

1.3.2 - Number of courses that include experiential learning through project work/field work/internship during the year.

Minutes of the Boards of studies / Academic Council Meeting with approval of the course –

M.Sc Physics

**Karnatak University, Dharwad
Department of Physics and Electronics**

Preamble:

The Department of Physics, one of the oldest and major Departments at Karnatak University, was founded in the year 1953. Eminent spectroscopist Dr. N.R.Tawade was the first Head of the Department and its faculty included very distinguished scientists. The Department, at present, has 11 faculty members, 03 teaching assistants and 56 research scholars. The Department has had a tradition of strong teaching program and quality research output. As a result, it has been nationally recognized for excellence in teaching and research programs with major grants from UGC under Special Assistance Program (SAP) and DST under FIST program and for the individual faculty members from UGC, DST, BRNS and IUAC. Under the UGC-SAP Program, the Department is recognized as Centre of Advanced Study at Level-II with a grant of Rs 2.63 cr and the Department is associated with UGC's the Center with Potential for Excellence in a Particular Area(CPEPA) involving other Science Departments as well. While most of the passed-out students have become school and college teachers, allied job holders, a small but significant number of the students have excelled as scientists (some are Bhatnagar awardees), university faculty and vice-chancellors, and likewise some are successful in foreign countries.

The Course Details:

The Department offers M.Sc. and M.Phil Courses and Ph.D. Program in Physics. The M.Sc. Program is a two-year Course, spread over four semesters, each of which is sixteen weeks duration. The Course comprises compulsory and specialization Courses and Open Elective Courses. A student admitted to the Course leading to a M. Sc. Degree should necessarily study the compulsory and specialization Courses in Physics, offered in the Department as well as the Open Elective Courses (OEC), in different subject(s), offered by other Departments. The Student has the freedom to choose two Courses during the study under prescribed OECs.

There are 6 compulsory and 8 specialization theory Courses, 7 practical Courses and one Project. Of these, 10 theory Courses and 4 practical Courses are common to all the students studying in I- and II-Semesters. The remaining 4 theory Courses, 3 practical Courses and the Project are specialization-based Courses offered in the III- and IV- semesters. Specialization Courses are offered in the following subjects:

- 1) Atomic & Molecular Physics
- 2) Condensed Matter Physics
- 3) Electronics
- 4) Nuclear & Particle Physics.

There are two Elective Courses (under OEC), one in II-Semester and one in III-Semester, offered by the Department of Physics for the students of other science Departments.

Credits:

A student shall register for 24 credits in I-, II- and III-semester and 26 in IV-Semester and is required to successfully complete 98 credits for the M.Sc. Course in Physics. The credits for each of the theory (compulsory, specialization and elective) courses, and for each of the practical (compulsory and specialization) courses shall be 4. For the semesters I to IV, there shall be 40 credits for the compulsory theory courses and in each of the III- and IV- semesters, there shall be 8 credits for the specialization theory courses. There shall be 4 credits each for the open elective courses(OEC). In the I-, II- and III- semesters, there are two practical courses, each of which carries 4 credits and in the IV semester, however, while one practical course 4 credits, the project carries 6 credits (see Table 1). Students are allotted to specializations in the third semester on the basis of their order of preference

The student shall opt for an elective course (OEC) at the time of admission.

1. M.Sc. Degree Course:

1.1 Duration of the Course: The M.Sc. Course is of two years duration spread over four semesters each of sixteen weeks duration.

1.2 Eligibility for Admission: B.Sc. graduates of this University or of any other University recognized as equivalent thereto with Physics and Mathematics as optional subjects are eligible. The candidate should have obtained at least 45% of marks in optional subjects as well as in aggregate. Relaxation in respect of SC/ST/Cat-I etc. will be applicable as per prevailing rules of the University.

1.3 Intake : Total intake to the M.Sc Course in Physics under the jurisdiction of Karnatak University is 259. The intake to the Course at the Department of Physics at Karnatak University, Dharwad, is 69. The Course is also offered at Karnatak Science College (intake, 35), JSS College, Dharwad(intake 60 (30 under KUD quota + 30 under Management quota), Sri Siddeshwar First Grade Govt College, Naragund (15 all under KUD quota), JT Science College, Gadag(intake 30 (15 under KUD quota + 15 under Management quota) and KSS College, Gadag (intake 50 (25 under KUD quota + 25 under Management quota) The Karnatak University reserves the right to vary intake as deemed necessary including admission rules, fee structures and roster as per notification from time to time.

