Revised Ordinance Governing Minimum Essential Requirements for Allied Health Sciences for starting fresh Bachelors courses in Allied Health Sciences in RGUHS- 2018

B.Sc RADIO THERAPY TECHNOLOGY

RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES, KARNATAKA

4th 'T' Block, Bangalore 560 041

Annexure to University Notification No. RGU/AUTH/135-SYN/36(1)/2018-19 dated 17.09.2018

Revised Ordinance Governing Minimum Essential Requirements for Allied Health Sciences for starting fresh Bachelors courses in Allied Health Sciences in RGUHS -2018

B.Sc Radio Therapy Technology

Rajiv Gandhi University of Health Sciences, Karnataka offers the following Bachelors courses in Allied Health Sciences Faculty. The duration of the course and the requirement of infrastructure such as hospital facility, minimum intake for the said courses are as under : -

Sl No	Course	Duration	Minimum seats	Maximum seats	Own Hospital/Lab	MOU for Hospital/Lab
01	B.Sc. Anesthesia Technology	3 years 6 months	10	30	Mandatory	Not permitted
02	B.Sc. Operation Theatre Technology	3 years 6 months	10	30	Mandatory	Not permitted
03	B.Sc. Neuroscience Technology	3 years 6 months	10	20	Mandatory	Not permitted
04	B.Sc. Cardiac Care Technology	3 years 6 months	10	20	Mandatory with Cath lab & Cardiac OT	Not permitted
05	B.Sc. Perfusion Technology	3 years 6 months	10	20	Mandatory with Cath lab & Cardiac OT	Not permitted
06	B.Sc. Renal Dialysis Technology	3 years 6 months	10	20	Mandatory	Not permitted
07	B.Sc. Respiratory Care Technology	3 years 6 months	10	20	Mandatory	Not permitted
08	B.Sc. Radiotherapy	3 years 6 months	10	20	Mandatory	Not permitted
09	B.Sc. Medical Imaging Technology	3 years 6 months	10	40	Desirable	Permitted with adequate equipment's and workload
10	B.Sc. Medical Lab Technology	3 years 6 months	10	40	Desirable	Permitted with adequate equipment's and workload

11	B.Sc. Optometry	4 years	20	30	Mandatory	Not permitted
12	Bachelors in Hospital Administration	3 years (6 Semesters)	10	40	Desirable	Permitted
13	Bachelors in Public Health	4 years (8 Semesters)	10	40	Desirable	Permitted
14	Bachelors in Prosthetics & Orthotics	4 years 6 months	10	30	Mandatory	Not permitted

2(a) The general guidelines for all Bachelors courses in Allied Health Science :

1. Increase in take for any course shall be considered only after the 1st batch of students admitted complete the tenure of the course.

2. Certain courses need in house hands on training hence such courses affiliation shall be given to only those Colleges which have their own Hospital with respective department fully functional with necessary medical personnel with adequate clinical workload as specified in respective course ordinance. Colleges which have a tie up or MOU with other Hospitals shall not be considered for starting such courses.

3. Whenever a college wishes to start a Master's program, the college should have already been affiliated to offer Bachelors program from the same subject specialty with at least one batch of students having successfully completed the bachelor's course.

(b) Intake for courses:

1. B.Sc. Imaging Technology & B.Sc. Medical Lab Technology courses shall have a minimum intake of 10 seats and maximum intake of 40 seats and colleges applying for the same shall have their own clinical set up offering respective facilities or an MOU with an 100 bedded Hospital or an NABL accredited Laboratory with adequate workload. Colleges which have own clinical/lab facility can be given 20 seats at the start whereas colleges which have an MOU can be given 10 seats when the college is started.

2. B.Sc. Optometry shall have a minimum intake of 20 seats but colleges applying for the same shall have their own Hospital which has an active ophthalmology department with adequate clinical workload as mentioned in the minimum criteria for B.Sc. optometry Course

3. Courses like B.Sc. Anaesthesia Technology, B.Sc. Operation Theatre Technology, B.Sc. Cardiac Care Technology, B.Sc. Perfusion Technology, B.Sc. Renal Dialysis Technology, B.Sc. Neuroscience Technology, B.Sc. Respiratory Care Technology, B.Sc. Radiotherapy and B.Sc. Prosthetics & Orthoticsshall have their own clinical set up with respective departments functional with adequate work load as mentioned in minimum criteria for starting such courses and the seat intake shall be 10 seats when the course is being started for the first time in a college.

