B 3.1 Accommodation shall be provided for:-

1. Waiting/reception space rooms for patients and attendants,
2. Enquiry and record room.
3. Four examination rooms (cubicles) and case demonstration rooms to be provided for each department in the outdoor in self-contained blocks with their sub-sections. Each clinical unit in the out-patient department shall be provided with examination cubicles.
4. Dispensary.
5. The following additional accommodation shall be provided in the departments specified below:-
  - (a) In Surgery & its specialities:  
Dressing room for men and women patients respectively.  
Operation theatre for out patient surgery.
  - (b) In Ophthalmic Section:  
Refraction rooms, dark rooms, dressing rooms etc.
  - (c) In orthopaedics Section:
  - (d) In ENT Section:  
Sound proof audiometry Room, ENG laboratory and speech therapy facilities.
  - (e) In Paediatrics:  
Child Welfare including Immunization Clinic  
Child Guidance Clinic  
Child Rehabilitation Clinic including facilities for espeech therapy and occupational therapy.
  - (f) In obstetrics and Gynaecology:  
Antenatal Clinic, Family Welfare Clinic  
Sterility Clinic

Cancer Detection Clinic.

There shall be an additional students duty room (separately) for males and females) attached to the labour room.

- (g) In Dental Section:  
Accommodation for Dental Surgery and Prosthetic dentistry.

B 3.2 Reception and Waiting Hall for Patients.

B. 3.3. A seminar room for students.

#### **B. 4 CENTRAL LABORATORIES:**

There shall be well-equipped and updated central laboratories preferably along with common collection entire for all investigations in histopathology, cytopathology, haematology, immunopathology, microbiology, biochemistry and other specialized work if any.

#### **B. 5 CENTRAL CASUALTY DEPARTMENT**

There shall be well equipped and updated intensive care unit (I.C.U) -5 beds, Intensive Coronary Care Unit (I.C.C.U.)-5 beds, Intensive Care Paediatric/Neonatal Unit -5 beds and preferably Intensive Care in Tuberculosis and Respiratory Diseases. The number of beds in casualty trauma unit shall be 30. ICU should be located near casualty. These shall be functional at the time of inception of the college.

#### **B. 6 CENTRAL HOSPITAL PHARMACY**

It shall have qualified pharmacist incharge and other staff certified by statutory authorities to dispense the drugs.

#### **B. 7 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.

#### **B. 8 HOSPITAL WASTE MANAGEMENT**

Facilities for hospital waste management, commensurate with the State Regulatory Authorities etc. shall be provided.

## **B. 9 STAFF QUARTERS**

- B. 9.1 There shall be sufficient number of quarters for covering 100 per cent of the total Sr. Residents and Jr. Residents as required.
- B. 9.2 There shall be sufficient number of quarters for covering at least 20% each of the Nurses, teaching and non-teaching staff.

## **B. 10 CENTRAL HOSPITAL STORES**

There shall be a central hospital stores for stocking & supply of drugs, equipments etc.

## **B. 11 HOSTELS FOR STUDENTS**

The College/Institution should have at least provision for 75% of the total intake of students at a given time. Each hostel room shall not have more than three occupants. The size of such room shall not be less than 27 sq.mt. Each student shall be provided with an independent and separate furniture which shall include chair, table, bed and full size cupboard at the least. In case of single seated room it should be at least 9 sq. mt. Area. Each hostel shall have a visitor room, a study room with facilities for computer and internet and should be air-conditioned. There shall be a recreational facility room having T.V., Music, Indoor games etc. and messing facilities for the students.

## **Schedule - II - STAFF REQUIREMENTS**

### **A. GENERAL REMARKS:**

1. Emphasis in medical education being on practical instruction and demonstration in small groups. The number of teachers must be as per provisions of this Schedule adequate to enable such instruction to be imparted effectively.
2. The teaching staff of all departments of medical college, shall be full-time.
3. These regulations cover the minimum requirements of under graduate medical education. Additional teaching and non-teaching staff shall also be required in OPD, Indoors, Operation theatres and Intensive Care areas where the work load involved in emergency patient care, clinical laboratory work/field work is heavy or is of a specialized nature.
4. To ensure the exposure of undergraduate students to experienced teachers, it is essential to provide adequate number of higher posts (Professors/Readers) in every department of teaching.
5. In department of anatomy, Physiology, Biochemistry, Pharmacology and Microbiology, non-medical teachers may be appointed to the extent of 30% of the total number of posts in the department. A non-medical approved medical M.Sc. qualification shall be a sufficient qualification for appointment as lecturer in the subject concerned but for promotion to higher teaching post a candidate must require Ph.D. degree qualification or equivalent qualification. However, in the department of Biochemistry, non-medical teachers may be appointed to the extent of 50% of the total number of posts in the department. In view of the paucity of teachers in non-clinical departments, relaxation upto the Head of the department may be given to non-medical persons in case a suitable medical teacher in the particular non-clinical speciality is not available for the said appointment in said department. However, all such appointments will be made only with the prior approval of the Medical Council of India. However, a non-medical person cannot be appointed as Director/Principal/Dean/Medical Superintendent or equivalent of an institution in any case. In the department of Community medicine, Statistician cum Lecturer in Statistics should possess M.A./M.Sc. qualification in that particular subject from a recognised university. These requirements are as per the Teacher Eligibility Qualification Regulations.
6. Teacher in higher specialities like Cardiology, Neurology, Neuro-Surgery shall not be counted against the complement of teachers required for under graduate medical education.

## DEPARTMENTWISE STAFF REQUIREMENTS-NON-CLINICAL

### (1) DEPARTMENT OF ANATOMY

#### Staff Strength Required

1.	Professor	1
2.	Assoc. Prof./Reader	3
3.	Asstt. Prof./Lecturer	4
4.	Tutors/Demonstrators	6
5.	Technician	1
6.	Dissection Hall Attendants	4
7.	Store Keeper cum Clerk-cum Computer Operator	1
8.	Sweepers	2

### (2) DEPARTMENT OF PHYSIOLOGY

1	Professor	1
2	Assoc. Prof. /Reader	3
3	Asstt. Prof. /Lecturer	4
4	Tutors/Demonstrators	6
5.	Technician	1
6	Store Keeper cum clerk cum Computer operator	1
7	Sweepers	2

### (3) DEPARTMENT OF BIOCHEMISTRY

1	Professor	1
2	Assoc. Prof. /Reader	2
3	Asstt. Prof. /Lecturer	3
4	Tutors/Demonstrators	6
5	Technical Asstt./Technician	2
6.	Store-Keeper cum clerk cum Computer operator	1
7.	Sweepers	2
8.	Lab Attendant	1

### (4) DEPARTMENT OF PATHOLOGY

1	Professor	1
2	Assoc. Prof.	4
3	Asstt. Prof.	4**
4	Tutors/Demonstrators	7**

5	Technical Asstt./Technician	4
6	Lab. Attendants	2
7	Steno cum Computer Operator	1
8	Store Keeper cum Record Keeper	1
9.	Sweepers	2

#### **(5) DEPARTMENT OF MICROBIOLOGY**

1	Professor	1
2	Assoc. Prof./Reader	3
3	Asstt. Prof. /Lecturer	3
4	Tutors/Demonstrators	6
5	Technical Asstt./Technician	7
6	Lab. Attendants	2
7	Store Keeper cum Record clerk	1
8	Steno cum Computer Operator	1
9	Sweepers	2

#### **(6) DEPARTMENT OF PHARMACOLOGY**

1	Professor	1
2	Assoc. Prof./Reader	3
3.	Asstt. Prof./Lecturer	3
4	Tutors/Demonstrators	5
5.	Laboratory Attendants	2
6.	Store Keeper cum clerk cum Computer operator.	1
7.	Sweepers	2

#### **(7) DEPARTMENT OF FORENSIC MEDICINE**

1	Professor	1
2	Assoc. Prof./Reader	2
3	Asstt. Prof./Lecturer	2**
4	Tutors/Demonstrators	5
5	Technical Asstt./Technician	2
6	Laboratory Attendants	2
7	Steno Typist	1
8	Store Keeper cum clerk cum Computer Operator	1
9	Sweepers	4

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

#### **(8) DEPARTMENT OF COMMUNITY MEDICINE**

1	Professor	1
2	Assoc. Prof/Reader	3
3	Asstt. Prof/Lecturer	4
4.	Epidemiologist-cum-Assistant Professor	1
5	Statistician-cum-Assistant Professor	1
6	Tutors/Demonstrators	6
7	Medical Social Worker	1
8	Technical Asstt./Technicians	1
9	Stenographers	1
10	Record keeper cum clerk cum Computer Operator	1
11	Store Keeper	1
12	Sweeper	1

Staff for Rural Training Health Centre (including field work and epidemiological studies.)