2. **Attendance:** Every student must have at least 75% attendance in each of the Courses (theory and practicals) in each of the semesters. Shortage of attendance will be dealt with as per the University rules from time to time.

3. **Medium of Instruction:** The medium of Instruction shall be English.

4. **Scheme of Instructions :**

4.1 In each semester there will be FOUR Theory Courses and TWO Practical Courses.

4.2 Each theory course is of FOUR hours of lectures per week. Each practical course is of FOUR contact hours per week. These include seminars, tutorials and discussion classes. Internal Assessment (IA) shall be conducted during the semesters. Each theory and practical Course shall carry 100 marks, out of which 25 marks are for internal assessment (IA). The various components of IA for 25 marks are as follows: Attendance-3 marks, written test(s)/seminars/assignments (minimum two)-22 marks. Total maximum marks are 600 per I-, II- and III-semester and 650 marks in IV-Semester.

4.3 **Project:** Every student has to compulsorily take a Project course. This is in the IV-semester. The Project may be a theoretical or an experimental work in the respective specialization subject. More than one student may be required to work on an assigned project. Project course carries 150 marks, of which 25 is for IA, 50 marks for viva-voce examination with presentation of the work and 75 marks for the evaluation of dissertation, at the semester-end examination.

5. **Scheme of Evaluation:**

Evaluation of each of the courses will have two components: the first being internal assessment (IA) and the second being the semester-end examinations.

For theory and practical courses having a credit award of 4, the total maximum marks shall be 100. Out of the total of 100, 25 marks shall be earmarked for the IA and the remaining 75 marks for the semester-end examination.

For the project, carrying 6 credits, the total maximum marks shall be 150. Out of 150, 25 marks shall be earmarked for the IA and the remaining 125 marks is shared between viva-voce carrying 50 marks and evaluation of dissertation carrying 75 marks for the semester-end examination.

5.1 Examination:

Examinations will be conducted at the end of the each semester as per the University regulations governing PG Courses.

The semester-end examination in each theory course will have a question paper for 3 hours duration and will carry a maximum of 75 marks. The IA tests will be conducted during the semester. The mode of conducting the tests may involve a common time-table for all the courses in that semester.

Each practical course will have an examination, generally, of four hours duration and will carry a maximum of 75 marks in the semester-end exam. A two-hour duration IA for 25 marks is conducted at the end of the semester.

Project: A project dissertation should be submitted by each student at the end of IV-semester to become eligible for the examination. The evaluation of the project dissertation carries a maximum of 75 marks. The viva-voce examination carries a maximum of 50 marks and will be in the form of presentation by the student. During this examination, one external examiner and one project supervisor or along with internal examiner will be involved in the evaluation. IA for 25 maximum marks is conducted during the mid semester, either through a test or a seminar. In the case of seminar, an internal examiner along with the project supervisor will be involved in the evaluation.

5.2 Question Paper Pattern: Each theory Course paper is organized into I, II, III and IV Units. A question paper comprises two questions as internal choice from each of these four Units, giving a total of eight questions and, a ninth question has four sub-questions drawn from each of the Units with an option to answer any three. The four sub questions may be in the form of a problem / short answer question / question for explanation of a concept. Each question carries 15 marks, giving a total of 75 marks for the question paper. Below is the summary of the Scheme:

5.3 Distribution of Marks :

a) Theory Course:	
Semester-end Examination	Max Marks 75
Internal assessment(IA)	25
Total:	<u>100</u>
b) Practical Course:	
Semester-end Examination	Max Marks 75 (inclusive of 5 marks for journal and 10 marks for viva-voce)
Internal assessment (IA)	25
Total:	<u>100</u>
c) Project:	
Semester-end Examination (Project Dissertation – 75; Viva-voce – 50)	125
Internal assessment (IA)	25
Total:	<u>150</u>

6. Maximum Period for the completion of the M.Sc. Degree programme :

There shall be carry-over from first to fourth semester. The maximum number of years required by a student to complete the degree is as specified by the University from time to time.

7. Rules and Award of Degree :

7.1 The Minimum for a pass in each course shall be 40% (semester-end exam and IA put together). Further, the candidate shall obtain at least 40% of the marks in the semester-end exam and 50% in aggregate when all Courses of four semesters are put together. There shall be no separate minimum for IA.

7.2 **Award of Degree:** Students after successfully completing all the Courses prescribed for all the four semesters by scoring minimum of 50% in aggregate will become eligible for the award of M.Sc. Degree in Physics.

