



**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE SYSTEM) : WINTER - 2018**

**SUBJECT: ADVANCED PHARMACEUTICAL CHEMISTRY-I**

Day: Monday  
Date: 07/01/2019

**W-2018-4156**

Time: 10.00 A.M. TO 01.00 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 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** Discuss various methods for the protection and deprotection of -OH and -NH<sub>2</sub> group (10)
- Q.2** Discuss the concept of catalysis with its classification. Explain mechanism of surface catalyzed reaction. (10)
- Q.3** a) Discuss the importance of fluorine, -CF<sub>3</sub> and -OCF<sub>3</sub> group in organic molecule (05)  
b) Discuss in detail nucleophilic fluorination reactions. (05)
- Q.4** Write short notes on any **TWO** of the following: (10)
- a) Hoffman degradation
  - b) Benzil – benzilic acid rearrangement
  - c) Homogeneous and heterogeneous reduction

**SECTION-II**

- Q.5** Classify pericyclic reactions and discuss cycloaddition reactions in detail. (10)
- Q.6** Discuss in detail stereochemistry of allenes and biphenyls. (10)
- Q.7** a) Discuss IUPAC nomenclature of hetero cyclic compounds with examples. (05)  
b) Describe Fisher indole synthesis and Hinsberg thiophene synthesis. (05)
- Q.8** Write short notes on any **TWO** of the following: (10)
- a) Methods of preparations for  $\alpha$  methylene lactones
  - b) Stereochemistry of Spiro compounds
  - c) Curtin Hammet principle

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**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE  
SYSTEM) : WINTER - 2018  
SUBJECT: ADVANCED PHARMACEUTICS – I**

Day : Monday  
Date : 07/01/2019

**W-2018-4154**

Time : 10.00 A.M. TO 01.00 P.M.  
Max. Marks: 60

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**N.B.**

- 1) Answer any **THREE** questions from **Section – I** any **THREE** questions from **Section – II**.
  - 2) Both the sections should be written in separate answer books.
  - 3) Figures to the right indicate **FULL** marks.
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**SECTION - I**

- Q.1** Enlist the various parameters to be considered during preformulation study. Comment on the interrelationship of drug properties in preformulation. (10)
- Q.2** Explain the model based and model independent approaches to compare dissolution profile. (10)
- Q.3** Enlist the various approaches employed for optimization of pharmaceutical formulations. (10)
- Q.4** Write short notes on: (10)
- a) Principle, Instrumentation and application of DSC.
  - b) Q.1 ICH guideline for stability study of pharmaceuticals.

**SECTION – II**

- Q.5** Give an account of the different mathematical approaches to study the compressional behavior of solids. (10)
- Q.6** Define CMC. Elaborate on the factors affecting CMC. (10)
- Q.7** Explain the different mechanisms of biodegradation of polymers with examples. (10)
- Q.8** Write notes on : (10)
- a) Thermodynamics of polymer solutions
  - b) Dendrimers

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**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE  
SYSTEM) : WINTER - 2018  
SUBJECT : ADVANCED PHARMACOGNOSY-I**

Day : Monday  
Date : 07/01/2019

**W-2018-4157**

Time : 10.00 A.M. TO 01.00 P.M.  
Max. Marks. 60

**N.B.**

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

**SECTION – I**

- Q.1** Write an exhaustive note on *Gymnema sylvestre* and *Ocimum sanctum*. (10)
- Q.2** Give the detailed phytochemical and pharmacological profile of *Azadirachta indica* and *Tylophora asthematica*. (10)
- Q.3** Describe *ex-situ* and *in situ* methods of cultivation. Elaborate the advantages and disadvantages of these techniques with respect to the cultivation on medicinal plants. (10)
- Q.4** Write elaborate note on **ANY TWO** (10)
- a) Plant Breeders Right
  - b) Biodiversity law
  - c) Indian patent law applicable to natural products.

