M.Pharm / I / Sem - I / 2017

(9)

SINHGAD/PALGAD/AMAZON / PARANA/ KARNAFULI/ SURAMA/ SIYANA – I

(CBCS): WINTER - 2016

SUBJECT: ADVANCED PHARMACEUTICAL ANALYSIS

Day: Monday
Date: 02-01-2017

Time: 10:00 AM TO 1:00 P.M.
Max. Marks: 60

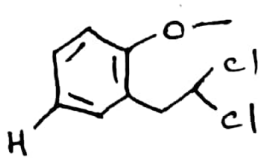
N.B.:

1) Attempt any **THREE** questions from Section –I and section –II each.
2) Figures to the **RIGHT** indicate full marks.
3) Answer to both the section should be written in **SEPARATE** answer books.
4) Draw neat diagrams **WHEREVER** necessary.

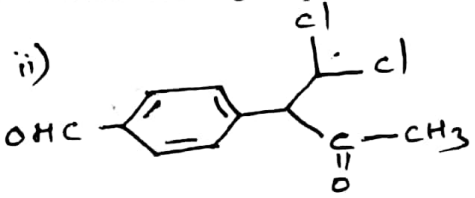
SECTION-I

Q.1 a) Assign the chemical shifts and multiplicities for the following compounds. **(10)**

i)

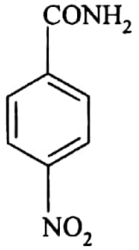


ii)

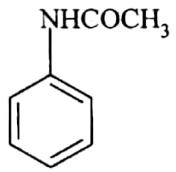


b) Assign the approximate range of IR frequencies to the vibrations corresponding to the functional groups in the following structures.

i)



ii)



Q.2 Deduce the structure of a compound having following spectral data: **(10)**
Molecular formula $C_7 H_9 N$
IR (cm^{-1}): 3341, 1610, 1525, 1451
^{1}HNMR (δppm): 6.98, (m, 5H), 4.1 (s, 1H), 1.5 (s, 3H)

Q.3 Discuss the instrumentation of GLC in detail with suitable diagram **(10)**

P. T. O.

Q.4 Write elaborate note on: **(10)**

a) Applications of HPTLC

b) LC- MS- MS

SECTION-II

Q.5 Write an exhaustive note on ELISA. **(10)**

Q.6 Write a brief note on super critical fluid chromatography. **(10)**

Q.7 Discuss the instrumentation and applications of DSC. **(10)**

Q.8 Write an elaborate note on: **(10)**

a) Applications of XRD

b) Applications of TGA

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PALGAD /AMAZON/PARANA/KARNAFULI/SURAMA/SIYANA/SINHAGAD- I (CBCS)
: WINTER - 2016

SUBJECT : RESEARCH METHODOLOGY & BIOSCREENING

Day : Wednesday
Date : 04-01-2017

Time : 10:00 AM TO 1:00 P.M.
Max. Marks : 60

N.B.

1) Attempt any **THREE** questions from Section – I and Section – II each.
2) Answers to both the sections should be written in **SEPARATE** answer books.
3) Figures to the right indicate **FULL** marks.

SECTION - I

Q.1 What is Research? What are the objectives of Research? Comment on various types of research. **(10)**

Q.2 Explain plagiarism and methods to avoid plagiarism. **(10)**

Q.3 What do you understand by quality by design (QBD) and explain how it can be effectively implemented? **(10)**

Q.4 Write elaborate notes on any **TWO** of the following: **(10)**

a) Essential components of research paper

b) Interview method of research

c) Selection of research problem

SECTION – II

Q.5 Describe the bio-screening of anti arrhythmic drugs. **(10)**

Q.6 Describe the guidelines for acute toxicity testing in animals. **(10)**

Q.7 Two groups of 100 patients each were included in clinical trial of anti HIV drug. The drug was ineffective in 15 patients in first group and 25 patients in other group. Test the effectiveness of Anti HIV drug. (Use 5% LOS) **(10)**

Q.8 Write elaborate notes on any **TWO** of the following: **(10)**

a) Factorial design

b) Linear regression

c) Non parametric tests

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AMAZON – I (CBCS): WINTER - 2016

SUBJECT: ADVANCED PHARMACEUTICS- I

Day: Friday
Date: 06-01-2017

Time: 10:00AM-TO1:00 P.M.
Max. Marks: 60

N.B.:

1) Attempt any **THREE** questions from Section –I and any **THREE** questions from section II.
2) Figures to the right indicate **FULL** marks.
3) Answers to both the sections should be written in **SEPARATE** answer book.