4. Courses like Bachelors in Hospital Administration and Bachelors in Public Health shall have an intake of 30 seats provided the college has its own hospital / NGO which provide adequate hands on training for the students admitted to the course as mentioned in

minimum criteria for respective course.Colleges which have a tie up or MOU with a Hospital / NGO shall have be granted only 20 seats when an application for fresh affiliation is made.

5. The colleges which have already been sanctioned affiliation and do not have the necessary infrastructure like hospital, clinical facility shall be given a minimum time frame to create the same and an affidavit to this effect should be taken from the college management where in it is also made clear that if the college does not adhere to the conditions and fails in providing the necessary infrastructurelike Hospital and clinical facility, it shall forfeit the right to be affiliated with RGUHS.

It is seen that some colleges have been offering Masters program but not Bachelors program even though such program is available in the list of courses offered in RGUHS, if this trend continues there may be a day when colleges will seek admission only for the courses which are in demand hence such colleges which are affiliated to RGUHS are offering Masters courses in AHS subjects but have not started Bachelors course shall be asked to start the same from the academic year 2019-20 failing which necessary action for disaffiliation should be initiated.

(c) Minimum eligibility requirements for Candidates

A candidate seeking admission to the Bachelor of Science Degree Courses in the Allied Health Sciences course from Sl.No. 1 to 14 shall have studied English as one of the principal subject during the tenure of the course and for those seeking admission to the Bachelor of Science Degree Courses in the Allied Health Sciences courses .....mentioned above except for B.Sc. Imaging Technology and B.Sc. Radiotherapy Technology shall have passed:

1. Two year Pre-University examination or equivalent as recognized by Rajiv Gandhi University of Health Sciences with, Physics, Chemistry and Biology as principle subjects of study.

OR

2. Pre-Degree course from a recognized University considered as equivalent by RGUHS, (Two years after ten years of schooling) with Physics, Chemistry and Biology as principal subjects of study.

OR

3. Any equivalent examination recognized by the Rajiv Gandhi University of Health Sciences, Bangalore for the above purpose with Physics, Chemistry and Biology as principal subjects of study.

OR

4. The vocational higher secondary education course conducted by Vocational Higher Secondary Education of any other State Government with five subjects including Physics, Chemistry, Biology and English in addition to vocational subjects conducted is considered equivalent to plus TWO examinations of Government of Karnataka Pre University Course.

OR

5. Candidates with two years diploma from a recognized Government Board in a subject for which the candidate desires to enroll, in the respective Allied Health Sciences course mentioned in Sl. No. 1 to 14 shall have passed Diploma [10+2] with Physics, Chemistry and Biology, as principal subjects or candidates with 3 years diploma from a recognized Government Board in a subject for which the candidate desires to enroll, in the respective Allied Health Sciences course mentioned in Sl. No. 1 to 14 should have studied Physics, Biology and Chemistry as principal subjects during the tenure of the course.

6. Lateral entry to second year for allied health science courses for candidates who have passed diploma program from the Government Boards and recognized by RGUHS, fulfilling the conditions specified above under sl. No. 5 and these students are eligible to take admission on lateral entry system only in the same subject studied at diploma level from the academic year 2008-09 vide RGUHS Notification no. AUTH/AHS/317/2008-09 dated 01.08.2008.

7. In case of admission to B.Sc. Imaging Technology or B.Sc. Radiotherapy Technology the candidate should have passed Pre-University or equivalent examination with Physics, Chemistry, Biology and Mathematics, as principal subjects of study.