1	Medical Officer of Health-cum-lecturer/ Assistant Professor.	1
2	Lady Medical Officer	1
3	Medical Social Workers	2
4	Public Health Nurse	1
5	Health Inspector/Health Assistant (Male)	1
6	Health Educator	1
7	Technical Asstt./Technician	1
8	Peon	1
9	Van Driver	1
10	Store Keeper cum Record Clerk	1
11.	Sweepers	2

### **URBAN TRAINING HEALTH CENTRE**

1.	Medical officer of Health-cum-Lecturer/ Assistant Professor	1
2.	Lady Medical Officer	1
3.	Medical Social Workers	2
4.	Public Health Nurse	1
5.	Health Inspectors	2
6.	Health Educator	1
7.	Technical Assistant/Technicians	2
8.	Peon	1
9.	Van Driver	1
10.	Store Keeper	1
11.	Record Clerk	1
12.	Sweepers	2



Note: The Urban and Rural Training Health Centres should be under the direct administrative control of the Dean/Principal of the college.”

### **C. DEPARTMENT WISE STAFF REQUIREMENTS-CLINICAL 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 Staffing pattern of the departments shall be organised on the basis of units.
3. A Unit shall have not more than 30 beds in its charge. However, in departments of Tuberculosis & Respiratory diseases, Dermatology, Venereology & Leprosy, Psychiatry, Ophthalmology & ENT one unit shall be of MCI sanctioned strength for that speciality even if the total number of beds is less than 30.
4. The minimum staff complement of each unit shall consist of the following, namely:-

(a) Professor/Reader	1
(b) Lecturer.	1
(c) Senior Resident/Tutor/Registrar	1
(d) Junior Residents	3 to 4
5. A resident doctor shall primarily be defined as a registered doctor who stay and work in residence in the hospital of a medical college on whole time basis where he / she is employed under supervision of medical teacher's and essentially shall be non practicing.
6. Senior Resident shall be a registered doctor who either has.
  - i) a recognized post graduate degree from a statutory university with 3 years experience of residency in the concerned speciality while pursuing degree course, or
  - ii) a recognized postgraduate diploma from a statutory university in the concerned specialty with 2 years experience of residency in the concerned specialty while pursuing diploma course and 1 year residency experience in the concerned specialty obtained after acquiring the PG diploma or,

A graduate doctor with recognized MBBS degree and registered in IMR who has got 3 (three) years experience as a resident doctor in the concerned speciality.

In addition to the above staff, additional Sr. Residents and Junior Residents shall be provided according to the load in Burn Ward ICU, emergency, ICCU, Nursery, Labour Room and in other critical/intensive care unit/units for providing services round the clock.

## (2) DEPARTMENT OF GENERAL MEDICINE

The Number of units, beds and staff for each department shall be as follows;

### (a) GENERAL MEDICINE

No. of units/beds:	8/240
	Staff strength required
1. Professor	1
2. Assoc.Prof./Reader	8
3. Asst.Prof./Lecturer	9
4. Tutor / Registrar/Sr. Resident*	15**
5. Junior Residents	20

\*With three years Resident experience.

### (b) TUBERCULOSIS & RESPIRATORY DISEASES

No. of units/beds:	2/50
	Staff strength required
1. Professor/	1
2. Assoc.Prof./Reader	1
3. Asst.Prof./Lecturer	1
4. Tutor / Registrar/Sr. Resident*	3**
5. Junior Residents	4

\* With three years Resident experience.

### (c) DERMATOLOGY VENEREOLGY & LEPROSY

No. of units/beds:	1/30
	Staff strength required
1. Professor/	1
2. Assoc.Prof./Reader	1*
3. Asst.Prof./Lecturer	1
4. Tutor / Registrar/Sr. Resident*	3**
5. Junior Residents	4**

\* With three years Resident experience.

### (d) PSYCHIATRY

No. of units/beds:	1/30
	Staff strength required
1. Professor/	1

2.	Assoc.Prof./Reader	1*
3.	Asst.Prof./Lecturer	1
4.	Tutor / Registrar/Sr. Resident*	3**
5.	Junior Residents	4**

\* With three years Resident experience.

The following ancillary staff shall be provided.

Staff Strength required

1.	E.C.G. Technician	1
2.	Technical Asstt./Technician	3
3.	Lab. Attendants	4
4.	Store Keeper	1
5.	Steno Typist	1
6.	Record clerks	2
7.	T.B. and Chest Diseases Health Visitors	2
8.	Psychiatric Social Workers	2

**(3) DEPARTMENT OF PAEDIATRICS**

No. of units/beds: 4/120

Staff strength required

1.	Professor/	1
2.	Assoc.Prof./Reader	4
3.	Asst.Prof./Lecturer	5
4.	Tutor / Registrar/Sr. Resident*	8**
5.	Junior Residents	10

The following ancillary staff shall be provided.

1.	Child Psychologist	1
2.	Health Educator	1
3.	Technical Asstt./Technician	1
4.	Lab attendant	1
5.	Store Keeper	1
6.	Record clerks	1
7.	Social worker	1

**(4) DEPARTMENT OF GENERAL SURGERY**

No. of units/beds: 8/240

Staff strength required

1.	Professor/	1
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2.	Assoc.Prof./Reader	8
3.	Asst.Prof./Lecturer	9
4.	Tutor / Registrar/Sr. Resident*	15**
5.	Junior Residents	20

\* With three years Resident experience.

The following ancillary staff shall be provided.

1.	Technical Assistant/Technicians	3
2.	Laboratory Attendants	4
3.	Store keeper	1
4.	Steno-Typist	1
5.	Record Clerks	2

### (5) DEPARTMENT OF ORTHOPAEDICS

No. of units/beds:	5/150	
	Staff strength required	
1.	Professor/	1
2.	Assoc.Prof./Reader	4
3.	Asst.Prof./Lecturer	5
4.	Tutor / Registrar/Sr. Resident*	8**
5.	Junior Residents	10

\* with three years resident experience.

The following ancillary staff shall be provided.

1.	Technical Assistant/Technicians	1
2.	Laboratory Attendants	1
3.	Store keeper	1
4.	Steno-Typist	1
5.	Record Clerks	1

### (6) DEPARTMENT OF OTO-RHINO-LARYNGOLOGY

No. of units/beds:	1/30	
	Staff strength required	
1.	Professor	1
2.	Assoc.Prof./Reader	2*
3.	Asst.Prof./Lecturer	2*
4.	Tutor / Registrar/Sr. Resident*	2**
5.	Junior Residents	2

\* with three years resident experience.

The following ancillary staff shall be provided.

1. Technical Assistant/Technicians	1
2. Laboratory Attendants	1
3. Store keeper	1
4. Steno-Typist	1
5. Record Clerks	1
6. Audiometry Technician	1
7. Speech Therapist	1

### **(7) DEPARTMENT OF OPHTHALMOLOGY**

No. of units/beds:	2/60
	Staff strength required
1. Professor	1
2. Assoc.Prof./Reader	2*
3. Asst.Prof./Lecturer	2
4. Tutor / Registrar/Sr. Resident*	3**
5. Junior Residents	4

\* with three years resident experience.

The following ancillary staff shall be provided.

1. Technical Assistant/Technician	1
2. Lab Attendant	1
3. Stenotypist	1
4. Store keeper	1
5. Record Clerk	1
6. Refractionist	1

### **(8) DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY**

No. of units/beds:	5/150
	Staff strength required
1. Professor/	1
2. Assoc.Prof./Reader	5*
3. Asst.Prof./Lecturer	8*
4. Tutor / Registrar/Sr. Resident*	8**
5. Junior Residents	10

The following ancillary staff shall be provided.