SECTION-I

Q.1 Give an account of the drug–excipient studies to be performed during preformulation stage. **(10)**

Q.2 Explain the Q5 ICH guidelines with respect to the quality of biotechnological products. **(10)**

Q.3 Give an account of the factors affecting dissolution rate. **(10)**

Q.4 Write notes on: **(10)**

a) Principle, Instrumentation and application of DSC

b) Box Behenken approach for optimization of pharmaceutical formulation

SECTION-II

Q.5 Give an account of the thermodynamic aspects of polymer solutions. **(10)**

Q.6 Define CMC and explain factors affecting CMC. **(10)**

Q.7 Give an account of various stimuli sensitive polymer and their applications. **(10)**

Q.8 Write notes on: **(10)**

a) Preparation and characterization of solid dispersions

b) Heckel plot and its application

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SURAMA - I (CBCS) WINTER - 2016

SUBJECT : ADVANCED PHARMACOGONSY - I

Day : Friday
Date : 06-01-2017

Time : 10:00AM TO 1:00 P.M.
Max. Marks : 60

N.B.

1) Answer any **THREE** questions from Section - I and any **THREE** questions from Section - II.
2) Figures to the right indicate **FULL** marks.
3) Answers to Section - I and Section - II should be written in **SEPARATE** answer books.

SECTION - I

Q.1 Phytochemical and Pharmacological information on *Commiphora mukul* OR *Ocimum sanctum*. **(10)**

Q.2 *In-situ* and *Ex-situ* cultivation of medicinal plants. **(10)**

Q.3 Role of herbal Antioxidants in prevention of disease. **(10)**

Q.4 Write short notes on any **TWO**: **(10)**

a) Nutritional law and regulation
b) Analgesics from marine source
c) Weight control products

SECTION - II

Q.5 Phytochemical and Pharmacological information on *Podophyllum hexandrum* OR *Azadirichta indica*. **(10)**

Q.6 Salient features of biodiversity law. **(10)**

Q.7 Give the current status of nutrition and health dietary guidelines. **(10)**

Q.8 Write short notes on any **TWO**: **(10)**

a) Anticancer marine drug
b) Nutraceuticals and functional foods
c) Modern method of isolation of phytopharmeceuticals

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PALGAD - I (CBCS) : WINTER - 2016

SUBJECT – ADVANCED DRUG REGULATORY AFFAIRS-I

Day : Friday
Date : 06-01-2017

Time : 10:00 AM TO 1:00 P.M
Max. Marks : **60**

N.B.:

1) Attempt **ANY THREE** questions from Section - I and **ANY THREE** questions from Section - II
2) Answers to both sections should be written in the **SEPARATE** answer books.
3) Figures to the **RIGHT** indicate full marks

SECTION-I

Q.1 Discuss important provisions of a GMP guidance generally accepted World Wide. **[10]**

Q.2 Discuss various Quality System Elements. **[10]**

Q.3 Discuss important provisions of GMP by MCC, South Africa **[10]**

Q.4 Write short note on **(ANY TWO)** **[10]**

a) Quality Plan
b) Market Complaints Handing
c) Quality Risk Management

SECTION – II

Q.5 Discuss Analytical Method Validation. **[10]**

Q.6 What are the Roles and Responsibilities of Stakeholders in Clinical Trials. **[10]**

Q.7 Discuss Stability Testing Conditions and Climate Zones. **[10]**

Q.8 Write short note on **(ANY TWO)** **[10]**

a) QSEM
b) Drug Adverse Reaction Reporting
c) Product Development Report

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PARANA-I (CBCS): WINTER - 2016

SUBJECT: ADVANCED PHARMACEUTICAL CHEMISTRY-I

(PHARMACEUTICAL CHEMISTRY)

Day: Friday
Date: 06-01-2017

Time: 10:00 AM TO 1:00 PM
Max Marks: 60

N: B:

1) Attempt **ANY THREE** questions from Section-**I** and **ANY THREE** questions from Section-**II.**
2) Answers to both the sections should be written in the **SEPARATE** answer books
3) Give reactions, structures, schemes **WHEREVER** necessary.
4) Figures to the right indicate **FULL** marks.

