



Rajiv Gandhi University of Health Sciences, Karnataka

4th T Block, Jayanagar, Bangalore – 560 041

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Dr. M K Ramesh
Registrar (Evaluation)

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No RGUHS/R & D/ Q.P/ Pre- Ph.D Exam/ Nov 2016

Date: 16/09/2016

To,

Dr. K. Padmalatha
Prin & Principal
Vijaya Inst of Pharmaceutical Sciences
A.P.
Sir/Madam,

Kindly go through the model question
paper before you set the question paper
URGENT PLEASE

Our University is pleased to appoint you as 'Question Paper Setter' for the following subject(s)

COURSE:- Pre Ph.D Exam SUBJECT:- Enclosed

PAPER/TOPIC: Paper -I & Paper -II (2 Sets Each Paper)

If you accept the offer, please send the duly filled - in acceptance form immediately. If you are not in a position to accept, kindly the same immediately by returning the enclosures so as to make alternate arrangements.

Please follow these guidelines:-

1. Kindly read the instructions given overleaf carefully before you set the question paper.
2. Please put one question paper in cover A and close each one, put all 3 such cover in B and please place remuneration bill along with voucher for DTP etc in cover C, and place cover A&C in cover B.
3. The question paper should reach the Registrar (Evaluation)/Director R & D.
4. All communications should be sent in the envelope only. And addressed to the office of the Registrar (Evaluation) by Name.
5. Kindly quote your E-Mail ID/Mobile Number and TIN No. if you have.

Remuneration payable is as follows:

Sl.No	Duration of the question paper	Postgraduate/Ph.D
a)	Less than 3 hours	Rs. 450-00 Per Paper
b)	3 hours	Rs. 450-00 Per Paper

Kindly refrain from setting question if any member of you family or relation is appearing for the examination & kindly decline the offer and return the letter of appointment with all the enclosures immediately.

The assignment setting, DTP and transmission should be kept strictly confidential, and kindly affix a declaration to this effect. Send on are before 10/11/2015.

Thanking you,

Yours Truly

REGISTRAR (EVALUATION)

Note:-Kindly enclose a copy of order along with the Bill .

Encl: (Please tick)

1. Acceptance/Non - acceptance form.
2. Model question Paper.
3. Copy of the Syllabus.
4. Confidential inner covers' named 'A' -3 Nos for placing one question paper in each cover and outer cover named B-1 No.
5. Envelope containing remuneration bill form.



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ENIKEPADU VIJAYAWADA 521 108



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INSTRUCTIONS TO QUESTION PAPER SETTERS

1. The question should be TYPED (either using windows –word or manual typewriter) confidentially, on one side of the white blank sheets supplied by the University for that purpose (a certificate to the effect that the questions were typed confidentially must be enclosed in each cases). The questions are to be typed as per the enclosed template/format only.
2. Question should be legible, easily readable and free from spelling & grammatical mistakes. Abbreviations should not be used. Acronyms should be expanded. No. question is to be repeated in any of the sets prepared by you.
3. Questions should be clear, specific apt and proportional to the marks allotted. Vague, ambiguous, out of syllabus questions should be avoided.
4. Clearly indicate the General instructions to the candidates under the heading note before beginning questions.
5. Please to through the enclosed syllabus for which question paper or section of the paper to be set is also enclosed. Please follow the syllabus strictly and strictly avoid questions that are not present in the syllabus. "Long essay" questions should be on broader topics requiring explanations, discussions, justifications, references and opinions. Questions covering topic requiring a lesser duration of time or length or answer can be classified under "Short essay."
6. Two question papers for each subject/paper should be set and sent. Avoid the same questions being repeated in the two sets and avoid the same questions being repeated in different placed in the same question paper (I. e. in the long essay, short essay).
7. Time allotted for answering all the questions should be kept in mind while setting the question.(Duration of the exam in 3 hours for each paper carrying 100 Marks each).




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RAJIV GANDHI UNIVERSITY OF HEALTH SCIENCES KARNATAKA

Syllabus for Pre-PhD(Pharmaceutical Sciences) Examination- October 2016

Name of the Candidate: Dr. Beere Nagaraju


Name of the Research guide: Dr. Anil Kumar K. V.

Paper-II

Syllabus related to area of research

- **Drug-Drug interaction:** Definition, classification, Perspective of drug-drug interactions, Drug-interaction screening based on in silico and in vitro (enzyme assay) approaches, mechanisms by which drug interact, targets for pharmacokinetic and pharmacodynamic drug interactions, drug metabolizing enzymes and their reactions in drug drug interactions, drug-drug interactions and polypharmacy, screening for potential interactions and to identify their clinical significance, management of drug interactions.
- **Diabetes Mellitus:** Definition of DM, Classification of Diabetes Mellitus, Criteria for Diagnosis of DM, Pathogenesis in the Development of T2DM, Insulin Action and Glucose Homeostasis, Insulin Resistance, Physiological Effects of Insulin Resistance, Pancreatic β -cells, Adipose Tissue and T2DM, Symptoms for T2DM, Long Term Complications of T2DM, Micro and macrovascular complications, antidiabetic therapy for type 2 diabetes mellitus and their mechanism of action, pharmacokinetics, drug interactions with antidiabetic agents, cytochrome p450 system in metabolism of antidiabetic agents. Screening models for evaluating antidiabetic agents, drug induced diabetes
- **Hypertension:** Definition, classification, aetiology, diagnostic criteria for hypertension, drug targets for the management of hypertension, classification of antihypertensives and their mechanism of action, common drug drug interaction associated with antihypertensive agents. Drug induced hypertension. Screening models to evaluate antihypertensive activity.
- **Pharmacodynamic drug drug interaction study in normal and diabetic rats.**
- **Pharmacokinetic and pharmacodynamic drug interaction study in rabbits.**
- **Pharmacist role in drug interactions studies**
- **Bioanalytical method development and validation for a reliable pharmacokinetic experiment.**
- **Study of various of pharmacokinetic parameters in drug interactions studies.**




