Criteria for Assessment of learning outcomes and graduate attributes

PROGRAM OUTCOMES

1. **PO1. Pharmacy knowledge:** Possess knowledge and Comprehension of the core and basic knowledge associated with the profession of pharmacy like Pharmaceutical Sciences, Biomedical Sciences, Administrative Pharmacy Sciences and Manufacturing Practice.

2. **PO2. Cognitive Skills:** Demonstrate effective planning abilities like time management, resource management, Job Delegation, and organizational skills.

3. **PO3. Analytical Skills:** Utilize their critical thinking ability to analyze, evaluate and apply information systematically to make defendable decisions.

4. **PO4. Modern Tools and Instruments usage:** Learn, Select, and apply appropriate methods and procedures, resources and pharmacy –related computing tools with an understanding of limitations. Capable of independently handling sophisticated equipments and instruments involved in manufacturing and analysis of pharmaceuticals.

5. **PO5**.**Professional Skills:** Assume responsibilities and display leadership skills with ethics in fulfilling their role in profession and society. Communicate effectively with the peers, with team members and in the role of a community pharmacist while making reports, documentations, counseling to patients and making presentations.

6. **P06. Pharmacist and Society:** Engage in innovative research that impacts environment and society positively with sustainable development and display integrity of character as a responsible citizen of the country.

7. **P07. Life Long Learning**: Recognize the need for and ability to engage in independent and life-long learning to remain updated of recent trends and developments in the profession of pharmacy.

2.6.1 CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT

PROGRAM / LEARNING OUTCOME ASSESSMENT TOOLS AND WEIGHTAGE

Programme outcome	Assessment tools and weightage			
	Direct	Weightage (in %)	Indirect	Weightage (in %)
1. Pharmacy knowledge	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	70	1. Employer feedback 2. Alumni feedback 3. Student feedback	30
2. Cognitive skills	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	40	1. Employer feedback 2. Alumni feedback 3. Students Feedback	60
3. Analytical skills	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	60	1. Employer feedback 2. Alumni feedback 3. Student feedback	40

4. Modern tools & instrument usage	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	60	1. Employer feedback 2. Alumni feedback 3. Student feedback	40
5. Professional skills	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	60	1. Employer feedback 2. Alumni feedback 3. Student feedback	40
6. Pharmacist and society	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	60	1. Employer feedback 2. Alumni feedback 3. Students participation	40
7. Lifelong learning	Result in Internal and University Exam, (In-semester Assessments, Sessional Theory Exam, Sessional Practical Exam, university Theory Exam, university Practical Exam)	40	1. Employer feedback 2. Students participation 3. Alumni Feedback	60

ATTAINMENT OF PROGRAMME OUTCOME

PROGRAM OUTCOME 1: PHARMACY KNOWLEDGE

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 Excellent	3 Very good	2 Good	1 Average
Direct assessment	Result in Internal / University Examination	70	Subject wise results ≥ 80%	Subject wise results ≥ 60% and ≤ 79%	Subject wise results ≥ 50% and ≤ 59%	Subject wise results below 50%
Indirect assessment	Employer feedback	10	Employer satisfied with students subject knowledge and technical skills ≥ 80%	Employer satisfied with students subject knowledge and technical skills ≥ 60% and ≤ 79%	Employer satisfied with students subject knowledge and technical skills ≥ 50% and ≤ 59%	Employer satisfied with students subject knowledge and technical skills ≤ 50%
	Alumni feedback	10	Percent of alumni satisfied with subject knowledge and technical skills imparted ≥80%	Percent of alumni satisfied with subject knowledge and technical skills imparted ≥60% and ≤ 79%	Percent of alumni satisfied with subject knowledge and technical skills imparted ≥ 50% and ≤ 59%	Percent of alumni satisfied with subject knowledge and technical skills imparted ≤ 50%

| | Student feedback | 10 | Students feedback about course content delivery: score ≥2.4 on the scale of 1 to 3 | Students feedback about course content delivery: score ≥2.1 and ≤ 2.3 on the scale of 1 to 3 | Students feedback about course content delivery: score ≥1.8 and ≤ 2.0 on the scale of 1 to 3 | Students feedback about course content delivery: score ≤ 1.8 on the scale of 1 to 3 |

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT -
(Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 2: COGNITIVE SKILLS