7.3 Results: Marks and Grading

Results of candidates are declared based on the marks obtained and grades earned and classes are awarded as per the University rules.

8. Co-Curricular and Extra Curricular activities :

8.1 Co-curricular Activities :

Seminars, tutorials, problem solving sessions, discussion classes will be conducted periodically. However, these activities do not carry any marks or credits.

8.2 Computer Laboratory facilities:

Students are provided with computer facilities for their curricular as well as for their co-curricular studies and internet browsing.

8.3 Library Facilities:

The Department has a library with research journals and text/reference books. Students are allowed to borrow on regular basis.

8.4 Students Counseling :

Students will be assigned to teachers for counseling regarding their academic and other matters.

8.5 Epsilon club :

An association called ϵ (epsilon) club exists in the Department for the all round development of the students. Lectures by students, staff and special lectures by eminent scientists are arranged under the auspices of this club.

KARNATAK UNIVERSITY, DHARWAD
Post Graduate Department of Studies in Mathematics
SYLLABUS & REGULATIONS
For
M.A. / M.Sc. (MATHEMATICS)
(Choice Based Credit System)
w.e.f. 2008-2009
Regulations and Scheme of Examination
for
M.A. / M.Sc. (Mathematics) Degree Course under
Choice Based Credit System (CBCS)

1.0. Duration of the Course:

The M.A. / M.Sc. Degree Course is of two years duration, spread over four semesters each of four months duration.

1.2 (A) Eligibility for Admission:

B.A. / B.Sc. Graduates of Karnatak University or of any other University recognized as equivalent there to with Mathematics as optional subject. The candidate should have obtained at least 45% of marks in optional subjects as well as in aggregate. Relaxation in respect of SC / ST / Cat-I etc. will be followed as per prevailing rules of the University.

(B) Admission:

- (i) **Intake:** 70 students (but may vary from time to time with the permission from the University) for the first semester. This includes admission under enhanced fee structure. Other rules for admission are as per University notification from time to time.
- (ii) **Admission to other Semesters:** Students are allowed to take admissions to successive semesters under carry over benefit (COB) facility.

2. Attendance:

Every student must have at least 75% attendance in each of the courses (Theory & Practical) in each semester. Shortage of attendance will be dealt with as per the University rules from time to time.

3. Medium of Instruction:

The medium of instruction shall be English.

4. Scheme of Instructions:

In the First three Semesters (I, II, III) there will be 3 Core Theory Papers of 4 credits each. In addition, in the I Semester there will be 3 Core Theory Papers of 2 credits each. In each of the II and III Semesters there will be 2 Core Theory Papers of 2 credits each.

In IV Semester there will be 4 Core Theory Papers of 4 credits each, 3 Core Theory Papers of 2 credits each.

In each of II, III, IV Semesters there will be 1 Core Practical Paper of 2 Credits.

In each of I, II, III Semesters there will be two Elective Theory Papers of 4 and 2 Credits.

These elective papers have to be chosen by the students of other departments.

Our M.A. / M.Sc. students have to take electives of 6 Credits in each of I, II, III Semesters offered by other departments.

5. Scheme of Evaluation:

Examination will be conducted at the end of each semester.

Each Core theory paper of credits 4 and 2 will have an examination of 3 and 2 hours duration respectively and carrying maximum of 75 marks and 35 marks respectively. Each Core practical will have examination of 2 hours duration.

For each theory / practical of 4 and 2 credits, there will be an internal assessment test carrying 25 and 15 marks respectively.

Each elective paper of 4 credits will have examination of 3 hours duration carrying 75 marks and will have internal assessment test for 25 marks.

Each elective paper of 2 credits will have examination of 2 hours carrying 35 marks and will have Internal Assessment Test for 15 marks.

6. Maximum period for the completion of the Degree Programme:

There shall be fully carry over system from first through fourth semesters. Maximum number of years for a student to complete the degree is as specified by the University from time to time.

8. The General Regulations Governing Post-Graduate Programmes under CBCS and Regulations Governing Post-Graduate Programmes in the Faculty of Science and Technology under CBCS of Karnatak University, Dharwad are applicable to this course for all the matters not covered under this.

Regulations Governing Under – Graduate Programmes in the Faculty of Science & Technology under Choice Based Credit System(As per

Section 44(1)(c) of K.S.U. Act 2000)

1. TITLE AND COMMENCEMENT

- a. These regulations shall be called “Regulations governing the acts of the Choice Based Credit System (CBCS) for under graduate programmes (General)” of Karnatak University, Dharwad.
- b. These regulations shall be as per section 44(1)(c) of K.S.U. Act 2000 for introduction of courses.
- c. As per Section 44(3) of K.S.U. Act 2000, these Regulations shall come into effect from the academic year: 2020-21 after H.E. the Chancellor’s assent.

