

**RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES, KARNATAKA
(RGUHS), BANGALORE – 560 041**

Pharm D Revised Regulations 2008

(Effective from 2012-2013)

1. ELIGIBILITY

1.1 Qualifying Examination

i) Candidates who have passed two year P.U.C. examination of Karnataka P.U.C. Board or an equivalent examination of any other approved Board or University established by law in India with English as one of the subject and Physics, Chemistry as compulsory subjects along with one of the following subject – Mathematics or Biology or P.C.M.B. Minimum eligibility should be based on the aggregate of P.C.M. or P.C.B. The candidates shall have passed subjects of English, Physics, Chemistry and Biology / Mathematics individually also.

ii) Candidates who have passed D.Pharm course from institutions approved by Pharmacy Council of India U/S 12 of Pharmacy Act, 1948, are only eligible to be admitted to first year Pharm. D course.

1.2 Age

The candidate should have completed 17 years of age on or before 31st day of December of the year of admission to the course.

2. Duration of the course

Pharm.D: The duration of the course shall be six academic years (five years of study and one year of internship or residency) full time with each academic year spread over a period of not less than two hundred working days. The period of six years duration is divided into two phases –

Phase I – consisting of First, Second, Third, Fourth and Fifth academic year.

Phase II – consisting of internship or residency training during sixth year involving posting in speciality units. It is a phase of training wherein a student is exposed to actual pharmacy practice or clinical pharmacy services and acquires skill under supervision so that he or she may become capable of functioning independently.

3. Medium of Instruction

Medium of Instruction and Examination Shall be English.

4. Attendance and Progress

A candidate is required to put in at least 80% attendance in theory and practical subjects separately in a recognized institution approved by Pharmacy council of India and affiliated to Rajiv Gandhi University of Health Sciences, Karnataka. The candidate shall complete prescribed course satisfactorily to be eligible to appear for the respective examination.

5. Course of study

- a) The course of study for Pharm.D. Shall include the subjects as given in the Tables below. The number of hours in a week, devoted to each subject for its teaching in theory, practical and tutorial shall not be less than that noted against it in columns (3), (4) and (5) below.

T A B L E S

First Year :

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
1.1	Human Anatomy and Physiology	3	3	1
1.2	Pharmaceutics	2	3	1
1.3	Medicinal Biochemistry	3	3	1
1.4	Pharmaceutical Organic Chemistry	3	3	1
1.5	Pharmaceutical Inorganic Chemistry	2	3	1
1.6	Remedial Mathematics/ Biology**	3	3*	1
	Total hours	16	18	6 = (40)

* For Biology

** For candidates who have studied PCMB in 10+2 course are exempted.

** Colleges to conduct the Examination.

Second Year:

S.No	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
2.1	Pathophysiology	3	-	1
2.2	Pharmaceutical Microbiology	3	3	1
2.3	Pharmacognosy & Phytopharmaceuticals	3	3	1
2.4	Pharmacology-I	3	-	1
2.5	Community Pharmacy	2	-	1
2.6	Pharmacotherapeutics-I	3	3	1
	Total Hours	17	9	6 = 32

Third Year:

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
3.1	Pharmacology-II	3	3	1
3.2	Pharmaceutical Analysis	3	3	1
3.3	Pharmacotherapeutics-II	3	3	1
3.4	Pharmaceutical Jurisprudence	2	-	-
3.5	Medicinal Chemistry	3	3	1
3.6	Pharmaceutical Formulations	2	3	1
	Total hours	16	15	5 = 36

Fourth Year:

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Practical/Hospital Posting	No. of hours of Tutorial
(1)	(2)	(3)	(4)	(5)
4.1	Pharmacotherapeutics-III	3	3	1
4.2	Hospital Pharmacy	2	3	1
4.3	Clinical Pharmacy	3	3	1
4.4	Biostatistics & Research Methodology	2	-	1
4.5	Biopharmaceutics & Pharmacokinetics	3	3	1
4.6	Clinical Toxicology	2	-	1
	Total hours	15	12	6 = 33