1.	Antenatal Medical officer-cum-lecturer/ Assistant Professor	1
2.	Maternity and Child Welfare Officer-cum- lecturer/Assistant Professor	1
3.	Social Worker	2
4.	Technical Asstt./Technicians	2
5.	Lab Attendants	2
6.	Stenographer	1
7.	Record Clerk	1
8.	Store Keeper	1

**(9) DEPARTMENT OF RADIO-DIAGNOSIS**

1.	Professor	1
2.	Assoc.Prof./Reader	2*
3.	Asst.Prof./Lecturer	2*
4.	Tutors/Registrars	8**
5.	Radiographic technicians	8
6.	Dark room assistant	4
7.	Stenographers	1
8.	Storekeeper	1
9.	Record clerk	1

**(10) DEPARTMENT OF RADIO-THERAPY (OPTIONAL)**

1.	Professor	1
2.	Assoc.Prof./Reader	1
3.	Asst.Prof./Lecturer	2
4.	Tutors/Registrars	3
5.	Physicist	1
6.	Radiotherapy technicians (for every treatment unit)	2
7.	Dark room assistant	1
8.	Stenographer	1
9.	Storekeeper	1
10.	Record clerk	2

**(11) DEPARTMENT OF ANAESTHESIOLOGY**

Staff strength required

1.	Professor	1
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2.	Assoc.Prof./Reader	2*
3.	Asst.Prof./Lecturer	2*
4.	Tutors/Registrars/Senior Residents	14**

The staff in the department shall consist of :

1.	Technical Asstt. Technicians	8
2.	Stenotypist	1
3.	Record clerk	1
4.	Store keeper	1

**(12) DEPARTMENT OF PHYSICAL MEDICINE AND REHABILITATION  
(OPTIONAL)**

Staff Strength required

1.	Professor/	1
2.	Assoc.Prof./Reader	1
3.	Asst.Prof./Lecturer	1
4.	Senior Residents	2
5.	House Surgeon/Junior Resident	1

The staff in the department shall consists of :

1.	Physiotherapists	2
2.	Occupational Therapists	2
3.	Speech Therapists	1
4.	Prosthetic and Orthotic Technicians	2
5.	Workshop Workers	6
6.	Clinical Psychologist	1
7.	Medico-social Worker	1
8.	Public Health Nurse/Rehabilitation Nurse	1
9.	Vocational Counsellor	1
10.	Multi-rehabilitation Workers/(MRW)/ Technician/Therapist	4
11.	Stenographer	1
12.	Record Clerk	1
13.	Store keeper	1
14.	Class IV workers	4

**(13) DEPARTMENT OF DENTISTRY**

Staff Strength required

1.	Professor/	1
2.	Assoc.Prof./Reader	2*

3.	Asst.Prof./Lecturer	2*
4.	Tutor/Registrar	8**
5.	Dental Technicians	4
6.	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.

**\* As per the terms of Notification published on 03.11.2010 in the Gazette of India.**

**\*\* As per the terms of Notification published on 04.11.2010 in the Gazette of India.**

## **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
3.	Coding Clerks	4
4.	Record Clerks	6
5.	Daftaries	2
6.	Peons	2
7.	Stenotypist	1

### **II CENTRAL ANIMAL HOUSE**

The staff shall consist of :

1.	Veterinary Officer	1
2.	Animal Attendants	2
3.	Technicians for animal operation room	1
4.	Sweepers	2

### **III CENTRAL LIBRARY**

The staff in library shall consist of:

1.	Librarian with a degree in Library Science	1
2.	Deputy Librarian	1
3.	Documentalist	1
4.	Cataloguer	1
5.	Library Assistants	4
6.	Daftaries	2
7.	Peons	2



### **CENTRAL PHOTOGRAPHIC CUM AUDIOVISUAL UNIT**

1.	Photographers	1
2.	Artist Modellers	1 each
3.	Dark Room Assistant	1
4.	Audiovisual Technician	1
5.	Store Keeper cum Clerk	1
6.	Attendant	1

### **MEDICAL EDUCATION UNIT**

1.	Officer In-charge (Principal/Dean)	1
2.	Coordinator	1
	(Head of a deptt. nominated by Principal/Dean.)	
3.	Faculty College faculty on part-time basis. Supportive Staff:	
1.	Stenographer	1
2.	Computer Operator	1
3.	Technicians in Audio-visual aids, Photography and Artist	2

### **CENTRAL STERLIZATION SERVICES DEPARTMENT**

1.	Matron	1
2.	Staff Nurse	4
3.	Technical Assistant	8
4.	Technician	8
5.	Ward Boys	8
6.	Sweeper	4

### **LAUNDRY**

1.	Supervisor	2
2.	Dhobi/Washerman/Women	12
3.	Packer	12

### **BLOOK BANK**

1.	Professor /Reader	1
2.	Lecturer	1
3.	Technicians	6

- |    |                       |   |
|----|-----------------------|---|
| 4. | Laboratory Attendants | 6 |
| 5. | Store Keepers         | 6 |
| 6. | Record Clerks         | 2 |

### **CENTRAL CASUALTY SERVICES**

The staff in the department shall consist of :

- |    |   |              |
|----|---|--------------|
| 1. | Casualty 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. |

### **CENTRAL WORKSHOP**

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

### **OTHER HOSPITAL STAFF**

- NURSING STAFF: The nursing staff shall be provided as per the following recommendations of the Nursing Council:

#### **RECOMMENDED NORMS FOR HOSPITAL NURSING SERVICE**

	<b>(STAFF)</b>	<b>(TEACHING HOSPITAL)</b>
Staffing:	1. Nursing Superintendent	1 (*for minimum of 150 beds)
	2. Deputy Nursing Superintendent	1
	3. Asstt. Nursing Superintendent	2
	(for every additional 50 beds one more Assistant Nursing Superintendent)	
	Staff Nurse	Sister
Medical Ward.	1:3	1:25
Surgical Ward	1:3	1:25
Orthopaedic ward	1:3	1:25
Paediatric ward	1:3	1:25
		Department Senior/ANS
		Each Shift 1 For 3-4 wards
		” -do-
		” -do-
		” -do-

Gynaecology ward	1:3	1:25	”	-do-
Maternity ward (Including new borns)	1:3	1:25	”	-do-

Intensive Care Unit	1:1 (24 Hrs.)	1 each shift	}	1 Departmental Sister/ ANS for 3-4 units
Coronary Care Unit	1.1 (24 Hrs.)	1 each shift		
Special wards Eye, 1:1 (24 hrs.)		1 each shift		
ENT etc.				

Operation Theatre	3 for 24 hrs. per table	1 each shift	}	1 Departmental sister/ANS for 4-5 Operation Theatre 1 Depttl. Sister/ANS for emergency casualty etc.
Casualty & Emergency Unit	2-3 Staff Nurse depending on the no.of beds	1 each shift		

### **Out patient Department-base on Actual observation.**

a)Minor Operation Theatre	1 Staff Nurse for every 13 Patients
b)Injection Room	1 Staff Nurse for every 86 patients
c)Surgical	1 Staff Nurse for every 120 patients
d)Medical	1 Staff Nurse for every 140 patients
e)Gynae.	1 Staff Nurse for every 35 patients
f)Children (Paediatric)	1 Staff Nurse for every 85 patients
g)Orthopaedic	1 Staff Nurse for every 120 patients
h)Dental	1 Staff Nurse for every 120 patients
i)ENT	1 Staff Nurse for every 120 patients
j)Eye	1 Staff Nurse for every 86 patients
k)Skin	1 Staff Nurse for every 100 patients

Similarly other out patient Department need to be staffed based on actual observation.

### **JUSTIFICATIONS:**

1. Needs may vary from hospital to hospital depending on the size of hospital and service rendered more staff than anticipated will be required.
2. Special attention is needed for supervision of patient care on the evening and night shift. 30% leave reserve is suggested because nurses get 2 off, 30 Earned Leave and 12Casual leave/24 days off in a year. Also it has been observed that on any working day 25% of the staff on casual leave etc.