The sections with titles of Regulations for Under Graduate Programmes (General)

2. UNDER GRADUATE PROGRAMME (U. G. Degrees)

Bachelor of Computers Applications (**B.C.A.**): 06 semesters

3. PROGRAMME STRUCTURE

: BCA programme shall have three components, Viz., Discipline Specific Courses (DSC), Elective Courses (EC), and Ability Enhancement Courses (AEC) as given in Annexures-1 (Course means subject/paper).

- a. DSC: DSC are compulsory core courses of the programme.
- b. EC: Elective courses may have three categories’ viz., Discipline Specific Elective (DSE) Course, Dissertation/Project and Generic Elective (GE) Course.
 - i. DSE: Elective courses offered under the main discipline/subject of study are referred to as Discipline Specific Elective (DSE).
 - ii. Dissertation/Project: An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate study such a course on his/her own with an advisory support by a teacher/faculty member is called Dissertation/project.
- c. Ability Enhancement Courses (AEC): The Ability Enhancement Courses (AEC) may be of two kinds: i) Ability Enhancement Compulsory Courses (AECC) and ii) Skill Enhancement Courses (SEC).
 - i. Ability Enhancement Compulsory Courses (AECC): Environmental Science, Indian constitution, English Communication and Modern Indian languages (MIL) Communications.

P.S.: 1) A deaf / spastic /mentally retarded/learning deficiency student shall be exempted from learning any one of the languages like English or MIL.

2) MIL means any one language mentioned in VIII schedule of Indian Constitution.

- ii. Skill Enhancement Courses (SEC): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge and should contain theory and lab/hands-on training/ fieldwork (Annexure2).

: Programme shall have two components (L: T/P): i) Lecturing (L) and ii) Tutorial (T) for non practical subjects and Practical (P) for practical subjects. Tutorial consists of participatory discussions, seminar presentations, desk work etc by the students of the respective subjects.

P.S: There shall not be a tutorial for Practical subjects

: Credit system of the programme: BCA programme shall have 144 credits for 06 semesters. Credit means the unit by which a course is measured.

- a. 1 hour lecture or 1 hour tutorial of session per week is equal to 1 credit and that of 2 hours practical is equal to 1 credit. Credit for each course shall be decided by BoS.
- b. Course (subject) of 3 to 6 credits each shall be evaluated for 100 marks and that of less than 3 credits including practical shall be evaluated for 50 marks. Further, the project work /dissertation shall have 6 credits and be evaluated for 100 marks.

4: WORKLOAD FOR TEACHERS

: Each theory session may have 40 students extendable to 45 students for BCA programIrrespective of DSC, DSE, SEC, and AEC in the class rooms.

: There shall be one teacher for first 15 students, 02 teachers up to 27, 03 teachers up to 36 and 4 teachers up to 46 students in a practical batch.

: In general there shall be

- i. One hour theory class per week is equal to one hour work load per week.
- ii. One hour tutorial per week is equal to one hour work load per week.
- iii. One hour practical class per week is equal to one hour work load per week.

5. ADMISSION PROCEDURE FOR BCA PROGRAMME

: Invitation of Applications: University shall issue a notification for admission to various U G Programmes for all odd semesters soon after declaration of PUC II year / 10+2 results,

- a. Notification shall include eligibility for admission to different programmes, detailed fee structure, calendar of academic events for odd and even semesters of the academic year, last date for admission with or without panel fees, remittance of fees to University etc.

- b. Admissions shall be purely based on merit cum reservation as per the norms of Government of Karnataka issued from time to time.
- c. Academic year normally commences in the month of June every year. Exact date for commencement of academic year shall be decided by the University.
- d. Affiliated colleges shall admit the students for each programme not exceeding the approved number of students. Hence, prior approval in this connection from University is mandatory.

: ELIGIBILITY:

A candidate who has passed two years Pre University Course (PUC) Examination conducted by Pre University Board, Government of Karnataka, Bengaluru or 10+2 Examination conducted by CBSE or equivalent examinations by other states or any other recognized Boards / Departments shall be eligible for admission to first semester BCA Programme. Further,

- a. For B.C.A. Programme, a candidate of PUC / 10+2 with Science or commerce with Mathematics / Business Mathematics / Accountancy/ Computer Science or 3 years Diploma with Computer Science / information Science or 2 years JOC / ITI with Computer Science shall be eligible.

