

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

PAPER – I

RESEARCH METHODOLOGY

Q.P. Code: 7001

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe steps of systematic review and discuss the different types of risk of bias.
2. Describe the differences among cross sectional, randomized control trial and cross-over design.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Distinguish between types of analytical and experimental study design.
4. Describe falsification, fabrication and plagiarism (FFP) in research.
5. Write short note on plagiarism in research publications.
6. Write a short note on research publication ethics and conflicts of interest.
7. Describe the Title – Consistency with research questions and objectives with suitable examples.
8. Describe the name of popular and non-popular databases used for literature search.

PRE Ph.D. EXAMINATION – APRIL 2024

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Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24601

Reg.No: DO1223001

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain in detail cultivation, collection and quality control of natural origin plants for medicinal uses.
2. Describe various methods used to extract medicinal plants, with their advantages, limitations and applications.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss pathophysiology, etiology & types of burns wound. Write about advanced approaches of burn wound healing treatment.
4. Explain various topical formulations & their advantages & limitations to develop burn wound healing treatment.
5. What is ternary phase diagram? Explain in brief formulation considerations in emulsion systems.
6. What are gelling systems? Give its advantages, disadvantages & methods for preparations.
7. Write a note on "Careya arborea" including its role in the management of burn wound.
8. Explain the concept, elements of QbD. Write brief about optimization process.

PRE Ph.D. EXAMINATION – APRIL 2024

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Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24602

Reg.No: DO1223002

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. List the types of nanoparticles in drug delivery systems. Briefly discuss the formulation considerations and evaluation parameters for nanostructured lipid carriers. Mention their applications.
2. Explain the types of liver cancer with their pathophysiology and etiology. add a note on advanced approaches for liver cancer.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Define targeted drug delivery system. Write a note on the drug selection criteria and mention its advantages.
4. What are the criteria for selection of excipients for NLC (Nanostructured Lipid Carriers)? Add a note on factors affecting the formulation design.
5. Explain the mechanism of action of fisetin and chlorogenic acid. State the bio-availability associated problems.
6. Briefly explain the hepatocellular carcinoma cell line selection for in-vitro assays and maintenance of cell line and culture conditions.
7. List the elements of QbD. Discuss the application of optimization process in pharmaceuticals.
8. Explain the set up and methodology for in-vitro release studies and the factors affecting drug release from NLCs.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

FACULTY OF PHARMACY

PAPER – II

Q.P. Code: A24604

Reg.No: DO1223004

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain the types of wounds with their pathophysiology and etiology. Add a note on advanced approaches for wound healing.
2. What are the types of vesicular drug delivery systems? Explain any one method of preparation. List their applications.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain the drug selection criteria for topical drug delivery systems. State the advantages and disadvantages of topical drug delivery system.
4. Define transferosomes. Explain its formulation and evaluation parameters.
5. Describe the method of preparation and evaluation parameters for a gel. Add a note on its disadvantages.
6. Briefly explain the mechanism of action of syringic acid and its role in wound healing.
7. What are the methods for induction of wounds and their evaluation parameters?
8. List the elements of QbD. Discuss the application of optimization process in pharmaceuticals.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24605

Reg.No: DO1223005

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain the etiopathophysiology of chronic kidney disease (CKD). Highlight on the drug-drug interactions in CKD patients.
2. Describe the pharmacokinetics & pharmacodynamics of drugs used in CKD patients. How the medication adherence barriers can be addressed in these patients?

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Brief on different stages of CKD and diagnostic criteria as per KDIGO guidelines.
4. Highlights on the importance of pharmaceutical care in CKD patients.
5. What are the different tools and scales used for comprehensive patient assessment in CKD?
6. Briefly explain the different strategies for patient education and counseling in CKD.
7. Emphasize on the collaborative practice models used in CKD management.
8. Enumerate the ethical principles in pharmaceutical care and informed consent process in CKD patients.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24607

Reg.No: DO1223007

Answers should be specific to the Questions asked.
Draw neat, labeled diagrams wherever necessary.
All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. What is drug targeting? Elaborate on targeting types explain CD44 receptor targeted drug delivery systems.
2. Explain breast cancer & its types, pathophysiology and treatment options available.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain various methods of preparation, evaluation of copper sulfide nanoparticles.
4. What are quantum dots? Discuss in brief methods for preparation, advantages & disadvantages.
5. What do you mean by QbD, write its importance, elements along with applications?
6. Explain in vitro methods for breast cancer study including specific evaluation parameters.
7. Explain the role of CPCSEA in animal experiment. Give a brief account on guidelines of anesthesia and euthanasia of experimental animal.
8. Elaborate on various drugs used in the management of breast cancer, discuss in brief about Olaparib (drug) and its utility.