A nurse works for 240 days in a year whereas hospital require nursing services for 365 days, for 24 hours, which means to depth work for 1/3 nurse is required that is why 30% leave reserve is needed.

3. Dieticians: In order to prescribe diet on the scientific lines for different types of patients the services of qualified dietician are essential in all the teaching hospital.
4. Pharmacists: As required for Hospital.
5. Class III and IV personnel-as required for hospital.

### SCHEDULE III

#### EQUIPMENT ( for various departments in the College and Hospitals).

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.

#### A. NON CLINICAL DEPARTMENTS

##### 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.

NAME OF THE ARTICLE	QUANTITY REQUIRED FOR 250 (admissions)
Table with marble for stainless steel tops 6'1" x 2' x3'	30
Tables with marble or stainless steel, Half standard size.	7
Drill machine	5
Hand saw	6
Band saw for sectioning body and limbs	1
Stools, preferably metal	150
Brain knife	8
Mortuary cooler with arrangement to keep at least 8 bodies or suitable alternative arrangement.	1/2
Storage tank to hold 10 cadavers, made of concrete with copper lid.	3
Plastic tanks for storing soft and dissected parts.	10
Trolley Table (Steel, Light).	3
Projectors including overhead projectors	2 + 2
X-ray Viewing lobby.	6
Charts, Diagrams, Models, Slides etc.	As required
Dissecting instruments	As required

Meat cutting machine for thin body sections  
(trans and vertical) for gross anatomy sectional study 1

NAME OF THE ARTICLE QUANTITY REQUIRED FOR  
250 (admissions)

**(b) APPARATUS AND INSTRUMENTS FOR HISTOLOGY**

Microscopes, Monocular	150
Dissection microscope	5
Microtomes, rotary	2
Microtomes, Sledge, large cutting	1
Cabinet for slides (1000)	6
Incubators	1
Paraffin embedding bath	1
Hot plates for flattening sections	2
Hot air cover for drying slides (45 <sup>0</sup> C)	1
Balance Analytical capacity 200 grms. and Sensitivity 1/10 mg.	1
Balance Earanger capacity 6 kilos Sensitivity, 1/5 gram	2
Refrigerators	2
Distilled water still menesty type capacity gallon per hour	2
Diamond pencils	4
7 colour marking pencils	2
 <u>Anatomy Museum</u>	
Skeletons articulated	11
ones (Dis-articulated) sets	40
Specimen jars	As required
Racks steel	As required
Embalming machines for cadavers	2

Computer for keeping student records, marks, stores etc,

**(1) PHYSIOLOGY DEPARTMENT**

- (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 (Preferably 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.

Low voltage units, for tapping 2 and 4 volts for stimulation, at each seat-as required.

Note:

1. Time makers can also be made available at each seat along with the low voltage unit.
2. Electronic stimulators, students type can be used instead of low voltage units Nife cells. This will also dispense with the need for induction coil interrupter, Transistor ones are preferred.

NAME OF THE ARTICLE	QUANTITY REQUIRED FOR 250 (admissions)
Electric time makers, 100/sec.	14
Tuning fork, time marker, 100/sec.	12
Electrodes, X-blocks, burette clamps, enamel bowls brass uprights, with coarse and fine adjustments basin, spirit lamps, cooper wire (double cotton covered) Kymograph paper etc.	As required
<b>(b) MAMMALIAN EXPERIMENTS</b>	
Large extension kymographs-Brodie-Starling complete with respiration pump, motor time marker manometer etc.	As required
Operation table	3
Volume recorders	16
Dale's bath for internal organ	60
Isolated Organs, Bath for students complete with liver etc.	60
Animal Weighing Machine, for small and big animals (for each)	1
Mary's Tambour	60
Venus and arterial canula (different sizes) (each)	60
Smoking outfit, with fume cupboard	1
Varnishing outfit, for long and short papers	1
Anaesthesia boxes.	15
Surgical instruments for operative procedures, syringes, pulleys, etc.	As required
<b>(c) HUMAN AND OTHER EXPERIMENTS:</b>	
Microscopes, Oil immersion	70+12

Demonstrations eye piece	6
Double Demonstration eye piece	6
Stage incubator	1
Wastergen's Pipettes for E.S.R. on Stand (with space pipettes)	60

NAME OF THE ARTICLE	QUANTITY REQUIRED FOR 250 (admissions)
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Perimeter Priestly Smith S/LP.984 B & T	14
Haemoglobinometer, Sahil or hellige (with spaces)	60
Haemocytometers	60
Sphygmomanometer	25
Stethoscopes	30
Stethoscopes, Demonstration with Multiple ear pieces	8
Polygraphs	8
Venus Pressure apparatus	6
Spirometer, Ordinary	14
Gas analysis apparatus, Haldane's students type	1
Van Slyko's apparatus manometric	2
Gas analyzer – automatic for CO <sup>2</sup> , O <sup>2</sup> , N <sup>2</sup>	1
Douglas bag, complete	10
Basal metabolism apparatus	1
Erogograph Mosse's	14
Clinical thermometer	50
Compas	20
Thermanaesthesiometer	15
Algometer	15
Apparatus for passive movement	15
Knee hammer	25
Stethograph	25
Bicycle ergometer	10
Olfactometer	4
Ophthalmoscope	6
Schematic eye	8
Phakoscope	4
Perimeters, with charts	10
Colour percetion lantern Edridge Green	3
Maddox rod	3
Newtons colour wheel	1
Tuning forks to test hearing 32-10,000 cps (sets)	8



Dynamometer	4
Otorhinolaryngoscope	10
Steriliser Electric	4
Instrument trolley	3
Stop watches	14
<b>GENERAL</b>	
Physiograph, 3 channels, complete with accessories	4
Physiograph, single channel, with accessories	12
Centrifuge, high speed with technometer etc.	1
Calorimeter, photo-electric	1
pH meter, electric	1
Refrigerator, 9-10c ft.	1
Oxygen Cylinder with trolley	10
Co2 cylinder with trolley	2
Electronic stimulator	1
Water distillation still, with spare heating elements	1
All glass distillation apparatus double stage	1
Voltage stabilizer	3
Stepdown transformers	1
Thermometers, balances, microslides and glassware	As required

## **DEPARTMENT OF BIOCHEMISTRY**

Fume cupboards	2
Boiling Water baths, with lids having 8-12 Holes	10
Autoclave electric	4
Balance open pan	10
Balance semi micro	4
Balance micro	3
Vortex mixers	4
Urinometers	70
Constant temperature water bath	8
Ryles tube	8
Incubator electric with thermostat	8
Hot air oven	8
Magnetic stirrer	4
Pump vacuum	4
Calorimeters	10
Refrigerators	6
Flame Photometer	4
Thermometers 0-250 <sup>0</sup> C	8
Thermometers 0-110 <sup>0</sup> C	8
Cork borer set	3

Stop watch	8
Spirit lamp	70
Chromatographic chamber	4
Water distillation plant (metallic)	6
All glass distillation apparatus	6
Desicators large size	10
Desicators small size	10
Centrifuge clinical for 12 tubes	10
PH meters	6
Homogeniser	6
Microscopes	10
Ultra Violet (U.V.) lamp	1
Tools for small workshop for glass blowing and mending	1 set
Bottle dispensers	25
Samplers (autopipettes) different volume range	25
Electrophoresis apparatus with power supply for Paper PAGE AGAROSE	10
Spectrophotometer	1
Binocular research microscopes	4
Glass ware as required by standard lab. Like pipettes, beakers and conical flasks, etc.	As required.