: Admissions for higher Semesters:

- a. BCA Programme shall be carryover system.
- b. 75% attendance shall be mandatory for each semester and for each paper to appear for semester end examination. Further, 20% attendance shall be condoned for the students involved in co curricular/ curricular activities through NCC/NSS/ Sports/ Cultural activities/ Study tours/ field work/ attending seminars with the due permission from the Principal in writing.
- c. A candidate shall be eligible to move to higher semester even if the candidate passes / fails in such semester end examination conducted by the University.
- d. If the candidate fails to appear for the semester end examination but make application to appear for the examination by maintaining 75 % attendance is also eligible to get the admission to immediate next higher semester admission.

P.S: 1) Mere submission of application by the candidate to appear for examination without maintaining 75% attendance shall not be eligible for higher semester. 2) If candidate maintains 75% attendance but fails to submit the application to appear for semester end examination shall not be eligible for higher semester admission.

- e. If the candidate appears for I semester end examination and discontinued for II semester and wishes to take admission for II semester in future, such candidates shall not be allowed for II semester directly. Such candidate shall again get the admission to I semester only by surrendering his/her I semester marks card to University. This is also applicable to other even semesters like IV and VI semesters wherein candidate shall get admission to III semester and V if discontinued to IV and VI semesters respectively.
- f. If the candidate appears for II semester end examination and discontinued for III semester and wishes to take admission for IV semester in future, such candidates shall not be allowed for IV semester. Such candidate shall again get the admission to III semester as per University schedule. This is also applicable to other odd semester like V semester wherein candidate gets admission to V semester if discontinued at VI.
- g. A candidate who does not satisfy the requirement 75% attendance even in one course (subject / paper) shall not be permitted to take the whole University examination of that semester and he/she shall seek re-admission to that Semester in a subsequent year as per University schedule.

: Medium of instruction: English

: Change of Programme:

Every U. G. Programme is specific in nature and hence, there shall not be any provision to change the programme.

: Change of subject:

The MIL subject studied by the candidate in I semester shall be the same for all other semesters and hence, there shall not be any provision to change the MIL subject.

: Change of College/ Transfer

- a. Candidate shall be permitted for change of college only for the odd semesters by admitting within the stipulated period mentioned in the admission notification with the due consent from both the colleges. There shall not be any provision for transfer / change of college for even semesters. Further, lower semester examination failure / MPC candidates are not eligible for transfer / change of college within the Karnatak University's affiliated colleges.
- b. The same shall be applicable for the candidate seeking transfer from the colleges of other University within or outside the state or country by producing the eligibility certificate issued by Karnatak University with the confirmation of similarity of the programmes with each other. Other conditions shall be same as in 5.7(a).
- c. Such transfer of admission shall be within the intake capacity of the respective class/ subject of the respective College.

6: EXAMINATION

: Course (subject) of 3 to 6 credits each shall be evaluated for 100 marks and that of less than 3 credits including practical shall be evaluated for 50 marks. Further, the project work /dissertation shall have 6 credits and be evaluated for 100 marks.

: There shall be a continuous assessment mode for the student. For this purpose, semester examinations are divided in to two components viz.,

- a. Internal assessment written examinations conducted at college level for 20% of maximum marks allotted for each course (paper/subject) and
- b. Semester end written examination conducted by University after 16th week of the commencement of every semester for 80% of maximum marks allotted for each course (paper/subject).

: Internal assessment (IA) examinations:

- a. **Theory Papers:** The College shall conduct IA examination for theory subjects in the 8th week for 10% and 12th week for remaining 10% of maximum marks allotted for each paper/subject. Duration of examination shall be 1hr. each.
- b. **Practical:** The College shall conduct IA examination for practical paper in the 14th week for 20% of maximum marks allotted for each paper/subject. Duration of examination shall be 3hr.
- c. **Project work /dissertation:** The College shall conduct IA examination for Project work /dissertation in the 14th week for 20% of maximum marks allotted for each Project work /dissertation. Duration of examination shall be 1hr.
- d. Concerned teacher shall display the marks on notice board within 4 days after IA examination and allow the student for verification of IA Booklet if he wishes. Grievances, if any, shall be solved by the concerned teachers, further if any by the Principal/ representative of Principal as per internal mechanism of the College.
- e. There shall not be any provision for makeup examination for IA examinations for improvement of IA marks or for remaining absent. However, IA exam shall be conducted for the students who remained absent due to participation in the events related to co curricular / curricular activities conducted by recognized organizations.
- f. College shall submit the IA marks to the University if student satisfies 75% attendance in the semester and shall be eligible to appear for semester end examination.