Fifth Year:

S.No.	Name of Subject	No. of hours of Theory	No. of hours of Hospital posting*	No. of hours of Seminar
(1)	(2)	(3)	(4)	(5)
5.1	Clinical Research	3	-	1
5.2	Pharmacoepidemiology and Pharmacoeconomics	3	-	1
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	2	-	1
5.4	Clerkship *	-	-	1
5.5	Project work (Six Months)	-	20	-
	Total hours	8	20	4 = 32

* Attending ward rounds on daily basis.

Sixth Year:

Internship or residency training including postings in speciality units. Student should independently provide the clinical pharmacy services to the allotted wards.

- (i) Six months in General Medicine department, and
- (ii) Two months each in three other speciality departments

6. Approval of institution conducting the course of study

The regular course for Pharm.D. I, II, III, IV, V and VI year shall be conducted by an institution approved by Pharmacy Council of India and affiliated to Rajiv Gandhi University of Health Sciences, Karnataka. Institution running Pharm D regular courses only shall be permitted to start Pharm D (Post Baccalaureate) course. The approval and affiliation will be granted only if adequate arrangements for teaching-infrastructural facilities, accommodation, equipments, chemicals, glassware, library, teaching and non-teaching staff are provided as prescribed by Pharmacy Council of India and as required under the norms of Rajiv Gandhi University of Health Science, Karnataka(as prescribed in Appendix B).

7. Academic Work

The teaching staff of respective subjects shall maintain a regular record of attendance in both Theory and Practical.

Internal Assessment Marks

A. Theory: Three sessional examinations evenly spread during the academic year shall be conducted by the affiliated colleges. The average marks of the best two examinations shall be computed out of a maximum 30 marks and shall constitute the sessional marks in theory. Provided further the colleges may conduct one special theory sessional examination towards the end of the academic session for those who might have missed any one of the regular sessional examination on genuine grounds.

B. Practical: Students are expected to perform the number of experiments listed in the respective syllabus. Marks shall be awarded out of a maximum of 10 to each of the practical exercise and an average of those shall be computed out of maximum of 10 each marks. In addition, three practical sessional examinations evenly spread during academic year shall be conducted. The average marks of the best two practical examinations shall be computed out of a maximum of 20 marks. A total of 30 marks shall constitute the sessional award in practical. While awarding the sessional marks of practical experiments, the following considerations should be taken into account.

1. Preparation of the candidate.
2. Manipulative skills.
3. Results of the experiment.
4. Knowledge of the experiment
5. Viva voce pertaining to the experiments only.

The College shall maintain the sessional books of the students and the record of sessional marks of the students.

A regular record of both theory and practical class work and sessional examinations conducted in an institution imparting the course shall be maintained for each student in the institution.

8. Examination for Pharm D

- (1) Every year there shall be an examination to examine the students.
- (2) Each examination may be held twice every year. The first examination in a year shall be the annual examination and the second examination shall be supplementary examination.
- (3) The examinations shall be of written and practical (including oral nature) carrying maximum marks for each part of a subject as indicated in Tables below :

T A B L E S

First Year examination :

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
1.1	Human Anatomy and Physiology	70	30	100	70	30	100
1.2	Pharmaceutics	70	30	100	70	30	100
1.3	Medicinal Biochemistry	70	30	100	70	30	100
1.4	Pharmaceutical Organic Chemistry	70	30	100	70	30	100
1.5	Pharmaceutical Inorganic Chemistry	70	30	100	70	30	100
1.6	Remedial Mathematics/ Biology	70	30	100	70*	30*	100*
				600			600 = 1200

* for Biology.

