

SYLLABUS

**H.N.B. GARHWAL UNIVERSITY, SRINAGAR-GARHWAL
(A CENTRAL UNIVERSITY)
2015-2016 ONWARDS**

**DEPARTMENT OF PHARMACEUTICAL
CHEMISTRY MASTER OF SCIENCE**

**PHARMACEUTICAL
CHEMISTRY**

**(TWO YEARS COURSE - SEMESTER SYSTEM)
Under CBCS**

M.Sc. PHARMACEUTICAL CHEMISTRY- I SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Quantitative Analytical Methods	Core	SOS/PC/C001	40	60	51	3	0	0	3
2.	Modern Analytical Methods	Core	SOS/PC/C002	40	60	51	3	0	0	3
3.	Basic Pharmacology	Core	SOS/PC/C003	40	60	51	3	0	0	3
4.	Stereochemistry and Reaction Mechanisms	Core	SOS/PC/C004	40	60	51	3	0	0	3
5.	Laboratory- I (Pharmaceutical Analysis)	Core	SOS/PC/C005	40	60	51	0	0	3	3
6.	Laboratory- II (Pharmaceutical Chemistry)	Core	SOS/PC/C006	40	60	51	0	0	3	3

Core Credits=18

M.Sc. PHARMACEUTICAL CHEMISTRY- II SEMESTER

S. No.	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Advance Analytical Techniques	Core	SOS/PC/C007	40	60	51	3	0	0	3
2.	Drug Delivery and Biopharmaceutics	Core	SOS/PC/C008	40	60	51	3	0	0	3
3.	Chemistry of Natural Products	Core	SOS/PC/C009	40	60	51	3	0	0	3
4.	Medicinal Chemistry	Core	SOS/PC/C010	40	60	51	3	0	0	3
5.	Laboratory-I (Formulation and Evaluation of Pharmaceutical Products)	Core	SOS/PC/C011	40	60	51	0	0	3	3
6.	Laboratory-II (Chemistry of Natural Products).	Core	SOS/PC/C012	40	60	51	0	0	3	3

M.Sc. PHARMACEUTICAL CHEMISTRY SELF STUDY COURSE FOR THE II SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Hospital Training	Self Study	SOS/PC/S001	40	60	51	0	3	0	3
2.	Forensic Pharmacy	Self Study	SOS/PC/S002	40	60	51	0	3	0	3

Core Credits= 18 with additional 03 Credits of Self Study course

M.Sc. PHARMACEUTICAL CHEMISTRY- III SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Drug Design	Core	SOS/PC/C015	40	60	51	3	0	0	3
2.	Laboratory –I (Drug Design)	Core	SOS/PC/C013	40	60	51	0	0	3	3
3.	Laboratory-II Pharmaceutical technology	Core	SOS/PC/C014	40	60	51	0	0	3	3
4.	Elective	Elective	Code of Elective	40	60	51	3	0	0	3
5.	Elective	Elective	Code of Elective	40	60	51	3	0	0	3
6.	Elective	Elective	Code of Elective	40	60	51	3	0	0	3

M.Sc. PHARMACEUTICAL CHEMISTRY- ELECTIVE PAPERS FOR THE III SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	General Pharmaceutics	Elective	SOS/PC/E001	40	60	51	3	0	0	3
2.	Pharmacodynamic agents	Elective	SOS/PC/E002	40	60	51	3	0	0	3
3.	Phytopharmaceuticals and Nutraceuticals	Elective	SOS/PC/E003	40	60	51	3	0	0	3
4.	Computers	Elective	SOS/PC/E004	40	60	51	3	0	0	3
5.	Biostatistics	Elective	SOS/PC/E005	40	60	51	3	0	0	3
6.	Pharmaceutical Biochemistry	Elective	SOS/PC/E006	40	60	51	3	0	0	3
7.	Advance Drug Delivery Systems	Elective	SOS/PC/E007	40	60	51	3	0	0	3
8.	Spectroscopy	Elective	SOS/PC/E008	40	60	51	3	0	0	3
09.	Applied Microbiology and Biotechnology	Elective	SOS/PC/E009	40	60	51	3	0	0	3

M.Sc. PHARMACEUTICAL CHEMISTRY SELF STUDY COURSE FOR THE III SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Industrial Training	Self Study	SOS/PC/S003	40	60	51	0	3	0	3
2.	Pharmaceutical Industrial Management	Self Study	SOS/PC/S004	40	60	51	0	3	0	3

Core Credits 09 + Elective Credits 09; Total Credits= 18 + 03 credits of self study.