## **DEPARTMENT OF PATHOLOGY**

### 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.

### (b) Morbid Histology and Morbid Anatomy Sections

Weighing machine for cadavers	1
Rotary Microtomes	4
Freezing Microtome with a stand for carbondioxide cylinder	1
Hot plates	4
Hot air (50 degree Celsius) for special staining @ Paraffin embedding bath (Ordinary)	4
@ Electric vacuum embedding baths @ if Histo Knette is not available.	4
Autoclave electric	4
Distilled water still	1
Water bath 57 degree Celsius	1

Rectangular water bath	1
Centrifuge machine electric Rotofix	1
Colorimeter Photoelectric Klett.	1
Cabinet for 1000 slides	As required
Band saw	1
Autopsy tables	4
Automatic tissue processor, Histokinmettee or similar, complete.	1
Staining racks for staining in bulk	25
Troughs for staining in bulk	25
Coplin jars	35
Water bath electric (Tissue Floatation	4
Balance, Chemical with weights	4
Balance, chemical with weights	
Microscopes, Monocular, with double nose piece, High power objective	
2 eye-pieces, mechanical stage and condensor	110
Oil immersion lens for above	110
Polarising attachments for microscopes	1
Micrometers, ocular	1
Demonstration eye pieces	10
Magnifying lens	10
Blood pressure instrument	6
Micrometer stage	6
Hot plat electric	4
Laboratory Counter nine keys clay Adams	12
Laboratory stirrer	1
Automatic timer	4
Balance for weighing organs	3
Saws, wire for cutting bones	3
Slide boxes for 100 slides for students	300
Drill for boring glass	4
Blow piece with bellows for bending glass	4
Microphotographic apparatus	3
X-ray viewing box	4
Double Demonstration Eye piece	8
Microprojection apparatus	4
Sternal puncture needle Adulet size	4
Sternal puncture needle child size	4
Liver Biopsy needle	4
Box weight analytical	4
Stop watch reading at 1/5 second.	10
Ultraviolet lamp.	1
pH Meter electric.	1
Microscope, Binocular, research.	1
Paper Electrophoresic apparatus vertical	1

Paper electrophoresis apparatus, horizontal	1
Water still electric	1
2 x 2 slide Projector.	6
Overhead projector	3
Museum jars.	As required
Drawing instruments and colours for photo artist	1 set
Surgical instruments.	1 set
Dark room lamp, developing troughs	
Chemicals etc. for photo artist	1 set
Glassware, stains, chemicals reagents etc. for Histological work.	

Clinical Laboratory:

Microscope high power with oil immersion lens moveable stage and condensor for the routine microscope work.	15
Bottles Sp. Gravity 25 cc	2
Micro burretes 5 cc	2
PH meter, with ultra micro blood PH electrodes and Electrical	
Conrifuge One higher power conrifuge for serological works, one for haematological work and one other	3
Incubator	1
Haemacytometers with red and white pipettes	150
Haemoglobinometers, Sahili'type	150
Sedimentation apparatus-one wester green and one wintrobole	2 sets
Syringes disposable one set from 10 cc to 2cc 30 of each	As required
Staining jars for slides	12
Urinometers	9
Albuminometers, esbachs & Aufrech's type	2
Urine Glasset (Conical)	12
Water baths with lids and holes thereon for holding test tubes etc.	3
Centrifuge tubes graduated	44
Crusible with china ltd.	2
Crusible Gooch with adapter	2
Graduated cylinders for various capaciies ranging from 100 cc to 1000 cc.	6 of each.
Pipettes of various sizes, graduated sets	As required
Reagent bottles.	As required

Dropping bottles	As required
Dropping bottles 4 ounce	As required
Reagents	As required
Balances-(1) Sensitive balance	2
(2) Chemical balance with weight boxes	2

### **(5)DEPARTMENT OF MICROBIOLOGY**

Incubators, electrical (large) } 37 degree Celsius }	9
Autoclave	3
Hot air steriliser	5
Serum inspissators	2
Balance, Chemical	2
Lovibond comparators	1
Flasks flat bottom 50 cc.	14
Microscope oil-immersion moveable stage Abbe, condenser etc.	120
Refrigerators	4
Micrometer eye pieces	2
Micrometer stage	2
Centrifuge, electrical high power	3
Refrigerated centrifuge	1
Distilled water plant	2
Distilled water plant all glass	1
Oil immersion lens for students microscope.	120
Dropping bottles for stains (Plastic)	1250
Staining troughs	140
Anaerobic apparatus	8
Electrophoresis complete set	1
B.O.D. incubator	2
Laminar flow table	1
Ultra Violet (U.V.) Lamps	1
Venereal Diseases Research Laboratory (V.D.R.L.) shaker	2
Computer unit	1
Overhead Projector	1
Water bath (Serological ) 37 degree Celsius	1
Water bath (Serological ) 56 degree Celsius	1
Deep freeze (-20 degree Celsius)	1
Elisa Reader, dispenser and washer	1
Binocular microscope	3

## **Culture facilities**

Thermometers (Assorted)	12
Glassware, such as pipettes burettes, beakers, conical flasks, petri dishes of different sizes, reagent bottles etc.	As required
Material for preparation of media	As required
Stains	As required
PH Determination apparatus	2
Reagent bottles with stopper 2000 cc	12
1000 cc	75
500 cc	24
250 cc	24
100 cc	60
50 cc	60
Test tubers hard glass 150 mm x 18 mm	18 Gross
100 mm x 12 mm	36 Gross
75 mm x 12 mm	36 Gross

## **(6) PHARMACOLOGY DEPARTMENT**

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.

### **EXPERIMENTAL PHARMACOLOGY**

Starling's long extension kymographs with time markers.	3
The ideal Respiration Pump (500 cc. CAP.)	3
Brodi's operation tables	3
Incubators	2
Refrigerators	2
Assembly perfusion apparatus for mammalian heart	4
Standard power tables	3
Assembly for mammalian classes	4
Automatic electric recording drums	4
Mechanical Stromhur	2
Centrifuge.	2
Colorimeters	3
Canulas (different types)	48
Cautery machine, electric Blendstone	1
Varnishing Tray with foot lever	2

Four Unit isolated organ bath palmer F.67	1
Analgesiometer	1
Smoking Burners Palmer A-291 and A-265	1
Tracheal Canula Metal Palmer E.76	4
Condons Drop Recorder – Palmer B-75	1
Prof.Inchleys Drop Recorder-Palmer B.78	1
Animal weighing:	
a) Machine for small animals like rats and gunea pig	3
b) Machine for big animals like dogs	3
Dissection instruments and injection syringes (The experimental physiology laboratory can be used if available for the students)	As required
* Kymograph (students) Electric independent unit	250
* Electric Motor ¼ with split pulleys	2
* Shafting steel rod ¾” diameter and 18” long	8
* Standard Shafting and fittings	40
* Pulleys	30
Muffs coupling for joining 2 pieces of the above mentioned shafting steel rods	12
* Not required in case of independent units.	
X-blocks	As required
Hook grip rods	As required
Plain stand	250
Apparatus for isolated rabbit intestine etc.	250
Jacquets graphic chronometer	5
Frog Boards Palmer c. 120	250
Jackson’s Enterograph	5
Hair Aesthesiometer-Palmer W.290	5
Long Extension for paper palmer A-130	2
Animal Balance Tripple Beam	2
Manometers mercury Palmer C-200	6
Metronome Palmer B-5	2
Oncometer Kidney	2
Oncometer Heart	2
Copper Trays (10”x8”x1”)	250
Thermometer (upto 110 degree Celsius)	250
Distillation apparatus	10
Microscopes ordinary	4
Working tables with racks each table 36’ long	15
Chemical Balance-ordinary Apothecary’s	2
Chemical Balance-Sensitive	2
Dissection instrument	As required

Plethysmograph assorted	4
Pneumograph Palmer E	1
Piston Recorder Palmer C.51	1
Tambours mareys Palmer C.5 & C.11	4
Tetanus Set Palmer H2O	1
Stop Watches Jacquets	12
Oxygen Cylinders with Trolleys 20 cu.ft	10
Carbon-di-oxide cylinder	2
Operating lamps-Phillips	4
Animal trolley with 12 cages	4
<b>Miscellaneous:</b>	
Electrodes, Ordinary and non polarisable, insulated wires, time markers, electric signals, Mercury manometer, perfusion apparatus, myograph lever, small pulley's upright stands and chemicals etc.	As required

(c) Pharmacy Laboratory:

Dispensing Balance with metric system weights	70
Pill Tiles	70
Suppository moulds	70
Procelain dishes	25
Crucibles with tongs	25
Pestle and Mortar	70
Iron Spatula	70
Measure glass all sizes	70
Water bath, metal	25