Second Year examination :

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
2.1	Pathophysiology	70	30	100	-	-	-
2.2	Pharmaceutical Microbiology	70	30	100	70	30	100
2.3	Pharmacognosy & Phytopharmaceuticals	70	30	100	70	30	100
2.4	Pharmacology-I	70	30	100	-	-	-
2.5	Community Pharmacy	70	30	100	-	-	-
2.6	Pharmacotherapeutics-I	70	30	100	70	30	100
				600			300 = 900

Third Year examination :

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
3.1	Pharmacology-II	70	30	100	70	30	100
3.2	Pharmaceutical Analysis	70	30	100	70	30	100
3.3	Pharmacotherapeutics-II	70	30	100	70	30	100
3.4	Pharmaceutical Jurisprudence	70	30	100	-	-	-
3.5	Medicinal Chemistry	70	30	100	70	30	100
3.6	Pharmaceutical Formulations	70	30	100	70	30	100
				600			500 = 1100

Fourth Year examination :

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
4.1	Pharmacotherapeutics-III	70	30	100	70	30	100
4.2	Hospital Pharmacy	70	30	100	70	30	100
4.3	Clinical Pharmacy	70	30	100	70	30	100
4.4	Biostatistics & Research Methodology	70	30	100	-	-	-
4.5	Biopharmaceutics & Pharmacokinetics	70	30	100	70	30	100
4.6	Clinical Toxicology	70	30	100	-	-	-
				600			400 = 1000

Fifth Year examination :

S.No.	Name of Subject	Maximum marks for Theory			Maximum marks for Practicals		
		Examination	Sessional	Total	Examination	Sessional	Total
5.1	Clinical Research	70	30	100	-	-	-
5.2	Pharmacoepidemiology and Pharmacoeconomics	70	30	100	-	-	-
5.3	Clinical Pharmacokinetics & Pharmacotherapeutic Drug Monitoring	70	30	100	-	-	-
5.4	Clerkship *	-	-	-	70	30	100
5.5	Project work (Six Months)	-	-	-	100**	-	100
				300			200 = 500

* Attending ward rounds on daily basis.

** 30 marks – viva-voce (oral)
70 marks
– Thesis
work

9. Mode of examinations

(1) Theory examination shall be of three hours and practical examination shall be of four hours duration.

(2) Practical examination shall also consist of a viva –voce (Oral) examination.

(3) Clerkship examination – Oral examination shall be conducted after the completion of clerkship of students. An external and an internal examiner will evaluate the student. Students may be asked to present the allotted medical cases followed by discussion. Students' capabilities in delivering clinical pharmacy services, pharmaceutical care planning and knowledge of therapeutics shall be assessed.

10. Criteria for Pass

a) Candidates who have secured a minimum of 50% marks in the Theory (including sessional) and Practical (including sessional) separately in any subject or subjects shall be declared to have passed in that subject/ and exempted from appearing in that subject/s at subsequent examination.

b) Theory and Practical of a particular subject are considered as individual subjects for the purpose of pass criteria.

11. Eligibility for promotion to next year

All students who have appeared for all the subjects and passed the first year annual examination are eligible for promotion to the second year and, so on. However, failure in more than three subjects shall debar him or her from promotion to the next year classes.

12. Declaration of Class

Class shall be awarded at the end of I, II, III, IV, V and final year of Pharm. D examination as shown below:

- | | |
|-----------------|---------------------------------|
| 1) Distinction | 75% |
| 2) First class | 60% and above and less than 75% |
| 3) Second Class | 50% and above and less than 60% |

Pass class shall be awarded to such of the candidates who would have passed the examination in more than one attempt. However, this shall not be applicable to candidates who are exempted in Remedial Biology and Remedial Mathematics by the RGUHS Karnataka, Bangalore.

13. Internship

- (1) Internship is a phase of training wherein a student is expected to conduct actual practice of pharmacy and health care and acquires skills under the supervision so that he or she may become capable of functioning independently.
- (2) A student shall be permitted to start the internship only after having passed in theory and practical of all subjects of all the previous years.
- (3) Every student has to undergo one-year internship as per Appendix-C to these regulations.