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RESEARCH METHODOLOGY

1. Biomedical research and its benefits.
2. Types of research and study design.
3. Steps in research project
4. Non-Clinical Science research
 - a) Writing protocols for Preclinical Drug Disposition (ADME) Studies.
 - b) Pharmacogenomics – Statistics, Mechanism and Applications.
 - c) Alternatives to animal experimentations in research.
5. Clinical Research:
 - a) Principles of study design in clinical research.
 - b) Writing protocols for clinical research.
 - c) Bioavailability/Bioequivalence: study consideration.
6. Data collection and presentation
7. Ethics in biomedical research
8. Biostatistics
 - a) Measures of the Central tendency
 - b) Measures of variability
 - c) Sampling and sample size
 - d) Levels of significance & confidence interval
 - e) Power
 - f) Test of significance
 - g) Correlation & Regression
 - h) Data presentation- tables, graphs & plots
 - i) Applications
 - j) Uses
 - k) Limitations
9. Research methodology
 - a) Literature review, search engine and methods
 - b) Elements of research question
 - c) Hypothesis formulation
 - d) Questionnaire design
 - e) Instrumentation, calibration, validation, safety issues
 - f) Measurement errors – identification, elimination, balancing & distribution, measurement
 - g) Data capture & creation of database
 - h) Records and analysis
10. Scientific communication
 - a) Writing scientific paper in biomedical sciences
 - b) Synthesis of thesis
 - c) Reference style and common errors in referencing
 - d) Plagiarism and ethics in scientific writing
11. Research support
 - a) Writing successful research proposal
 - b) Writing a grant proposal
 - c) Fundraising activities in biomedical sciences and preparing a successful grant application.



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Rajiv Gandhi University of Health Sciences
Pre Ph.D. Examination

Time: 3 Hrs

(Max. Marks: 100)

Name of the Candidate:

Faculty : Pharmacy

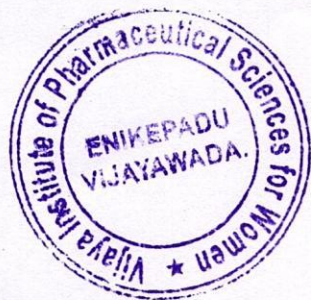
Subject : Research Methodology

Paper : I

Note: Answer any four questions
All questions carry equal marks

4 X 25= 100 Marks

1. Explain the various aspects of research proposal writing.
2. (a) What are the ethics to be followed in research?
(b) Write different funding opportunities in biomedical science.
3. (a) Write protocols for preclinical drug disposition (ADME) studies.
(b) Explain various alternatives to animal experimentation in research.
4. (a) Write various steps to follow in research design.
(b) Explain systematic literature review and search engine methods.
5. (a) Explain about test of significance, procedure for testing the hypothesis.
(b) Explain the procedure for difference of means in small sample test (t- test).



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Rajiv Gandhi University of Health Sciences
Pre Ph.D. Examination

Time: 3 Hrs

(Max. Marks: 100)

Name of the Candidate:

Faculty : Pharmacy

Subject : Research Methodology


Paper : I

Note: Answer any four questions
All questions carry equal marks

4 X 25= 100 Marks

1. Write different guidelines for writing scientific paper?
2. (a) what is plagiarism and explain the ethics to be followed in scientific writing?
(b) Explain various reference style and common errors in referencing.
3. (a) Explain the concept of pharmacogenomics in study of human variability in drug response.
(b) Briefly explain bioavailability / bioequivalence study design.
4. (a) Explain briefly biomedical research and its benefits.
(b) What are the various steps to follow in questioner design?
5. (a) Explain methods of sampling.
(b) Explain about methods of central tendency, characteristics of good average.




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**Rajiv Gandhi University of Health Sciences
Pre Ph.D. Examination**

Time: 3 Hrs

(Max. Marks: 100)

Name of the Candidate:

Faculty : Pharmacy

Subject : Area of Research

Paper : II

Note: Answer any four questions
All questions carry equal marks

4 X 25= 100 Marks

1. Explain the mechanisms involved in pharmacokinetic and pharmacodynamic interactions.
2. (a) Classify antihypertensives and explain their mechanism of action.
(b) Explain common drug – drug interaction associated with antidiabetic agents.
3. (a) Explain cytochrome p450 system in metabolism of antidiabetic agents.
(b) Explain different screening methods for evaluating antihypertensive activity.
4. (a) Write drug metabolizing enzymes and their reactions in drug interaction.
(b) Explain drug interaction and polypharmacy.
5. Describe various pharmacokinetic and pharmacodynamic parameters in drug interaction Studies.



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Rajiv Gandhi University of Health Sciences
Pre Ph.D. Examination

Time: 3 Hrs

(Max. Marks: 100)

Name of the Candidate:

Faculty : Pharmacy

Subject : Area of Research

Paper : II

Note: Answer any four questions
All questions carry equal marks

4 X 25= 100 Marks

1. Define drug interaction and explain insilico and enzyme assay approaches for screening of drug interaction.
2. (a) Explain pathogenesis and symptoms of T2DM
(b) Explain different screening methods for evaluating antidiabetic agents.
3. Write a note about:
 - (a) Drug induced diabetes
 - (b) Drug induced hypertension
4. (a) Write long term complications of T2DM
(b) Explain common drug – drug interaction associated with antihypertensive agents.
5. (a) Describe various pharmacokinetic parameters in drug interaction studies.
(b) Explain the role of pharmacist in drug interaction studies.



Handwritten signature in green ink.

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