M.Sc. PHARMACEUTICAL CHEMISTRY- IV SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Project from parent institute/industry /Research Organizations. Project should be completed under the guidance of a faculty member in the same Department or Industry or research organization. In case of Industry /	Core	SOS/PC/C016	40	60	51	0	0	9	9
2.	Elective	Elective	Code of Elective	40	60	51	3	0	0	3
3	Elective	Elective	Code of Elective	40	60	51	3	0	0	3
4	Laboratory course	Elective	Code of Elective	40	60	51	0	0	3	3

M.Sc. PHARMACEUTICAL CHEMISTRY- ELECTIVE PAPERS FOR THE IV SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Herbal Drug Technology	Elective	SOS/PC/E010	40	60	51	3	0	0	3
2.	Advance Organic Chemistry	Elective	SOS/PC/E011	40	60	51	3	0	0	3
3.	Drug regulatory Affairs	Elective	SOS/PC/E012	40	60	51	3	0	0	3
4.	Essential of Traditional Medicine	Elective	SOS/PC/E013	40	60	51	3	0	0	3
5.	Cosmeticology	Elective	SOS/PC/E014	40	60	51	3	0	0	3
6.	Laboratory I Herbal drug Technology	Elective	SOS/PC/E015	40	60	51	0	0	3	3

7.	Laboratory II (Pharmaceutical Drug Analysis)	Elective	SOS/PC/E016	40	60	51	0	0	3	3
7.	Laboratory III (Cosmetics Evaluation)	Elective	SOS/PC/E016	40	60	51	0	0	3	3

M.Sc. PHARMACEUTICAL CHEMISTRY SELF STUDY COURSE FOR THE IV SEMESTER

S. No	Subject Title	Category	Course code	Maximum Marks 100			L	T	P	Credits
				Internal	External	Minimum				
1.	Traditional Healthcare system of Uttarakhand including Ayurvedic	Self Study	SOS/PC/S003	40	60	51	0	3	0	3
2.	Nanotechnology	Self Study	SOS/PC/S004	40	60	51	0	3	0	3

Core Credits 09 + Elective Credits 09; Total Credits= 18 + 03 Credits of Self Study

Grand Total: Core Credits 54 + Elective Credits 18 = 72

With a total of 09 Credits (3+3+3) Credits in II, III and IV semesters of Self Study course.

01 Credit= 01 hour of lecture/instructions per week. 01 Credit course = 15 hours of lectures per semester.

03hours of laboratory course shall be considered equivalent to 01 hour of lecture.

Dissertation/ Project Work

Dissertation is a core one and mandatory for every student. The dissertation is to be allotted in the beginning of III Semester and would be submitted at the time of the examination of IV Semester. The distribution of marks for the Dissertation will be as below:

Periodical presentation : 20 Marks Dissertation : 60 Marks Viva Voce : 20 Marks **Total : 100 Marks**

The Dissertation would carry 09 credits in all.

The dissertation/ Project report shall be evaluated jointly by the supervisor and one external examiner. Following topics/research fields are proposed to undertake Dissertation/ Project Work.
Traditional Health care System of Uttarakhand

Study of Medicinal plants of Uttarakhand Himalaya

Quality control of herbal drugs, Quality control of Synthetic drugs

Any other current trends / topics suggested by the Departmental committee may also be considered for the dissertation/project work other current problems / topics suggested by the Departmental committee.

Attested



Principal
Dolphin (P.G.) Institute of
Bio-Medical & Natural Sciences,
Mansuwala, Dehra Dun