PRE Ph.D. EXAMINATION – APRIL 2024

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Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24608

Reg.No: DO1223008

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain the types of skin cancer with their pathophysiology and etiology. What are the advanced approaches for skin cancer.
2. List the types of vesicular drug delivery systems and their applications. Briefly explain the formulation considerations for cubosomes with their advantages and disadvantages.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain the drug selection criteria for topical drug delivery system and state the advantages and disadvantages.
4. Describe the method of preparation and the evaluation parameters for a gel. Add a note on its advantages.
5. Discuss the mechanism of action and therapeutic uses of epigallocatechin-3-gallate.
6. Discuss the mechanism of action and bioavailability problems of rosmarinic acid in the treatment of melanoma.
7. Write a note on induction models for melanoma and the evaluation parameters.
8. Explain the elements of QbD and discuss the application of optimization in pharmaceuticals.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF PHARMACY
PAPER – II**

Q.P. Code: A24610

Reg.No: DO1223010

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain synthesis and structural evaluation of silver nanoparticle loaded with lantana montevidensis.
2. Explain in-vitro and in-vivo anti-inflammatory evaluation methods.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Discuss various extraction techniques.
4. Write pharmacognostic profile, classification, phytochemistry and therapeutic uses of lantana montevidensis.
5. Explain targeted drug delivery system of nanoparticles.
6. Write principle, instrumentation and applications of transmission electron microscopy.
7. Explain principle, instrumentation and nanoparticle applications of FTIR.
8. Write theory involved in Bragg's law and explain particles size determination.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF AYURVEDA
PAPER – II**

Q.P. Code: A24301

Reg.No: DO1223015

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Define prakriti and describe synonym of prakritis. Elaborate different factors responsible for prakritis according to charaka & susruta acharyas. (3+7+10)
2. Explain classification and features of the individual belonging to each kind of Bhutika Prakriti. (5+15)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Explain manasika prakriti its types and describe rajasika manas prikriti in detail. (3+3+4)
4. Discuss inter relation between prakriti and genomics in detail. (10)
5. Explain the importance of prakriti pareeksha in the present era in relation with life style. (5+5)
6. Write principles and practice of management of refractive errors in Ayurveda and modern science. (5+5)
7. Explain critically pitta prakriti netra and its significance in prakriti pareeksha. (5+5)
8. Explain the role of prakriti pareeksha in diagnosis of refractive errors and its current relevance.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF AYURVEDA
PAPER – II**

Q.P. Code: A24302

Reg.No: DO1223016

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Critically justify panchamahabhoota siddant in ayurveda as an independent school of thought.
2. Elaborate definitive role of agney and aapya dravya in causation of amlapitta. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Write in detail about investigation and differential diagnosis for GERD. (5+5)
4. Justify the need for panchmahaboota chikitsa in amlapitta.
5. Elaborate recent research on amlapitta and its relevance in present era. (5+5)
6. Write and discuss akasha tatva in detail W.S.R to ayurveda pareeksha. (5+5)
7. Explain influence of panchamahabhuta in the formation of sharir as per ayurveda.
8. Write about amlapitta from bhrihtrayee.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF AYURVEDA
PAPER – II**

Q.P. Code: A24303

Reg.No: DO1223017

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain ashta shukra dusthi and elaborate their chikitsa. (7+13)
2. Explain semen analysis as per ayurveda & compare it with conventional semen analysis. (10+10)

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Classify vajikarana and discuss its application in current day practice. (3+7)
4. Describe shukradhara kala and shukravaha srotas and explain their clinical applications. (4+6)
5. Explain spermatogenesis in detail.
6. Explain etiopathology & management of oligospermia. (5+5)
7. Explain the investigation used in context of sperm abnormalities.
8. Discuss the recent development in Ayurveda management of sperm abnormalities.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

FACULTY OF AYURVEDA
PAPER – II

Q.P. Code: A24304

Reg.No: DO1223018

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Explain in detail about aetiology and risk factors of knee osteoarthritis.
2. Explain nidana, lakhana and chikitsa of sandigata vata.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Write about common musculoskeletal system disease.
4. Write ACR guidelines for diagnosis of knee osteoarthritis.
5. Explain relationship between menopause and knee osteoarthritis.
6. Explain chikitsa sutra of asthi vaha srotas vikara.
7. Common investigations in knee osteoarthritis.
8. Explain differential diagnosis of osteoarthritis.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 3 Hours

Max. Marks: 100

**FACULTY OF SCIENCE:
INTERDISCIPLINARY RESEARCH / STUDIES
PAPER – II**

Q.P. Code: A24701

Reg.No: DO1223019

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 20 = 40

1. Describe bio-safety principles & add a note on biological hazards, risk categories and sterilization technique.
2. Define adjuvant therapy, mention types & its role in enhancing therapeutic outcome with special reference to herbal agents.

SHORT ESSAY QUESTIONS:

6 X 10 = 60

3. Write a note on pathogenesis & treatment of tuberculosis.
4. Define DILI, mention types and causes with reference to anti-TB drugs.
5. Write about in-silico tools & techniques of drug efficacy & toxicity prediction.
6. Explain in-vitro testing of drug efficacy and drug susceptibility testing technique.
7. Write a note on animal models of tuberculosis & alternative approaches.
8. What is RT-PCR, mention its applications in disease diagnosis.

PRE Ph.D. EXAMINATION – APRIL 2024

Time: 2 Hours

Max. Marks: 50

PAPER – III

BIOSTATISTICS

Q.P. Code: 7003

Answers should be specific to the Questions asked.

Draw neat, labeled diagrams wherever necessary.

All questions are compulsory.

Question Number

Marks

LONG ESSAY QUESTIONS:

2 X 10 = 20

1. Explain the differences in Frequency Polygon & Frequency Curve along with their characteristics.
2. Define paired and unpaired t-tests with suitable examples.

SHORT ESSAY QUESTIONS:

5 X 6 = 30

3. Define biostatistics its uses in research with suitable example.
4. Explain difference between standard errors and standard deviation.
5. Describe the conditions under which the following tests are used:
 - Wilcoxon signed – rank test
 - Wilcoxon rank – sum test
 - Kruskal – wallis test
6. Write short notes on errors in the data and their management.
7. Describe the steps of writing the materials and methods in thesis writing.