Miscellaneous:

Chemicals, drugs, glass rods, funnels and filter	As required
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(d) SPECIAL CHEMICALS AND PHARMACOLOGICAL EQUIPMENT

Stimulator Electronic Arthus Thomas	1
Balance Semi micro Analytical Pan Mottler	1
Electrocardiograph	1
Spectrophotometer Model Du-Backman (UV Visible range)	1
Skin and Rectal Thermometer Barun	1
Antihistamine Chamber with manometer	1
Flame photometer	1



Stop clock	30
Water bath 4 hole electrically heated	12
Bell jars Assorted	8
Petri dishes assorted	36
Museum drugs specimen jars	30
All glass distillation apparatus cap.2 litres	2
Centrifuge Electric internation R.P.M. 3000	4
Microscope students type with mechanical stage and oil immersion	4
Microscope lamps	4
Magnetic stirrer B.T.L.	1
Autoclave electric	1
Waring Blender M.S.E.	1
Hot air oven size 14"x14"x14"	1
Incubator Electric Size 14"x14"x14"	1
Vacuum & Pressure Pump Cenco	2
Instruments Sterilliser Electric size 12" x 8"x6"	
B.P. Apparatus	20
Distilled water still Manesty Electrical Cap. 2 gallon per hour	2
Stethoscope	20
Multimeter	1
Temperature controlled water bath 37 <sup>0</sup> C	1
Razor Hone	2
Electric Hot Plate	2
Deionizer-two of capacity 20 litres per hour and 6 litres per hour (mixed bed type) connected in series	2
Physiographs with Transducers and other relevant accessories (may substitute kymographs)	100
Vortex mixer	2
Actophotometer	1
Rotarod Assembly	1
Electro-Convulsiometer	1
Cook's Pole Climbing Apparatus	1
Metabolic Cagges (Dieuretic Study)	3-4
Digital pH meter	1
Tablet Disintegration Machine Glass tubing (length of 6 ft.)	1
Glass rods-assorted sizes of 6 ft.	250
Glass mortar & pestles capacity of 500 and 200 cc }	40 each
Cork borer set of 12	1 set
Holder for platinum wireloop	240
Lancet spring (disposable)	240

Lamp for microscope	As required
Magnifying glass with metal handle	120
Metal mincing machine	1
Postmortem instruments sets complete	2 set
Suction pumps	1
Filtering apparatus sietz filter and Millipore filter	1each
Dessicators	2
Vacuum Desicators	1
Apron plastic for postmortem	2
Apron rubber for postmortem	2
* Lyophilizer	1
*Thermal Cycller	1
*U.V. Transilluminator with photography	1
* Colony counter	1
* Cold room + 4 degree Celsius	1
* BACTEC system	1
* Phase contrast Microscope	1
*Vortex mixer	1
* Electronic Balance	1
* Microfuge	1
* Ultra centrifuge	1
* Flourescent Microscope	1

\* Desirable additional equipment in the department of Microbiology.

## **(7) DEPARTMENT OF FORENSIC MEDICINE**

Weighing machine, dial type human	2
Equipment for reporting height	2
Balance chemical	1
Balance, single pair for weighing foetus	1
Weighing machine for Weighing dead bodies	1
Weighing machine for organs	2
Folding metal scale to measure upto 7 ft.	1
Steel tape roll	2
Varnier calipers	1
Autopsy table	2
Styker autopsy saw, with accessories	3
Hacksaw	4
Dissection sets, consisting of cartilage knife bone cutting forceps scissors, straight and curved	
Enterotome Scaples, knives with spare blades, probe metal scale graduated in cms. Etc.	4
Rib. Shears, right and left	4
Viscerotome with attachment for illumination	

(Battery operated)	1
SLR camera with accessories	1
Microscope student type	40
Microscope Binocular, research	6
Stopwatch	2
X'ray view box one in four	7
View Box Two in one	6
B.P. Apparatus	7
Anthropometric set	1
Automatic tissue processing machine	1
Microtome with knife	1
Hot plates	1
L.Modes	16
Leather Strops	2
Parafin Bath Embedding	1
Slide Warming Table	1
Stone Carbarandon	2
Water bath (Tissue Flowing)	1
Distillation plant	1
Brain knife	8
Black Holder	50
Digital Spectrometer	1
Digital PH meter	1
Electric Auto slide projector	1
Glass cutting Pencil	1
Hand Set heat Sealer	1
Spectroscope Lens with adjustable slit	2
Refrigerator	1
Cold Storage for keeping dead bodies	As required
Deep freezer for keeping tissues	As required
Video Camera, Television and Video Cassette Recorder	1 each
Instrument Cabinet, instrument, trolley, filing cabinet with folders, filing cabinets for almirahs etc.	As required

### **(8) DEPARTMENT OF COMMUNITY MEDICINE**

Comparator, Nessler	1
Barometer, Fotin	1
Extraction Apoparatus, fat, complete	1
Filter, Pasteur chamberland, complete set	1
Filter, berke fed	1
Hydrometres, Spirit	3
Hydrometres, milk	3
Hydrometers, wet and dry BULB	1
Incubator, electric	1

Museum jars	As required
Models, charts, diagrams etc.	As required
Balance Analytical 200 gm	3
Balance for weighing food stuff } Capacity 2 Kg.	1
Centrifuge clinical	1
Weighing machine adult	4
Salter's Baby weighing machine	4
Harpender's Callipers (for skinfold thickness)	2
Height measuring stand	1
Aqua guard	1
Refrigerator 9 cu.ft.	1
Ice Lined Refrigerator (I.L.R.)	1
Dissecting microscope	60
Microscope oil immersion	5
T.F., V.C.R.	1 each
Still for distilled water	1
Autoclave	1
Sterilizers, electric	2
Computer	1
Over Head Projector	2

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

## B. CLINICAL 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 equipments for various clinical departments are however the minimum required.

### (1) DEPARTMENT OF MEDICINE

B.P. Apparatus	60
Ophthalmoscope	14
Lumbar puncture needles (disposable)	As required
Haemocytometer	7
Light Microscope	5
Haemoglobinometer	7

Centrifuge Machine	5
Urinometer	5
Plural biopsy needs (disposable)	As required
Liver biopsy needs (disposable)	As required
Kidney Biopsy needs (disposable)	As required
X-ray viewing box	35
Overhead projector	2
Slide Projector	2
Upper GI endoscope	5
Colonoscope	5
Sigmoidoscope	5
Proctoscope	14
Facilities for doing tests for malabsorption	As required
Ultra sound machine	1
Fiberoptic bronchoscope	2
Spirometer	4
Bed side Cardiac monitors	24
Central Cardiac monitor Console	1
Defibrillator	24
Non-invasive B.P.Apparatus	24
Pulse oxymeter	24
Equipment for ardiac pacing	1
Ambu bag	24
Laryngoscope	24
ECG Machine	24
Echocradiography machine	2
Tread Mill test machine	1
Haemodialysis machine	7
Peritoneal dialysis catheters	As required
Arterial blood gas analyzer	2
Na/K analyzer	2
Equipment for measuring diffusion capacity	1
Microprocessor based spectrometer	2
Gamma cameras	1
Glucometer	14
Radiosotope 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	60
Patient examination table	50
Rubber Hammer	50
Reagents for doing Gram's and Ziehl Neilson staining	As required
Computer ( one for each medical unit)	10
Radiopagers	60

Endotracheal tubes	As required
Emergency lights	14

## (2) DEPARTMENT OF PAEDIATRICS

(A) <u>Resuscitation equipments:</u>	
Ambu bag	
-infant	4
-children	4
Face mask	4
Nasal prongs	As required
Nasal catheters	As required
Endotracheal tubes	As required
Suction apparatus	1
Suction catheters	As required
Laryngoscope	
- Infant	1
- Children	1

### (B) Oxygen Delivery System-

Oxygen Cylinder	1
Oxygen regulator	1
Oxygen Humidifiers	1
Oxygen headbox (of each size)	1
Nebulisers	8

