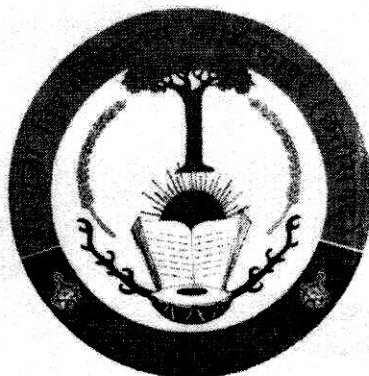


Syllabus for Ph.D. Entrance Test



DEPARTMENT OF PHARMACY

SARGUJA UNIVERSITY, AMBIKAPUR

DARRIPARA, HOSPITAL ROAD

DIST: SURGUJA, CHHATTISGARH

PIN: 497001

Approved in meeting of the Board of Studies in Pharmacy, on 07-09-2017

[Handwritten signature]
07/09/17

[Handwritten signature]
07/09/17

[Handwritten signature]
07/09/17

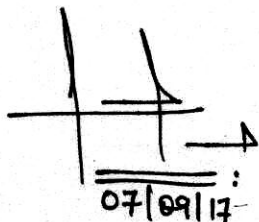


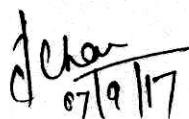
SARGUJA UNIVERSITY, AMBIKAPUR

DEPARTMENT OF PHARMACY

Syllabus for Ph.D. Entrance Test

1. Research definition, process and steps. Methods and sources of literature review. Applications of research and its types, development of theoretical and conceptual framework.
2. Writing up of review with problems, objectives, hypothesis, design of study, analysis of data and report with graph and charts.
3. Experimental design, principles and methods of biostatistics. Basic statistical concepts with variance, correlation and regression including degrees of freedom. *t*-test, *F*-test, *P*-value and *chi-square* test, ANOVA.
4. Applications of MS-Excel for quantitative and statistical data analysis, database analysis, algorithms and other statistical techniques.
5. Bio-pharmaceutics and Pharmacokinetics and their importance in formulation. Preformulation studies, development, manufacturing standards, Q.C. limits, labeling of tablets, capsules and parenterals as per the pharmacopoeial requirements. Storage of different dosage forms and new drug delivery systems. Formulation and preparation of cosmetics. Bioavailability and bio equivalence.
6. Drugs and cosmetic act and rules, Pharmacy Act, requirements of GLP, GMP, USFDA, WHO, ICH guidelines and ISO standards. Intellectual property rights and new drug approval process
7. Basic pharmacological principles, receptors and toxicology. Drug interactions, abuse and dependence, drug absorption. SAR and pharmacology of drugs acting on nervous system, cardiovascular system and hormonal drugs.
8. Crude drugs, drug adulteration, standardization of raw materials and herbal drugs, quantitative microscopy including modern techniques. Detailed pharmacognosy of drugs belonging to group of alkaloids, glycosides, terpenoids, steroids, flavonoids and lipids.
9. Principles and instrumentation of absorption spectroscopy, fluorimetry, NMR, ESR, Mass, HPLC, HPTLC, UPLC. Basics of Differential scanning calorimetry (DSC), X-ray powder diffraction (XRD), SEM and TEM.
10. Hormones, enzymes, vitamins, nucleic acids. Principles of immunology. Diagnostic tests for kidney function and liver function. metabolism of carbohydrates, proteins and lipids.
11. Classification of microorganisms, microbiological assays of IP. Preparation of vaccines and sera. Applications of microbes in pharmaceutical industries.
12. Principles of genetic engineering, gene manipulation, mutation and diseases, gene therapy, recombinant DNA technique. Gene cloning and tissue culture. Enzyme immobilization and its applica


07/09/17


07/09/17


2.9.17

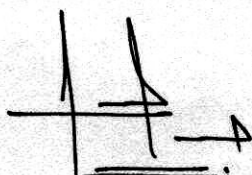
PROPOSED SCHEME OF EXAMINATION

For Ph.D. Entrance Test in Pharmacy

Duration of Exam: 03:00 Hrs

S. No.	Type of Questions	No. of Questions to be set	No. of Questions to be answered	Marks
1	Short Answer/Objective Type	40	30	30x2=60
2	Explanatory/Subjective Type	12	08	08x5=40
3	TOTAL MARKS			100
4	MINIMUM PASS MARKS			50

Note: Each question of 5 marks should be written within 50-100 words.


07/09/17

J Char
07/09/17

07/09/17