Note

a. The Candidate shall have passed individually in each of the principal subjects

b. Candidates who have completed diploma or vocational course through correspondence shall not be eligible for any of the courses mentioned above

3. Optimum Duration of the course :

Duration shall be for a period of three and half (3 ½) years including six (6) months of internship

4. INFRASTRUCTURE:

1. Three Labs each with an area of 800 Sq. ft

2. Three Class rooms each with a capacity for 10 students. **(each not less than 600 sq. ft. each)**
3. Lab facilities for Basic Medical Sciences as per the criteria mentioned in Basic Medical Sciences requirements.
4. Lab equipments for Basic Medical Sciences as per the criteria mentioned in Basic Medical Sciences requirements.
5. a. Board (Black or White) - Mandatory
   b. Multimedia / Computer and its accessories / LCD Projector

5. MINIMUM REQUIREMENTS FOR TEACHING BASIC MEDICAL SCIENCES SUBJECTS:

ANATOMY:

Specimens, Models, Charts, Dissected body parts, slides as per syllabus.

PHYSIOLOGY:

One Microscope per student, One Stethoscope per student, demonstration equipment for complete blood count, Blood grouping and matching kits, B.P apparatus one per student, Staining apparatus with few common stains, Spirometer for demonstration purpose.

BIOCHEMISTRY:

Digital balance, titration apparatus, laboratory glassware, calorimeter, spectrophotometer, pH meter, basic kits for determining urine sugars / ketone bodies, proteins etc.

MICROBIOLOGY:

Microscope, Hot air oven, Autoclave, Incubator ,Electronic analytical balance ,Water bath ,Vortex mixer ,Laminar air flow chamber ,Glass wares (beaker, conical flask, pipettes, test tubes, petridish) ,Refrigerator ,Felix & drayer's tube ,Bunsen burner ,Culture media ,Centrifuge ,Inoculation loop ,Latex agglutination tiles ,Vdrl rotator ,Mcintosh filder anaerobic jar , Micro titre plate ,Inspisator

PATHOLOGY:

Haemocytometer – rbc & wbc count ,Haemoglobinometer ,Wintrobes tube, Westergren tube & stand ,Lancet ,Capilary tube ,Whatsman no.1 filter paper, Centrifuge, Microscope, Glass slide, Test tubes, Blood group reagent, Dpx, Coplin jar, H & e stain ,Leishman stain, brilliant cresyl blue stain, pasteur pipette, special stains, diluting fluid - rbc, wbc, plt, pap stain, Coomb's reagent, Phosphate buffer, Distilled water.

1. Teaching Staff:

1. **Principal / Professor & HOD,**
   a. MD - Radiation Oncologyor with DM(Radiation Oncology)/MD Nuclear Medicine 5 yrs. Teaching Experience in a Medical College
   b. M.Sc. Radiotherapy / Radiation Physics/Nuclear Medicine (2 years course) with 10 years teaching experience in a College

2. Associate Professor:

a. M.Sc. Medical (Anatomy, Physiology, Biochemistry, Microbiology,pathology,Pharmocology) with 6 years teaching experience
M.Sc. MLT (2 years course) Micorbiology/Biochemistry/Hematology with 7 years teaching experience
b. MD(Microbiology/Biochemistry/Pathology/Physiology/Pharmocology)
c. MS(Anatomy)
As per MCI/NMC norms
d. M.Sc.Radiotherapy / Radiation Physics/Nuclear MedicinePhd - minimum 3 year
e. M.Sc. Radiotherapy / Radiation Physics / Nuclear Medicine (2 years course) - minimum 07 years teaching experience

3. Assistant Professor:

a. M.Sc. Medical (03 years course) (Anatomy, Physiology, Biochemistry, Microbiology,Pathology,Pharmocology) with 3 years teaching experience
M.Sc. MLT (2 years course) Micorbiology/Biochemistry/Hematology with 4 years teaching experience
b. M.Sc. Radiotherapy / Radiation Physics/Nuclear Medicine Phd.
c. M.Sc. Radiotherapy/Nuclear Medicine (02 years course teaching experience
d. M.Sc. Radiation Physics-03 years course teaching experience
e. M. D.(Biochemistry, Microbiology, Pathology/Pharmocology) - As per MCI/NMC norms
f. MS(Anatomy)- As per MCI/NMC norms