### (C) Drug Deliver Equipment/ Catheter/tube-

Intra-venous (I.V.) Drip set	As required
Measured volume	4
Blood transfusion set	4
Intra-venous (I.V.) Canula (Butterfly type)	As required
Intracath	8
Umbilical vein Catheter	8
Feeding tubes	As required
Three way and four way valve	4
Malecot's catheter	8
Cut open canula	As required

### (D) Measurement Equipments

Weighing machine	
- Infant	1
-Child	1

- Neonates	1
Infantometer	1
Measuring tape	As required
Shakir's tape	As required

(E) Work lab and investigations

Student Microscope	2
Nuclear Chamber	4
Hemoglobinometer	4
Test tube	As required
Spirit lamp	4
Stains for – Leishman's staining	As required
- AFB staining	-do-
-Grams staining	-do-
Dextrostix	As required
Multisix	-do-
Uristix	-do-
Micro Erythrocyte Sedimentation Rate (ESR) tubes	As required
Filter paper	As required
Bone marrow needle	4
Lumber Puncture (L.P.) Needles	4
Pleural aspiration needle	4
Vim-Silveram	4
Biopsy needle	
Mengneiz Needle	4
True cut Renal	4
Biopsy needle	
X-ray view box	1

F) Miscellaneous

Radiant Warmer	1
Infant incubator	1
Phototherapy unit	1
Ophthalmoscope	1
Thermometer-Oral	As required
-Rectal	As required

**(3) DEPARTMENT OF TUBERCULOSIS AND CHEST DISEASES**

Peak flow meters	3
Nebulizers	6
Intercostals Drainage Facility	4
Pleural Biopsy Needles	2
Pulse Oximeter	2/1
Fiberoptic Bronchoscope	2/1

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-VENEROLOGY AND LEPROSY**

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) Trichloroacetic acid

#### **5) DEPARTMENT OF PSYCHIATRY**

Electro Convulsive Therapy (E.C.T.) machine preferably with ECG monitoring	5
E.E.G. monitoring	1
ECG 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	6
b) Intelligence Tests	6
c) Personality Tests	6
d) Neuro psychological tests	6

#### **(6) DEPARTMENT OF SURGERY**

##### **(i) O.P.D**

Blood Pressure Apparatus, Stethoscope, diagnostic kit, weighing machine, skinfold caliper, eight scale.	12
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X-ray viewing box 4 in 1	12
Proctoscope & Gabriel Syringe	12
Sigmoidoscope (Rigid)	6
Flexible Endoscope, Upper GI,	6
Colonscope (one set in Main O.T.)	
Diagnostic Crystoscope	1
Ultrasound	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

WARDS

B.P. Apparatus, Stethoscope, diagnostic kit (4 sets in each ward)	48 sets
Weighing machine, height scale, skinfold Caliper (2 each in each ward)	32
Proctoscope (2 in each ward)	32
Monitors for pulse rate, Heart Rate, E.C.G., Invasive and non-invasive pressure (2 in each ward)	32
Incubators/Transport incubators	4
Neonatal Bassinet	4
Ultrasound	1
Arterial blood analyzer	1
Oesophageal/Gastric pH & pressure recorder	1

(iii) OPERATION THEATRE

Operating tables	10
Operating Ceiling light	10
Paedestal 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 O.T.)	8	
Anaesthesia Equipment as per requirement of Anaesthesia department Diagnostic and operative laparoscope	2	
Crystoscope 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	

(iv) MISCELLANEOUS

Photocopier	1
Computer with laser Printer	1
Electronic Typewriters	2
Slide-Projector	4
Overhead projector	12
Video Cassett Recorder/video Cassette Player	2

**(7) DEPARTMENT OF PAEDIATRIC SURGERY**

Resuscitation equipment	
-Ambubags	10
-ET Tubes (all sizes 2.5-8)	14 sets
-Guedell's airway (all sizes)	14 sets
-Laryngoscope	8
Suction Catheters assorted sizes	50 sets
Suction machines	10
Oxygen cylinders Oxygen	20
B.P.Apparatus	20
Slow suction machine	6
Nebulizer	6
Heater	6
I.C.U. equipment incubator	6 sets
Operation Theatre equipment	2
Cystoscope-Paediatrics	4
Rigid Bronchoscope (sets)	4
Oesophageal dilators (sets)	4
Paediatrics Sigmoidoscope	4

## **(8) DEPARTMENT OF ORTHOPAEDICS**

Basic instrumentation set for fracture.	16 sets
Small Fragment and large fragment	6
External Fixator	12
C-Arm (Image Intensifier)	3
Portable X-ray Machine	3
Arthroscope	3
Slide Projector	3
Over-head projector	3
Movie Camera for demonstration of live operations	1
Plaster room equipment (sets) with plastic table.	4
Physiotherapy and occupational therapy equipment sets	1
Operation room equipment (sets)	2

## **(9) DEPARTMENT OF OPHTHALMOLOGY**

Basic instrumentation set for fracture.	12 sets
Small Fragment and large fragment	3
External Fixator	6
C-Arm (Image Intensifier)	2
Portable X-ray Machine	1
Arthroscope	1
Slide Projector	2
Over-head projector.	2
Movie camera for demonstration of live operations.	1
Plaster room equipment (sets) with plastic table.	2
Physiotherapy and occupational therapy equipment sets	1
Operation room equipment (sets)	2

## **(10) DEPARTMENT OF ENT**

(i) 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	2
Siegles speculum	2
Tuning fork (512 Hz)	2
Otoscope	2
Bayonet forces	2
Bulls lamp	2
Head lamp	2
ENT examination chair	2
Jobson Horne probe	2
Sterilizer	2
BP apparatus	2
Stethoscope	2

(ii) MAJOR Operation Theatre.

(a) Tonsillectomy and adenoidectomy set

Biopod	1
Boyle-Davis mouth gag	1
Tonsil holding forceps	1
Tonsil dissector and pillar retractor	1
Tonsil snare	1
Burkit artery forceps	1
Negus artery forceps	1
Tonsil scissors	1
Adenotome	1
Adenoid curette	1
Yankauer oropharyngeal suction tip	1

(b) Set for nasal bone fracture Asch forceps

Walsham forceps	1
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(c) 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

(d) Caldwell luc set

Nasal gouge	1
Mallet	1
Ribbon Retractor	2
Cheek Retractor	2

(e) Antrostomy set

Antral	1
Retrograde gouge	1

Antral rasp	1
(f)*FESS set	
*Rigid nasal endoscope 0	1
*Light source	1
*Sickle knife	1
*Retrograde punch	1
*Blakesley forceps – straight	1
- upturn	1
* Optional for MBBS.	
g) Direct laryngoscopy set	
Anterior commissure	2
Laryngoscope`	2
Negus laryngoscope	2
Lighting system for laryngoscopes	2
Biopsy forceps	2
Foreign body removal forceps	2
Laryngeal suction	2
(h)*Microlaryngoscopy set	
*Kleinsasser’s laryngoscope	2
*Fibrotic lighting system	2
*Suspension system for Laryngoscope	2
*Microlaryngeal cup forceps	2
* Microlaryngeal Scissors	2
i) *Tympanoplasty set	
*Aural speculum	4
*Drum curette	2
*Drum elevator	1
*Microsuction	2
*Graft knife	1
*Graft press	1
(j)*Mastoidectomy set	
* Mallet	2
*Gouge	4
*Endaural retractor/post aural retractor	2
*Electric drill (motor, handpiece and burrs)	2
*Mastoid seeker	2
*Aditus seeker	2
* Malleus head nipper	2
(k) *Stapedctomy set	
*Pick-straight	2

Angled	2
*Perforator	2
*Measuring rod	2
*Prosthesis crimper	2
(l) *Oesophagoscopy set	
Oesophagoscopes	3
Lighting	2
Biopsy forceps	2
Foreign body removal forceps	2
Suction	1
Oesophageal dilators	1 set
(m) * Bronchoscopy set	
*Bronchoscopes	3
*Lighting system	1
* Biopsy forceps	1
* Foreign body removal forceps	1
*Suction	1
* Optional for MBBS	
(n) 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
(iii) MINOR Operation Theatre	
(a) Antral wash set	
Trocar	2
Canula	2
Higginsons syringe	2
(b) 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
Aural Snare	As required
Aural cup forceps	As required

