REGULATIONS GOVERNING CERTIFICATE COURSE IN APPLICATION OF RADIOISOTOPES IN BIOLOGICAL SCIENCES

(Framed under section 44 (1)(c) of KSU Act 2000)

Preamble:

Mangalore University is one of the young and academically vibrant universities of India. University has collaborative research programs with different units of Department of Atomic Energy (DAE) such as Bhabha Atomic Research Centre (BARC), Board of Radiation and Isotope Technology (BRIT), Indira Gandhi Centre for Atomic Research (IGCAR), Centre for Advanced Technology (CAT), and Nuclear Power Corporation of India Limited (NPCIL). Recently, University has established a **Centre for Application of Radioisotopes and Radiation Technology (CARRT)** in collaboration with BRIT and BRNS. This is a Central Facility; apart from various science departments of the University other universities and R&D institutes can also use the Centre for R & D purposes. Short term training programs on handling of radiation, radioisotopes, safety aspects, application of radioisotopes in different fields; certificate courses, post graduate diploma courses on application of radiation and radioisotopes in different areas and disciplines and postgraduate courses also will be started in phases.

In view of the global and national need of trained manpower in the field of radioisotope application and radiation technology, there is an imminent need to offer courses in this field. This certificate course is a first step in implementing many short term and diploma courses. The proposed curriculum for Certificate Course in **"Application of Radioisotopes in Biological Sciences"** encompasses radioisotope handling, measurement of radioactivity, biological applications of radioisotopes. The course will be for duration of three months and experts from BARC, BRIT and Mangalore University will be participating as resource persons in this course.

1. Title and commencement:

i) These regulations shall be called "Regulations governing Certificate Course in Application of Radioisotopes in Biological Sciences

ii) These regulations shall come into effect from the date of assent of the Chancellor.

2. Eligibility for Admission: A graduate from a recognised/deemed university in any field of life sciences/chemistry/physics/natural sciences with a minimum of 45% marks or equivalent grade points in the credit system. The minimum marks for eligibility for SC/ST students shall be 40%.

3. Duration: The duration of the program shall extend over a continuous period of 3 months (Three months) including examinations.

4. **Medium of Instruction:** The medium of instruction and examination shall be in English.

5. **Attendance:** 75% attendance both in theory and practical classes will be compulsory.

6. **Hours of Instruction and scheme of Examination:** The details of hour of instruction and the scheme of examination shall be as stated as follows.

Paper	Instruction	Duration of Examination (Hours)	Marks for Final Exam	Internal Assessment	Total Marks	Credits
Paper I	4 Hrs/Week	3 Hrs	70	30	100	4
Paper II	4 Hrs/Week	3 Hrs	70	30	100	4
Paper III	4 Hrs/Week	3 Hrs	70	30	100	4
Practical I	4 Hrs/week	3 Hrs	35	15	50	2
Practical II	4 Hrs/Week	3 Hrs	35	15	50	2
Practical III	4 Hrs/Week	3 Hrs	35	15	50	2
Seminar I					25	1
Seminar II					25	1
				Total Marks	500	20

7. **Subjects of study:**

Introduction to radioactivity, Methods of detection & counting, Safe handling of radioactivity, Radioimmunoassay (RIA) & Immunoradiometricassay (IRMA), Hybridoma techniques, Quantification, Optimisation & Kit Selection, RIA/IRMA, Data Processing & Regulations, Statistics.

8.Internal Assessment :

8.1 The Internal assessment marks for theory papers shall be based on one theory test (20 marks) and one objective test (10 marks). For practical the assessment shall be continuous.

8.2 Marks scored in the internal assessment shall be indicated separately in the Marks card.

8.3 A Internal assessment marks of the failed candidate shall be retained and carried forward to his/her subsequent examinations.

8.4 The record of internal assessment shall be maintained in the department and Registrar (Evaluation) shall have access to such records.

9 Examination:

9.1 Registration for Examination: A Candidate shall register for the University Examination at the stipulated date laid down by the University.

9.2 Paper Setting and Evaluation: The examination paper shall be set by teaching faculty and answer scripts shall be evaluated by one internal examiner.

10 Minimum percentage of marks for passing the Examination: No candidate shall be declared to have passed each examination unless he/she obtains not less than 40% marks each in written and practical examination and 50% marks in the aggregate in the written examination and internal assessment put together in each paper. A candidate who fails in any paper shall take the paper(s) at any subsequent examination. The candidate may avail not more than three attempts including the first one. There shall be no minimum marks for a pass in internal assessment.

11 Percentage of Marks for declaring class:

11.1 Class and distinction shall be declared at the end of each examination on the following basis.

Distinction	75% and above
First Class	70% and above but less than 75%
Pass and Second Class	50% and above but less than 70%

12 Rejection/Reappearance and improvement :

12.1 A candidate may be permitted to reject the results of the whole examination, within 30 days after the publication his/her result or 10 days from the date of dispatch of his/her Marks cards by the Registrar (E), to the department whichever is later and reappear for improvement. Rejection of the result paper wise/subject wise shall not be permitted.

12.2 The rejection shall be exercised only once and the rejection once exercised cannot be revoked.

12.3 Application for rejection along with the payment of prescribed fee be submitted through the department together with the original statement of marks.

12.4 A candidate who rejects the result is eligible for only class not for ranking.

12.5 The internal assessment marks secured by the candidate during the course period who appears for improvement shall be carried forward.

13 Penalty for False and incorrect Statement:

Where the candidate or his/her parent or guardian furnishes false or incorrect statement in an application or where the affidavit filled by him/her or the certificates furnished by him/her contains false or incorrect statement such as application shall be rejected and his/her admission shall stand cancelled.

(Assented by His Excellency, the Chancellor on 13.08.2013 as communicated in Government letter No.ED 10 UDS 2013 date 26.08.2013 and notified under Notification No.MU/ ACC/ CR.57/2007-08/A2, dated 16.09.2013)

Sd/-
REGISTRAR.