4. Lecturer:

a. M.Sc. Medical (03 years course) (Anatomy, Physiology, Biochemistry, Microbiology,Pathology,Pharmocology)
M.Sc. MLT (2 years course) Micorbiology/Biochemistry/Hematology
b. M.Sc. Radiotherapy/ Radiation Physics/Nuclear Medicine(02 years course)

5. Tutor:

B.Sc. Radiation Therapy

Minimum no. of Faculty in each Department:

- **Anatomy :** ONE
- **Physiology**: ONE
- **Biochemistry:** ONE
- **Microbiology:** ONE
- **Pathology:** ONE
- **Pharmocology:** ONE

For PG teaching, faculty with relevant specializations is mandatory.

- M.Sc. Radiotherapy: Two
- M.Sc. Radiation Physics: ONE
- **B.Sc.** Radiotherapy **Tutors:** At least ONE in each dept.
- **Lab Instructors :** At least ONE in each departmental practical laboratory
- Qualified Technician with 3 years experience.: ONE

ONLY for Anatomy & Physiology subjects visiting faculty services can be availed subject to the qualification criteria for respective subjects

Part time teachers services can be availed for subsidiary subjects

Note: **Mentioned in the syllabus be made available mandatorily**

6. **Minimum number of faculty:** As mentioned above

7. **Library:** Standard reference books and journals should be made available in each of the subject speciality.

   Note: **Books mentioned in the syllabus be made available mandatorily**

8. **A Hospital /Laboratory**

   The common infrastructure at the Department of **Radiotherapy** refers to technical structures and support, therapy devices, facilities and rooms that are shared by a number of co-workers from different or within the same fields. The ambition is to sustain and to contribute to the improvement of the possibilities for conductance of high-quality research and education.

Functioning Equipment:

. List of equipment required in Radiotherapy Department :

Linear Accelerator Room	1	42 ft x 45 ft
Brachytherapy Room	1	30ft x 29 ft
Mould Room	1	12 ft x 12 ft
Minor OT Theatre	1	15ft x 15 ft
CT Simulation Room	1	40 ft x 35 ft
Treatment Planning System Room	1	25ft x 10 ft

- Linear Accelerator with photon energies (MV) and electron energies (MeV).
- Remote Afterloading Brachytherapy Unit.
- CT/ MRI facility for simulation procedures.

- Minor OT Theatre with procedural equipments.
- Mould room with immobilization and patient positioning equipments.
- Treatment Planning System room with Treatment Planning softwares and Patient contouring stations.

9. Clinical work load

Workload can be measured by the number of courses of treatment or exposures. The number of course of treatment can involve a variable number of attendances, fraction and exposures. Each fraction within a course of treatment can involve between 1 and 6 exposure.

Facilities	10 students
The students should be exposed to all types cases.	
Mould Room	Minimum 5 patient/ Day- one batch 3 students
Simulation	Minimum 5 patient/ Day- one batch 3 students
LINAC	Minimum 16 patient/ Day- one batch 2 students

A Logbook to be maintained with details of all the postings for each of the student.

10.Minimum faculty requirements for seats sanctioned

Subject	For 10 seats intake	For 15 Seats intake	For 20 seats intake
DM /MD (Radiation Oncology)/M.Sc. Radiotherapy, Radiation Physics, Nuclear Medicine for - HOD	01	01	01
Associate Prof M.Sc. Radiotherapy, Radiation Physics, Nuclear Medicine	-	01	01
Lecturer / Assistant Prof / Associate Prof - Anatomy	01	01	01
Lecturer/Assistant Prof / Associate Prof - Physiology	01	01	01
Lecturer/Assistant Prof / Associate Prof – Biochemistry	01	01	01
Lecturer/Assistant Prof / Associate Prof – Microbiology	01	01	01
Lecturer/Assistant Prof / Associate Prof – Pathology	01	01	01
Tutor (B.Sc. Radiotherapy)	01	01	02
Clinical Workload & Infrastructure			
Mould Room	05 patients/day	10 patients/day	15 patients/day
Simulation	05 patients/day	10 patients/day	15 patients/day
LINAC	16 Patients/day	24 patients/day	30 patients/day