: Semester end examination:

Semester end examination shall be conducted by University after 16th week of the commencement of every semester for 80% of maximum marks allotted for each paper. Further, the University shall conduct the semester end examination of the respective semesters only; may be odd or even but not both odd and even semesters simultaneously unless specified otherwise.

- a. Duration of theory examination shall be 03 hours for 100 marks subject/ paper/ course (including IA marks) having the credit 3 to 6.
- b. Duration of theory examination shall be 1.5 hours for 50 marks subject /paper / course(including IA marks) having the credit less than 3.
- c. Duration of practical examination shall be 3 hours for 50 marks subject /paper / course(including IA marks) having the credit less than 3.
- d. BoS in consultation with the concerned faculty shall decide the pattern of question paper for uniformity for all the core courses and elective courses.
- e. Question papers shall be prepared by team of members of respective Board of Examiners (BoE).
- f. Concerned BoE shall decide the scheme of valuation of both theory and practical course papers.
- g. There shall be a single valuation for theory papers from the members of concerned BoE under the supervision of moderator who is in turn under the supervision of Chairman of BoE.
- h. Practical / evaluation of project / dissertation work shall be conducted before the commencement of theory examination at the concerned colleges by two examiners; one from the same college as internal examiner and other from other colleges appointed by University as external examiner. Further, there may be two external examiners but not two internal examiners to conduct the examination. A pair of examiners shall conduct practical examination for two batches par day having maximum 12 students in each batch.

: Passing criteria

- a. Candidate has to score 40% in each course (subject) including the IA marks for passing the course (subject) subject to the condition that:
 - i. No minimum marks or separate passing for the IA examination, but candidate has to score minimum 40% from the semester end examination for its 80% of the maximum marks and fulfils the minimum 40% for maximum marks of the course (subject) (Ex. for 100 marks paper; 20 IA + 80 sem end exam and hence, minimum 32 marks for sem end exam). If candidate scores 40% by cumulating marks from IA and semester end examination but fails to score 40% from the semester end examination, such candidate shall be declared fail.
 - ii. If the course (subject) is having both theory and practical, candidate has to pass both theory and practical independently. If the candidate fails in Practical and passes in theory examination, such candidate shall reappear for practical examination only and vice versa.
 - iii. In all cases of failure in particular course (subject), IA marks shall be protected and carried forward; and the candidate need not reappear for IA examinations in such cases.
- b. On successful scoring of minimum 40% in all courses (Subject), the candidate shall be declared pass in the programme in that semester.
- c. On successful scoring of minimum 40% in all courses (Subject) and all the

semesters, the candidate shall be declared pass in the entire programme.

: Percentage and Grading

- a. If P is the percentage of marks secured (IA + semester end score) by the candidate in a course(subject) which is rounded off to the nearest integer, the grade(G) earned by the candidate in that course(subject) will be given as below:

Percentage(P)	Grade(G)	Percentage(P)	Grade(G)
40 – 49	5.0	75 – 79	8.0
50 – 59	6.0	80 – 84	8.5
60 – 64	6.5	85 – 89	9.0

Grade point of less than 5 shall be considered as fail in the course (subject). Hence, P=0 and G=0 for the absent also.

- b. A student's level of competence shall be categorized by grade point (GP), Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) of the programme.
- c. Semester Grade Point Average (SGPA): The SGPA is a ratio of sum of the number of Credit grade points scored from all the courses (subject) of given semester to the total credits of such semester in which the candidate studied. (Credit grade points of each course (subject)= Credit x GP)
- d. Cumulative Grade Point Average (CGPA): It is calculated as below for 6 semester programme:

$$CGPA = \frac{Credit_1 * SGPA_1 + Credit_2 * SGPA_2 + Credit_3 * SGPA_3 + Credit_4 * SGPA_4 + Credit_5 * SGPA_5 + Credit_6 * SGPA_6}{\text{Total credits of programme (sum of credits of all semesters)}}$$

- e. After studying and passing all the credits prescribed for the programme the degree shall be awarded with CGPA score and class distinguishing as second class, first class, and distinction along with grade letter as under.