14. Award of Degree

a) A candidate who has passed in all the subjects of Pharm.D course has successfully completed the Internship (as described in appendix C) will be eligible for the award of Pharm. D degree.

15. Practical training

1. **Hospital posting** — Every student shall be posted in constituent hospital for a period of not less than seventy five hours to be covered in not less than 200 working days in each of second, third & fourth year course. Each student shall submit report duly certified by the preceptor and duly attested by the Head of the Department or Institution as prescribed. In the fifth year, every student shall spend half a day in the morning hours attending ward rounds on daily basis as a part of clerkship. Theory teaching may be scheduled in the afternoon.
2. **Project work** — (1) To allow the student to develop data collection and reporting skills in the area of community, hospital and clinical pharmacy, a project work shall be carried out under the supervision of a teacher. The project topic must be approved by the Head of the Department or Head of the Institution. The same shall be announced to students within one month of commencement of the fifth year classes. Project work shall be presented in a written report and as a seminar at the end of the year. External and the internal examiners shall do the assessment of the project work.

- (2) Project work shall comprise of objectives of the work, methodology, results, discussions and conclusions.
3. **Objectives of project work** — The main objectives of the project work is to—
- (i) show the evidence of having made accurate description of published work of others and of having recorded the findings in an impartial manner; and
 - (ii) develop the students in data collection, analysis and reporting and interpretation skills.
4. **Methodology** — To complete the project work following methodology shall be adopted, namely:—
- (i) students shall work in groups of not less than *two* and not more than *four* under an authorised teacher;
 - (ii) project topic shall be approved by the Head of the Department or Head of the Institution;
 - (iii) project work chosen shall be related to the pharmacy practice in community, hospital and clinical setup. It shall be patient and treatment (Medicine) oriented, like drug utilization reviews, Pharmacoepidemiology, pharmacovigilance or pharmacoconomics;
 - (iv) project work shall be approved by the institutional ethics committee;
 - (v) student shall present at least three seminars, one in the beginning, one at middle and one at the end of the project work; and
 - (vi) two-page write-up of the project indicating title, objectives, methodology anticipated benefits and references shall be submitted to the Head of the Department or Head of the Institution.
5. **Reporting** — (1) Student working on the project shall submit jointly to the Head of the Department or Head of the Institution a project report of about 40-50 pages. Project report should include a certificate issued by the RGUHS recognized teacher, Head of the Department as well as by the Head of the Institution
- (2) Project report shall be computer typed in double space using Times Roman font on A4 paper. The title shall be in bold with font size 18, subtitles in bold with font size 14 and the text with font size 12. The cover page of the project report shall contain details about the name of the student and the name of the authorized teacher with font size 14.
- (3) Submission of the project report shall be done at least one month prior to the commencement of annual or supplementary examination.
6. **Evaluation**— The following methodology shall be adopted for evaluating the project work—
- (i) Project work shall be evaluated by internal and external examiners.
 - (ii) Students shall be evaluated in groups for four hours (i.e., about half an hour for a group of four students).
 - (iii) Three seminars presented by students shall be evaluated for twenty marks each and the average of best two shall be forwarded to the university with marks of other subjects.
 - (iv) Evaluation shall be done on the following items:

	Marks
a) Write up of the seminar	(7.5)
b) Presentation of work	(7.5)
c) Communication skills	(7.5)
d) Question and answer skills	(7.5)
Total	(30 marks)

(v) Final evaluation of project work shall be done on the following items:	Marks
a) Write up of the seminar	(17.5)
b) Presentation of work	(17.5)
c) Communication skills	(17.5)
d) Question and answer skills	(17.5)
Total	(70 marks)

Explanation.— For the purposes of differentiation in the evaluation in case of topic being the same for the group of students, the same shall be done based on item numbers b, c and d mentioned above.

16. No. of Admissions

Pharm. D: 30 students