SECTION-I

Q.1 Elaborate on various methods for the protection and deprotection of – NH_2 group and – OH groups. **(10)**

Q.2 Explain general principle of catalysis. Discuss with examples catalysis by enzymes and base catalysis. **(10)**

Q.3 Explain the principle, mechanism and applications of **(10)**

a) Benzil benzillic acid rearrangement
b) Wolf kishner reduction

Q.4 Write short notes on (**ANY TWO**) **(10)**

a) Nucleophillic and non-nucleophic bases
b) Preparation of trifluoromethyl ethers
c) MPV reduction

SECTION-II

Q.5 Discuss different methods to synthesize α – methylene lactones. **(10)**

Q.6 Discuss in detail cycloaddition reaction with suitable examples. **(10)**

Q.7 Explain in detail chemistry of **any two** of the following named reactions. **(10)**

i) Claisen isoxazole synthesis
ii) Fischer indole synthesis
iii) Paal knorr pyrole synthesis

Q.8 Short notes (**ANY TWO**) **(10)**

a) Stereochemistry of allenes & biphenyls
b) Woodward rules for allowed & disallowed motions
c) Reactions of active methylene compounds

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SIYANA-I (CBCS): WINTER - 2016

SUBJECT: ADVANCED QUALITY ASSURANCE TECHNIQUES-I
(QUALITY ASSURANCE TECHNIQUES)

Day: Friday
Date: 06-01-2017

Time: 10:00AM TO 1:00PM.
Max Marks: 60

N.B:

1) Attempt any **THREE** questions from each section.
2) Figures to the right indicate **FULL** marks.
3) Answer each section on **SEPARATE** answer sheets.

SECTION-I

Q.1 Discuss QA aspects of Raw and Packaging material management. **(10)**

Q.2 Discuss Quality Agreement in detail. **(10)**

Q.3 Discuss building and facility details of a pharmaceutical manufacturing plant. **(10)**

Q.4 Write short notes on any **TWO** of the following: **(10)**

a) Pharmaceutical Purchasing
b) Key Persons and their responsibilities
c) Equipment design and location

SECTION-II

Q.5 Discuss in detail concept of QA and QC. **(10)**

Q.6 Elaborate on manufacturing aspects of sterile pharmaceutical products. **(10)**

Q.7 Discuss I.P.Q.C activities in production and its importance. **(10)**

Q.8 Write short notes on any **TWO** of the following: **(10)**

a) WHO guidelines on inspection of Pharma manufacturing facilities
b) Recovered Products
c) Charge in of components

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PARANA/KARNAFULI/SURAMA/SIYANA/SINHGAD/PALGAD/

AMAZON-I (CBCS) WINTER - 2016

SUBJECT: ELECTIVE -I: a) PHARMACEUTICAL ADMINISTRATION

Day : Monday
Date : 09-01-2017

Time : 10:00 AM TO 1:00 P.M.
Max.Marks : **60**

N.B.:

1) Attempt **Any THREE** questions each from Section- I and Section-II.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Answer to both the sections should be written in the **SEPARATE** answer book.

SECTION-I

Q.1 Discuss various components of Human Resource Management. **(10)**

Q.2 Describe organizations. Discuss formal and informal organizations in detail. **(10)**

Q.3 Discuss process of decision making in detail. **(10)**

Q.4 Write short notes on **(Any TWO)** **(10)**

a) Management social responsibilities

b) Manager development process

c) Steps in planning

SECTION-II

Q.5 Discuss communication process in an organization in detail. **(10)**

Q.6 What are the requirements of effective control in an organization? **(10)**

Q.7 Discuss productivity problems and measurements. How can these problems be overcome? **(10)**

Q.7 Write short notes on **(Any TWO)** **(10)**

a) Mc Clelland's needs theory

b) Direct control

c) Operations management

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KARNAFULI-I (CBCS) : WINTER - 2016
SUBJECT : ADVANCED PHARMACOLOGY-I

Day : Friday
Date : 06-01-2017

Time : 10:00 AM-TO 1:00 P.M.
Max. Marks : 60.

N.B.:

1) Attempt any **THREE** questions from each section.
2) Both the sections should be written in **SEPARATE** answer books.
3) Figures to the **RIGHT** indicate full marks.

SECTION-I

Q.1 Describe the CPCSEA proforma for performing experiment on animals. **(10)**

Q.2 Describe the safety assessment tests and toxicity tests. **(10)**

Q.3 Describe the screening of antipsychotic drugs. **(10)**

Q.4 Write notes on any **TWO** of the following: **(10)**

a) Alternatives to animal experiments
b) Screening of cardiac glycosides
c) Screening of sedatives, hypnotics

SECTION-II

Q.5 Describe the role of animal cell lines in the *in vitro* testing of drugs. **(10)**

Q.6 Describe in detail the screening for antidiabetic drugs. **(10)**

Q.7 Describe the preclinical evaluation of anti-fertility drugs. **(10)**