CGPA of the Programme (UG)	Class Obtained	Grade Letter
9.50 to 10.00	Distinction	A++
9.00 to 9.49		A+
8.00 to 8.99		A
7.00 to 7.99	First Class	B+
6.00 to 6.99		B
5.00 to 5.99	Second Class	C
Less than 5.00	Fail	D

6.7. CRITERIA FOR AWARD OF DEGREE

On successful scoring of minimum 5 grade points in all courses of the programme, the respective degree shall be awarded for the candidates. The University shall issue the final grade card (Marks card) consisting of grade points along with marks of all courses successfully completed, SGPA for all the semesters, CGPA with Grade letter of the entire programme and Class obtained.

The degree shall be awarded in the Annual / Special convocation. The Degree certificate shall consist of CGPA of the programme and Class obtained.

: Recounting, revaluation, challenge valuation, photo copying of answer papers

There shall be provision for recounting of marks, revaluation, challenge valuation and photo copying of answer papers. The University shall invite applications for such purpose immediately after announcing the results for every semester by giving 10 days time to apply for the same online as per the existing ordinance and regulations and process the same accordingly.

: Rank and Gold medals.

Students shall be considered for Ranks and/or Gold medals for only those who are completing all the credits in 6 semesters (6 semesters Programme) without break in the examination. However, this is not applicable for the award of classes like, second/first class/ distinction to the students.

: Makeup Examination.

- a. There shall be no immediate makeup examination for all semesters to the courses where candidate failed to score minimum 40% for semester end examination unless specified otherwise as in (c).
- b. However, such candidate shall appear for examination during the regular schedule of examination conducted by the University.
- c. There shall be a makeup examination for the V and VI semesters immediately after declaring the final semester results of the programme.

7: Provision for improvement of the marks (Grade Point)

Improvement of the marks (Grade Point): There shall be a provision for candidates to reappear for the examination for the concerned course of theory papers only (subject) in which candidate wishes for improvement

of his/ her grade point of SGPA in general and CGPA in total of the programme subject to the condition that:

- a. The candidate shall be eligible to reappear for improvement of grade points only after successfully passing the programme.
- b. The candidate may opt for the examination for any number of courses (subject / paper) of the programme for improvement of grade point but not more than three times for each course (subject / paper) as per the prevailing syllabus of the examination conducted in the regular schedule of University examinations.
- c. All such provisions are there within 03 years from successful completion of the programme but not exceeding the period of double the duration of completion of the programme.
- d. In all such cases grade points are considered if there is a progress in such improvements, otherwise original grade points shall be retained.
- e. No such candidates shall be eligible for the award of Rank, Gold Medal, CashPrize, etc.

8: Duration for completion of the U. G. Programme

Minimum duration for completion of BCA UG Programme shall be 3 years from the date of admission to I semester, but the maximum duration shall be 6 years, i.e., double the duration of programme.

9: REPEAL AND SAVINGS FOR UG PROGRAMMES

All the existing Regulations governing three years Bachelor degree programme in the discipline of Science under semester or any ordinances or regulations or guidelines issued or adopted earlier by the University in this matter for constituent and affiliated colleges of Karnatak University are hereby repealed. However, the above Regulations shall continue to be in force for the students who have been admitted to the degree programme concerned before the enforcement of these new regulations.

Provided that the said repeal shall not affect the previous operation of the said regulations

/ ordinances or anything duly done or suffered there under or affect any right, liability or obligation acquired, accrued or incurred under the said regulations.

10: Removal of Difficulties:

Any issue not specifically mentioned in these Regulations shall be decided by the Vice Chancellor as per K.S.U 2000 Act.

B.Sc Geography

Karnataka University, Dharwad
Revised Syllabus for B.A. & B.Sc. of Geography

With effect from 2013-14 onwards.

Rules & Regulations

Introduction: Introduction of the semester for undergraduate studies is a welcome decision by the authorities taking into consideration the present –day needs and necessities. The non object of the system is to know the modern development and its relevance in day-to-day life of the people. An effort is made to know in details about the subject and structure of course keeps the teacher and the taught busy throughout the semester. It helps the students to prepare well for the examination, as there are two semesters in academic year.

Geography B.A/ B.Sc. Semester

To be eligible to offer 'GEOGRAPHY' as one of the optional subjects U.G level, a student must complete pre-university or equivalent course.