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in Internal / University Examination	40	Subject wise results ≥ 80%	Subject wise results ≥ 60% and ≤ 79%	Subject wise results ≥ 50% and ≤ 59%	Subject wise results ≤60%
Indirect assessment	Employer feedback	20	Employer satisfied with students planning and organization skills ≥ 80%	Employer satisfied with students planning and organization skills ≥ 70% and ≤ 79%	Employer satisfied with students planning and organization skills ≥ 60% and ≤ 69%	Employer satisfied with students planning and organization skills ≤ 60%
	Alumni feedback	20	Percent of alumni satisfied with overall development activities organized by college ≥80%	Percent of alumni satisfied with overall development activities organized by college ≥70% and ≤ 79%	Percent of alumni satisfied with overall development activities organized by college ≥ 60% and ≤ 69%	Percent of alumni satisfied with overall development activities organized by college ≤ 60%
	Student feedback	20	Students feedback about course content delivery: score ≥2.4 on the scale of 1 to 3	Students feedback about course content delivery: score ≥2.1 and ≤ 2.3 on the scale of 1 to 3	Students feedback about course content delivery: score ≥1.8 and ≤ 2.0 on the scale of 1 to 3	Students feedback about course content delivery: score ≤ 1.8 on the scale of 1 to 3

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME

ATTAINMENT   (Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 3: ANALYTICAL SKILLS

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 Excellent	3 Very good	2 Good	1 Average
Direct assessment	Result in Internal / University Examination	60	Subject wise results ≥ 80%	Subject wise results ≥ 70% and ≤ 79%	Subject wise results ≥ 60% and ≤ 69%	Subject wise results ≤ 60%
Indirect assessment	Employer feedback	20	Employer satisfied with students problem solving skills ≥ 80%	Employer satisfied with students problem solving skills ≥ 70% and ≤ 79%	Employer satisfied with students problem solving skills ≥ 60% and ≤ 69%	Employer satisfied with students problem solving skills ≤ 60%
	Alumni feedback	10	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥80%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥70% and ≤ 79%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥ 60% and ≤ 69%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≤ 60%

	Student feedback	10	Students feedback about course content delivery: score ≥2.4 on the scale of 1 to 3	Students feedback about course content delivery: score ≥ 2.1 and ≤ 2.3 on the scale of 1 to 3	Students feedback about course content delivery: score ≥1.8 and ≤ 2.0 on the scale of 1 to 3	Students feedback about course content delivery: score ≤ 1.8 on the scale of 1 to 3

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT   (Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 4: MODERN TOOLS AND INSTRUMENTS USAGE

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in Internal / University Examination	60	Subject wise results ≥ 90%	Subject wise results ≥ 70% and ≤ 89%	Subject wise results ≥ 60% and ≤ 69%	Subject wise results below 60%
Indirect assessment	Employer feedback	20	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 80%	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 70% and ≤ 79%	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 60% and ≤ 69%	Employer satisfied with students use of technology and attitude towards learning new technology ≤ 60%
	Alumni feedback	10	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥80%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥70% and ≤ 79%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≥ 60% and ≤ 69%	Percent of alumni satisfied with subject knowledge and technical skills imparted by curriculum ≤ 60%

	Student feedback	10	Students feedback about course content delivery: score ≥2.4 on the scale of 1 to 3	Students feedback about course content delivery: score ≥ 2.1 and ≤ 2.3 on the scale of 1 to 3	Students feedback about course content delivery: score ≥1.8 and ≤ 2.0 on the scale of 1 to 3	Students feedback about course content delivery: score ≤ 1.8 on the scale of 1 to 3

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT - (Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 5: PROFESSIONAL SKILLS

Assessment tool	Assessment parameter	Weig-htage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in Internal / University Examination	60	Subject wise results ≥ 80%	Subject wise results ≥ 70% and ≤ 79%	Subject wise results ≥ 60% and ≤ 69%	Subject wise results below 60%
Indirect assessment	Employer feedback	10	Students with average score ≥ 3 on the scale of 1 to 4 ≥ 80%	Students with average score ≥ 3 on the scale of 1 to 4 ≥ 70% and ≤ 79%	Students with average score ≥ 3 on the scale of 1 to 4 ≥ 60% and ≤ 69%	Students with average score ≥ 3 on the scale of 1 to 4 ≤ 60%
	Student feedback	20	Student feedback on co-curricular activity above 2.4 on the scale of 1 to 3	Student feedback on co-curricular activity between 2.1 to 2.3 on the scale of 1 to 3	Student feedback on co-curricular activity between 1.8 to 2.0 on the scale of 1 to 3	Student feedback on co-curricular activity below 1.8 on the scale of 1 to 3
	Alumni feedback	10	Percent of alumni satisfied with overall development activities organized by college ≥ 80%	Percent of alumni satisfied with overall development activities organized by college ≥ 70% and ≤ 79%	Percent of alumni satisfied with overall development activities organized by college ≥ 60% and ≤ 69%	Percent of alumni satisfied with overall development activities organized by college ≤ 60%

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT - (Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 6: PHARMACIST AND SOCIETY