(iv) \*WARDS

* Semi intensive care unit (4 beds)	As required
* Central suction	As required
* Oxygen	As required
* Humidifier	As required
* Optional for MBBS	As required

(V) MISCELLANEOUS EQUIPMENTS

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

SPECIAL EQUIPMENT

(a)\* Temporal bone lab Microscope

(b) \* Drill 1

Mastoid set 1

\*Optional for MBBS

(vi) 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 biohazard (HIV and Au positive) 1 set

**(10) DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY**

(i) General

Speculums and retractors	125
EA + ECC sets	50
PCT forceps	25
Ayers spatula	75
Cytology bottle	75
Microscope	5
MR Syringes	25
Colposcope	5
Cryo/electro cautery apparatus	5
Simple fetal Dropper	5
NST machine	10
Stitch removal sets	25
Dressing sets	25
Ultrasound machine	5
Proctoscope	15
Weighing machine	5
Height scale	5
View box	5
(Blood Pressure apparatus, measuring tapes, gloves, syringes, needles, torch)	
Resuscitation tray	4
(Laryngoscope, ET tube, ambu bag, suction catheter, essential drugs).	
Suction machine	4
Hysterosalphigogram Canula	35

(ii) MAIN Operation Theatre

Abdominal Hysterectomy set (Alteries, scissors, Scalpel, Allis's kelly's clamp, badcock forceps, thumb forceps, Harington & Richardson retractors.)

Vaginal Hysterectomy set 15

(Scalpel, scissors, metal catheter, Sim's, Speculum volsellum, Kelly's clamps, right angle retractor, arteries, Allis, uterine sound, bladder sound).

Tuboplasty set	10
Myomectomy instruments (Myoma screw, Boney's clamp)	5
Diagnostic laparoscopy set	10
Operating laparoscopy set	10
Hystroscopy set	5
Electronic Carbondioxide insuffator/ Insuffator basic unit	10
Resctoscope	5



Hyseromat	5
Operatin microscope/Loupe	4
Electrocautery	5
iii)SPECIAL EQUIPMENT	
Contact microhystroscope	2
Co2 & Nd Yag laser	1
(iv)LABOUR ROOM	
Delivery sets	50
B.P. Apparatus	15
Weighing machine	4
Fetal Doppler	5
Cardiotocogram machine	7
Portable ultrasound	4
High suction machine	5
Resuscitation tray	5
v)SPECIAL EQUIPMENT	
Oxytocin infusion pumps	15
Multichannel monitors	10
Intrauterine Pressure monitoring system	10
*Fetal scalp electrodes Facilities for fetal scalp pH	8
(vi)TEACHING SET	
Doll and Dummy	5
Female Pelvis	5
Gross specimens	
X-ray/US films	5
View box	
VCR	3
Overhead Projector	3
Slide Projector	4
Set of instruments/forceps etc.	
(vii) <u>Miscellaneous.</u>	
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	14
MTP set	25
D&C set	25
Hydrotubation set	10
IUCD insertion/removal set	30
High suction machine	6

Resuscitation tray	1
E.B. set (O.T. lights, OT tables)	10

ix) MATERNITY O.T.

Set for LSCS	16
D&C set	25
MTP set	25
High suction machine	4
Cervical exploration set	10
Uterine packing forceps	10
Abdominal hysterectomy set	5
Diagnostic laparoscopy set	8
Laprocator for tubal ligation	10
Postputum ligation	10
Outlet forceps	15
Low mid cavity forceps/kjielland forceps	8
Vacuum Extractor and suction machine	10
Resuscitation tray	5
Decapitation hook	5
Cranioclast with cephalotribe	5
Oldham Perforator	4
Infusion Pump	6
EB set	6
Operation Theatre table, Operation Theatre lights, Central Oxygen and suction	

(x) SPECIAL EQUIPMENT:

Multichannel monitor with ECG, BP, HR, Pulse oxymetry for high risk pregnant patients (eclampsia, heart diseases etc.)	3 sets
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(xi) WARDS

Blood Pressure Apparatus	14
Weighing machine	1
Height scale	1
Speculum and retractors	140
Glucometer	3
Microscope	3
Suture removal sets	25
Dressing sets	30
Ultrasound	4
Cutdown sets	5
Blood gas analyzer	1
CTG machine	2

Suction machine	8
Resuscitation tray	8
View box	5

(xii) SPECIAL EQUIPMENT

Ultrasound machine with Doppler/Vaginal probe/facilities for Interventional procedure	4
Multichannel Monitor	4
Fetal Monitor for Antepartum Surveillance	5
Computer for data entry	1
(Gloves, Syringes, needles, torch, measuring tape etc.)	

(xiii) Laboratory equipment for following investigations:

H-gram  
 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 alb. Creatinine  
 VDRL, TORCH  
 HIV  
 Serum, BHCG, estriol, MSAFP  
 Semen wash  
 FSH, LH PROCLACTIN, T3, T4,  
 TSH, Testosterone, DHEAS  
 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.

## **(11) DEPARTMENT OF ANAESTHESIOLOGY**

### OPD-Anaesthesia Clinic

Blood Pressure Instrument (Non-invasive)	1
Weighing machine	1
Height scale	1
Ward (Recovery)	

### Resuscitation equipments (CPR)

a) Adult Dummy	1
b) Paediatric dummy	1
c) Artificial breathing	1
Bag with face Masks.	
d) Defibrillator	1
Suction machine	
-Electrical	5
-Manual	5
Oxygen therapy unit	16
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

## **(12) DEPARTMENT OF RADIO-DIAGNOSIS**

Conventional X-ray Unit for routine X-ray and IVV.	6
Mobile X-ray units-	
a) 30 MA	3
b) 60 MA	3
Fluoroscopic unit	2
Both conventional and image intensifying unit for gastro-enterology & gynae work etc.	2
Ultrasonography equipment	2+1 additional unit independently for Obstetrics and Gynaecology.
CT	1
Mammography (preferably)	
MRI (preferably)	

## OPTIONAL DEPARTMENTS

### (13) RADIO-THERAPY

Examination Table	4
ENT examination set up	2
Gynae./pelvic examination tables	2

Treatment planning and mould room including

i) Computerised treatment planning system	2
ii) Simulator	1
iii) Immobilization cast making system	2

#### **Brachytherapy setup**

i) Manual afterloading intercavitary system (sets)	2
ii) Manual afterloading Interstitial/surface mould system (sets)	1

#### **Teletherapy set-up**

Isocentrically mounted	2
Rotational telecobalt	

Unit minimum 80 cm SSD

#### **Radiation Protection and Dosimetry set-up**

i) Secondary standard dosimeter with ionization chamber	2
ii) Survey meter	2
iii) Area/Zone monitors (by BARC)	4

As per the number of staff members in the  
department

#### **Radiotherapy department**

i) Dual Photon energy linear accelerator with electrons and multileaf collimeter	1
ii) Remote controlled intracavitary system.	1
iii) Remote controlled interstitial system	1
iv) CT-Sim 3D treatment planning system	1
v) Isodose plotte (Automatic)	1
vi) Customised shielding	1

Block making system

vii) Customised compensator making system	1
viii) Computerised Dosimetry system	1
ix) Thermoluminescent dosimetry system	1
x) Intra operative Radiotherapy and stereotactic radio-therapy 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.

#### **(14) PHYSICAL MEDICINE and REHABILITATION**

1. Rehabilitation Diagnosis and treatment equipments including exercise set-ups.
2. Remedial and recreational set up.
3. Electrotherapy equipments.
4. Prosthetic-Orthotic Workshop equipments.

#### **B. OTHER DEPARTMENTS**

##### **1) MEDICAL EDUCATION UNIT**

Overhead Projectors	2
Slide Projector	2
Computer with printer:	1
Electronic Typewriter:	1
Video Camera:	1
Video Cassette Recorder:	1
Television	1
Blackboard`	2
Zerox Copier	1
Books and Journals	As required

##### **(2) DEPARTMENT OF AUDIO VISUAL AIDS**

##### **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 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

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.	
Camera 35 mm. Contax 4/D with copying attachment	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 iewlex.	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	
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	
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 fiberoptic 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.