**SECTION – II**

- Q.5** Write a detailed note on Food guide pyramid. (10)
- Q.6** What are nutraceuticals? Classify them and explain their roles in healthcare. (10)
- Q.7** Write a detailed note on Marine CVS drugs. Explain the Pharmacognosy of any one in detail (10)
- Q.8** Write a short note on **ANY TWO** (10)
- a) Recent trends in Marine drug research
  - b) Antioxidants
  - c) FPO

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**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE  
SYSTEM) : WINTER - 2018**

**SUBJECT: ADVANCED PHARMACOLOGY-I**

**Day:** Monday  
**Date:** 07/01/2019

**W-2018-4155**

**Time:** 10.00 A.M. TO 01.00 P.M.  
**Max. Marks:** 60

**N.B.:**

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

**SECTION - I**

- Q.1** Describe the OECD guidelines for performing experiment on animals. [10]
- Q.2** Describe the screening of analgesic, anti-inflammatory drugs in detail. [10]
- Q.3** Explain in detail high throughput screening. [10]
- Q.4** Write short notes on **ANY TWO** of the following: [10]
- a) Microarrays
  - b) Screening of CNS stimulants
  - c) Screening of local anaesthetics

**SECTION - II**

- Q.5** Explain the screening of bronchodilators. [10]
- Q.6** Describe the screening of antihistamines. [10]
- Q.7** Explain the screening of cholinergics. [10]
- Q.8** Write short notes on **ANY TWO** of the following: [10]
- a) Screening of antithyroid drugs.
  - b) Screening of androgenic drugs.
  - c) Animal cell lines and their uses.

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**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE  
SYSTEM) : WINTER - 2018**  
**SUBJECT : ADVANCED QUALITY ASSURANCE TECHNIQUES – I**

Day : Monday  
Date : 07/01/2019

**W-2018-4159**

Time : 10.00 A.M. TO 01.00 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 books.
- 4) Draw neat and labelled diagram **WHEREVER** necessary.

**SECTION - I**

- Q. 1** Discuss important aspects related to Materials Management in Pharma Industry. (10)
- Q. 2** Discuss the requirements for buildings and facilities of a pharma manufacturing unit. (10)
- Q. 3** What are the responsibilities of heads of QC and production? Also add a note on their combined responsibilities. (10)
- Q. 4** Write short notes on **ANY TWO** of the following: (10)
- a) Personnel Training and Personnel Hygiene in pharmaceutical industry
  - b) Design and construction of process equipment
  - c) Factors in contractor selection for outsourcing of pharma operations

**SECTION - II**

- Q. 5** Discuss in detail manufacturing of Q. A. aspects of sterile pharmaceutical products. (10)
- Q. 6** Elaborate on recalled, returned rejected and recovered product. Add note on product complaint. (10)
- Q. 7** Discuss I.P.Q.C. activities in production and calculation of yields with its importance. (10)
- Q. 8** Write short notes on **ANY TWO** of the following: (10)
- a) WHO guidelines on inspection of Pharma MFG facilities
  - b) Concept of QA and QC
  - c) Release of finished products

**M. PHARM. SEM-I (CHOICE BASED CREDIT & GRADE SYSTEM) : WINTER - 2018**

**SUBJECT: Elective- I: a) PHARMACEUTICAL ADMINISTRATION**

Day: Wednesday  
Date: 09/01/2019

**W-2018-4161**

Time: 10.00 A.M. TO 01.00 P.M.  
Max Marks: 60

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**N.B:**

- 1) Attempt any **THREE** questions questions from each section.
  - 2) All questions carry **EQUAL** marks.
  - 3) Both the sections should be written in **SEPARATE** answer books.
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**SECTION-I**

- Q.1** Discuss concept of social responsibilities of management. **(10)**
- Q.2** Explain with examples various steps involved in strategic planning process. **(10)**
- Q.3** Discuss salient features of formal and informal organizations. **(10)**
- Q.4** Write short notes on **ANY TWO** **(10)**
- a) Structure and process of Organizing
  - b) Process of Decision Making
  - c) Performance Appraisal

**SECTION-II**

- Q.5** Discuss various Human factors in managing. **(10)**
- Q.6** How does pitfalls in communication process damage organizations? **(10)**
- Q.7** Discuss various requirements for effective control. **(10)**
- Q.8** Write short notes on **ANY TWO:** **(10)**
- a) Production and Operations Management
  - b) Ways of Improving Productivity
  - c) Preventive Control

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