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in Internal / University Examination	60	Subject wise results ≥ 80%	Subject wise results ≥ 70% and ≤ 89%	Subject wise results ≥ 60% and ≤ 69%	Subject wise results below 60%
Indirect assessment	Employer feedback	10	Employer satisfied with students communication skills ≥ 80%	Employer satisfied with students communication skills ≥ 70% and ≤ 79%	Employer satisfied with students communication skills ≥ 60% and ≤ 69%	Employer satisfied with students communication skills ≤ 60%
	Student participation	15	Students participation in NSS and social healthcare activities ≥ 80%	Students participation in NSS and social healthcare activities ≥ 70% and ≤ 79%	Students participation in NSS and social healthcare activities ≥ 60% and ≤ 69%	Students participation in NSS and social healthcare activities ≤ 60%
	Alumni feedback	15	Percent of alumni satisfied with overall development activities organized by college ≥ 80%	Percent of alumni satisfied with overall development activities organized by college ≥ 70% and ≤ 79%	Percent of alumni satisfied with overall development activities organized by college ≥ 60% and ≤ 69%	Percent of alumni satisfied with overall development activities organized by college ≤ 60%

CRITERIA FOR ASSESSMENT OF PROGRAM / LEARNING OUTCOME ATTAINMENT - (Attainment calculated on Rubric scale of 1 to 4)

PROGRAM OUTCOME 7: LIFE LONG LEARNING

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in Internal / University Examination	40	Subject wise results ≥ 90%	Subject wise results ≥ 70% and ≤ 89%	Subject wise results ≥ 60% and ≤ 69%	Subject wise results below 60%
Indirect assessment	Employer feedback	20	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 80%	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 70% and ≤ 79%	Employer satisfied with students use of technology and attitude towards learning new technology ≥ 60% and ≤ 69%	Employer satisfied with students use of technology and attitude towards learning new technology ≤ 60%
	Students participation	20	Students participation in extracurricular and co-curricular activities (industrial visit / training) ≥ 80%	Students participation in extracurricular and co-curricular activities (industrial visit / training) ≥ 70% and ≤ 79%	Students participation in extracurricular and co-curricular activities (industrial visit / training) ≥ 60% and ≤ 69%	Students participation in extracurricular and co-curricular activities (industrial visit / training) ≤ 60%

	Alumni feedback	20	Percent of alumni satisfied with overall development activities organized by college ≥ 80%	Percent of alumni satisfied with overall development activities organized by college ≥ 70% and ≤ 79%	Percent of alumni satisfied with overall development activities organized by college ≥ 60% and ≤ 69%	Percent of alumni satisfied with overall development activities organized by college ≤ 60%

CRITERIA FOR ASSESSMENT OF PROGRAM SPECIFIC OUTCOME ATTAINMENT-B.PHARM

(Attainment Calculated on Rubric Scale of 1 to 4)

PROGRAM SPECIFIC OUTCOME –

1. **PSO.B1.** Students will be able to acquire knowledge on basic principles of Pharmaceutics, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy, Analytical Chemistry, Biochemistry Microbiology and Biotechnology in addition to Jurisprudence and Business management.

2. **PSO.B2.** Students will be able to independently perform all experiments related to Synthesis, Formulation and Evaluation of Pharmaceutical products, Analysis of Chemical substances and substances of natural origin, Animal Studies and Microbiological studies.

3. **PSO.B3.** Students will be able to analyze, interpret data generated in experiments and arrive at conclusions independently.

4. **PSO.B4.** Students will be proficient in IT and Numerical skills with regards to making and delivering Presentations, Seminars, Group discussions, and socially conscious citizens by displaying team work in community service.

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in test conducted at the end of course	100	Students scoring 70% in test ≥70%	Students scoring 60% in test ≥70%	Students scoring 50% in test ≥70%	Students scoring 40% in test ≥70%

CRITERIA FOR ASSESSMENT OF PROGRAM SPECIFIC OUTCOME ATTAINMENT- M.PHARM

(Attainment Calculated on Rubric Scale of 1 to 4)

PROGRAM SPECIFIC OUTCOME –

1. **PSO.M1.** Students will acquire knowledge at an advance level regarding Advanced and Novel Drug Delivery Systems, Biopharmaceutics, Advanced Analytical Techniques, Quality Assurance Techniques, Drug Regulatory affairs and Research Methods.

2. **PSO.M2.** Students will acquire research skills on Formulation development, Development of new analytical procedures, Develop New Quality Assurance Techniques, able to critically review literature, analyze data using various software applications and innovate to test new ideologies in science.

3. **PSO.M3.** Students will be able to independently handle latest sophisticated instrument and equipment in addition to carrying out their calibration and validation periodically.

4. **PSO.M4.** Students will be able to execute a short-term research project successfully under the guidance of a research supervisor and publish it in journals of national and international repute.

Assessment tool	Assessment parameter	Weightage	Level of attainment			
			4 **Excellent**	**3** **Very good**	**2** **Good**	**1** **Average**
Direct assessment	Result in test conducted at the end of course	100	Students scoring 70% in test ≥70%	Students scoring 60% in test ≥70%	Students scoring 50% in test ≥70%	Students scoring 40% in test ≥70%