Scheme of instruction

- i. The subject 'GEOGRAPHY' for this scheme has to be taught by a master degree holder in geography only
- ii. Geography at undergraduate level consists of six semester with eight the papers and eight practical papers. In I,II,III and IV semester there will be one theory paper and one practical paper each. In the V and VI semester there will be two theory papers and two practical each.
- iii. Each theory paper will have a minimum of '60' hours of teaching each practical paper will have a minimum of '40' hours of teaching in each semester course.
- iv. The duration of each semester being '18' weeks excluding Examinations Period.
- v. Practical's are to be conducted in batches. Each batch consists of '15' student with one teachers, and between '16-27' students with two teachers. In case, if student are below '15' is also considered as one batch with one teacher.
- vi. Each batch (depends on the number of students) must be supervised by one teachers covering instructions supervision of practical's and correction of records.

ATTENDENCE : In each semester 75% of attendance is compulsory.

- . Singh.R.Y(1998) : Geography of Settlements, Rawat Publications,Jaipur & New Delhi.
- . Mandal,R.B.(2001) : Introduction to Rural Settlements, Concept Publishing Company, New Delhi.

PRACTICAL PAPER VII: Computer Application and GIS

1. Basics of Computer Applications: Operation of M.S. Word M.S. Excel and Power Point.
2. Graphical Representation of data.
3. GIS; Importance, Components (Hardware, Software, Infrastructure, Brain ware).

PRACTICAL PAPER VIII: FIELD WORK AND PROJECT REPORT

Field Trip and Report Writing: Students have to identify the problems and field work can be carried. A report should be prepared and submitted to the Department before the commencement of practical examination.

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KARNATAK UNIVERSITY, DHARWAD
Post Graduate Department of Studies in Mathematics
SYLLABUS & REGULATIONS
For
M.A. / M.Sc. (MATHEMATICS)
(Choice Based Credit System)
w.e.f. 2008-2009
Regulations and Scheme of Examination
for
M.A. / M.Sc. (Mathematics) Degree Course under
Choice Based Credit System (CBCS)

1.0. Duration of the Course:

The M.A. / M.Sc. Degree Course is of two years duration, spread over four semesters each of four months duration.

1.2 (A) Eligibility for Admission:

B.A. / B.Sc. Graduates of Karnatak University or of any other University recognized as equivalent there to with Mathematics as optional subject. The candidate should have obtained at least 45% of marks in optional subjects as well as in aggregate. Relaxation in respect of SC / ST / Cat-I etc. will be followed as per prevailing rules of the University.

(B) Admission:

- (i) **Intake:** 70 students (but may vary from time to time with the permission from the University) for the first semester. This includes admission under enhanced fee structure. Other rules for admission are as per University notification from time to time.
- (ii) **Admission to other Semesters:** Students are allowed to take admissions to successive semesters under carry over benefit (COB) facility.

2. Attendance:

Every student must have at least 75% attendance in each of the courses (Theory & Practical) in each semester. Shortage of attendance will be dealt with as per the University rules from time to time.

3. Medium of Instruction:

The medium of instruction shall be English.

4. Scheme of Instructions:

In the First three Semesters (I, II, III) there will be 3 Core Theory Papers of 4 credits each. In addition, in the I Semester there will be 3 Core Theory Papers of 2 credits each. In each of the II and III Semesters there will be 2 Core Theory Papers of 2 credits each.

In IV Semester there will be 4 Core Theory Papers of 4 credits each, 3 Core Theory Papers of 2 credits each.

In each of II, III, IV Semesters there will be 1 Core Practical Paper of 2 Credits.

In each of I, II, III Semesters there will be two Elective Theory Papers of 4 and 2 Credits. These elective papers have to be chosen by the students of other departments.

Our M.A. / M.Sc. students have to take electives of 6 Credits in each of I, II, III Semesters offered by other departments.

5. Scheme of Evaluation:

Examination will be conducted at the end of each semester.

Each Core theory paper of credits 4 and 2 will have an examination of 3 and 2 hours duration respectively and carrying maximum of 75 marks and 35 marks respectively. Each Core practical will have examination of 2 hours duration.

For each theory / practical of 4 and 2 credits, there will be an internal assessment test carrying 25 and 15 marks respectively.

Each elective paper of 4 credits will have examination of 3 hours duration carrying 75 marks and will have internal assessment test for 25 marks.

Each elective paper of 2 credits will have examination of 2 hours carrying 35 marks and will have Internal Assessment Test for 15 marks.

6. Maximum period for the completion of the Degree Programme:

There shall be fully carry over system from first through fourth semesters. Maximum number of years for a student to complete the degree is as specified by the University from time to time.

8. The General Regulations Governing Post-Graduate Programmes under CBCS and Regulations Governing Post-Graduate Programmes in the Faculty of Science and Technology under CBCS of Karnatak University, Dharwad are applicable to this course for all the matters not covered under this.