



Ph. D Entrance Exam – 2022-23

Brochure with Application Form for Ph. D Entrance Exam - 2022 for admission to Ph. D courses in Pharmacy for the academic year 2022- 2023.

Date of Ph. D Entrance Exam –

1. Introduction:-

Ph. D Entrance Exam -2022 is being conducted for the purpose of determining the eligibility for admission of students to Pharmacy for the academic year 2022-2023.

2. Eligibility:-

A candidate who fulfills the following criteria shall be eligible to appear for the Entrance Exam, namely:-

- (i) He/ She is a citizen of India;
- (ii) He/ She has studied and passed in the courses leading to the award of PG degree/ diploma in respective branches recognized by respective councils/Government of India and affiliated to any University established by Law.
- (iii) A Post graduate qualification in the concerned Specialization and faculty is a must.
- (iv) The candidate who completed his/her post graduate degrees in respective branch are eligible for that branch/subject only.

Pharmacy: Candidates with M.Pharm, Pharm-D and Pharm – D (PB) degree awarded by this University or a College/University recognized by AICTE/PCI are eligible for enrollment for Ph. D course in Pharmacy.

Note:

- Candidates with Pharm-D degree are eligible to register for Ph. D in Pharmacy Practice only.
- Candidates with M-Pharm in Pharmaceutics, Pharmaceutical Technology and Industrial Pharmacy are eligible to register for Ph. D in any one of the 3 subjects.
- Candidates with M-Pharm in Quality Assurance and Pharmaceutical Analysis are eligible to register for Ph. D in any one of the 2 subjects.



The entrance exam is conducted in two Parts namely

1. Principles of basic Research methodology - Paper -1
2. Specialty Paper- Paper- II

The Principles of Basic Research methodology Syllabus is as follows:

1. Research Methodology: An Introduction
2. Defining the Research Problem, Hypothesis, Generation of Hypothesis
3. Research Design
4. Sampling Design
5. Measurement and Scaling Techniques
6. Methods of Data Collection
7. Processing, statistics and Analysis of Data
8. Sampling Fundamentals
9. Interpretation and Report Writing
10. Principle and methods of fundamental research method, literature, drug and research problem survey, clinical research
11. Writing an article for a scientific journals
12. Bioavailability
13. Bioequivalence
14. Clinical Trials.



The specialty paper Syllabus content shall ordinarily be equal to the syllabus and books prescribed for Post-Graduate Course for that subject as per Regulations of Central Council.

The Specialty Paper- Paper- II syllabus is as follows

PHARMACEUTICS

1. Pre formulation Studies.

Study of physicochemical characteristics of drug substances, BCS classification of drugs & its significance

2. Optimization techniques in Pharmaceutical Formulation.

Concept and parameters of optimization, Optimization techniques in pharmaceutical formulation and processing

3. Cosmetics and Cosmoceuticals:- formulations approaches and requirements of cosmetics product, plant layout, factory requirements and commonly used cosmetics raw materials, design of special purpose cosmoceutical products, herbal cosmetics, formulation of lip care products and cosmetic safety

4. Drug stability: Reaction kinetics: zero, pseudo-zero, first & second order, units of basic rate constants, determination of reaction order. Accelerated stability studies. ICH guidelines.

5. Drug delivery systems (DDS): NDDS models, osmotic pumps, various release patterns eg. Controlled release, delayed release. Sustained release etc., order of release. Oral controlled DDS, factors affecting controlled release.

6. Regulatory affairs :- Documentation in pharmaceutical industry, Regulatory requirement for product approval, CTD and ECTD format, ICH – Guidelines of Q,S,E,M, non-clinical drug development, clinical trails

7. Transdermal drug delivery systems (TDDS): principles, absorption enhancers, evaluation of TDDS.

8. Drug targeting: microspheres, nano particles, liposomes, monoclonal antibodies, etc.



9. **Drug Absorption, Distribution,** Biotransformation, and elimination. Protein binding, Bioavailability, factors influencing bioavailability, evaluation of bioavailability, bio-equivalence. Methods to improve bioavailability.