

**B. Pharmacy 8th
Semester
Question Paper
2017-2018**

Even Semester Examination 2017-18

B.Pharm. (SEMESTER-VIII)

NOVEL DRUG DELIVERY SYSTEM

Time: 03:00 Hours

Max Marks : 100

1. Attempt any four : (5 x 4)
 - (a) Define the terms: sustained release, controlled release, delayed release and prolonged release with suitable examples.
 - (b) Write short note on Prodrugs.
 - (c) Give a brief account on Osmotic Pumps.
 - (d) Write down the theory involved in transdermal drug delivery system.
 - (e) Write down evaluation parameters for controlled drug delivery system.
2. Attempt any four: (5 x 4)
 - (a) Write short note on drug immobilization techniques.
 - (b) What are nanoparticles? Write note on its method of preparation.
 - (c) Discuss various evaluation parameters for Transdermal drug delivery system.
 - (d) Write a brief note on Liposomes including their methods of preparation.
 - (e) Discuss theory of controlled release drug delivery systems.
3. Attempt any four: (5x4)
 - (a) Discuss the physicochemical properties of drug influencing the designing of CDDS.
 - (b) Write short note on properties of drug affecting the development of Transdermal DDS.

- (c) Describe buccal delivery of drugs.
- (d) Discuss the ocular delivery of drugs.
- (e) Write in brief about the pulmonary drug delivery system.

4. Attempt **any two**: (10x2)

- (a) Define Microencapsulation. Discuss in detail about the various methods used for microencapsulation.
- (b) Discuss nose to brain drug delivery system in detail with suitable diagram.
- (c) What are resealed erythrocytes? What are the advantages of resealed erythrocytes? Discuss methods of preparation of resealed erythrocytes.

5. Attempt any two:- (10x2)

- (a) Give detailed account on general methods of design and evaluation of CDDS.
- (b) Write a note on Implants. What are different methods for design of implants?
- (c) What is the concept of targeted drug delivery? Write down note on methods of drug targeting.

Even Semester Examination, 2017-18**B.PHARMA. (SEMESTER-VIII)****PHARMACEUTICAL MARKETING****Time: 03:00 Hours****Max Marks : 100****Note :** Attempt **all** questions.Q1. Attempt **any four** (5×4=20)

- (a) Define market segmentation?
- (b) Explain the salient features/ characteristics of marketing concept?
- (c) What do you understand by term "Demand"? Discuss Different factors affecting demand of a product.
- (d) Explain the concept of Direct marketing channel?
- (e) Write a note on preventive internal control.

Q2. Write short note on **any four** (5×4=20)

- (a) Consumer Buying Behaviour
- (b) Demand Forecasting
- (c) Sales Promotion
- (d) Vertical Marketing Channel
- (e) Roles and Responsibility of Wholesalers

Q3. Attempt **any four** (5×4=20)

- (a) How is market segmentation different from market targeting?
- (b) Write a note on geo demographic analysis
- (c) Differentiate between Generic and Brand- name drugs?
- (d) Discuss key features of international marketing.
- (e) Missionary selling in Pharmaceutical Industry.

Q4- Attempt **any Two**

(10×2=20)

- (a) Discuss in detail Four P's (Product, Price, Place and Promotion) of Marketing Mix.
- (b) What is Demand Forecasting? Discuss Different Methods of Demand Forecasting
- (c) What is retailing? Discuss in detail the Opportunities and Challenges faced by organised Pharmaceutical retail outlets in India.

Q5.- Attempt **any Two**

(10×2=20)

- (a) What do you understand by term marketing analysis? Discuss various element and dimensions of market analysis.
- (b) What is Marketing Research? Discuss in detail the process of marketing research.
- (c) What is the role of intermediaries in any marketing channel? Discuss in detail the process of selecting a market intermediary.

Even Semester Examination 2017-18**B. Pharma. (SEMESTER-VIII)****GMP, QUALITY ASSURANCE & VALIDATION****Time: 03:00 Hours****Max Marks : 100**

Note: Attempt all five questions, each question carry equal marks.

1. Attempt any four: 5x4
 - (a) Write a note on Master formula record.
 - (b) Write a note on sanitation and premises requirement as per GMP.
 - (c) Discuss the requirement of SOP and its contents as per GPM.
 - (d) Write a note on ISO 9000 series.
 - (e) Discuss the ICH guideline for stability study of drug product.
2. Attempt any four: 5x4
 - (a) Write a note on maintenance of records in Pharmaceutical Industry.
 - (b) Discuss the requirements for export registration.
 - (c) Write a note on regulatory requirement for new drug approval.
 - (d) Write a note on GLP.
 - (e) Write a note on labeling requirements as per Drug & Cosmetic.
3. Attempt any two: 10x2
 - (a) Write detail note on quality assurance systems and concept.
 - (b) Discuss the quality assurance protocol for manufacturing of tablets.

(c) Write a note on container and closure and personnel requirements.

4. Attempt any two:

10x2

(a) Define validation, types of validation and discuss validation master plan.

(b) Write a note on validation of process, product and cleaning.

(c) Write a note on building management system.

5. Attempt any two:

10x2

(a) Discuss the in process quality control tests for solid and liquid dosage form.

(b) Write a note on IPQC problems, sampling plan, finished product and packaging component quality tests.

(c) Discuss the role of internal audits and procedure for investigation of market complaints.

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Even Semester Examination, 2017-18**B.PHARMA. (SEMESTER-VIII)****PHARMACOPEIAL STANDARDS****Time: 03:00 Hours****Max Marks : 100****Note :** Attempt all five questions, each question carry equal marks.

1- Attempt any four:

[5x4]

- (a) Differentiate between general and individual monograph.
- (b) Enlist various biological methods described in Indian Pharmacopoeia and write a note on bacterial endotoxin test.
- (c) Explain the pyrogen testing as per Indian Pharmacopoeia.
- (d) Enlist sterility testing methods as per I.P. and discuss the sterility testing by direct inoculation.
- (e) Define iodine value and discuss the methods for determination of iodine value.

2- Attempt any four :

[5x4]

- (a) Write a note on Infrared Absorption Spectrophotometry.
- (b) Discuss pH value. Explain apparatus and methods used to determine the pH of solution.
- (c) Discuss the disintegration test apparatus and procedure as per Indian Pharmacopoeia.
- (d) Discuss the procedures for dissolution testing of modified release dosage form and discuss the acceptance criteria.
- (e) Discuss the test procedure for particulate contamination in parenteral preparations.

3- Attempt any two: [10x2]

- (a) Write detail note on the various tests on herbal products as per I.P.
- (b) Write a note on biological indicators.
- (c) Write the procedure for determination of ABO Blood Group and Rh Group.

4- Attempt any two: [10x2]

- (a) Explain the general requirements for different types of tablet including production and tests as per I.P.
- (b) Write a note on different types of containers for pharmaceutical products.
- (c) Write a note on general requirements as per monograph of dosage form for:
 - (i) Eye drop
 - (ii) Eye ointment
 - (iii) Ear drop
 - (iv) Nasal preparations

5- Attempt any two : [10x2]

- (a) Discuss the monograph of Whole Human Blood and Platelet concentrate.
- (b) Discuss the general requirements for production and tests of vaccines.
- (c) Discuss the general requirements for crude herbs, processed herbs and herbal formulations as per I.P

Even Semester Examination, 2017-18

B.PHARMA. (SEMESTER-VIII)

PHARMACEUTICAL ANALYSIS-III

Time: 03:00 Hours

Max Marks : 100

1. Attempt any four : (4x5=20)
 - (a) What is the beer's Lambert law? Give the application and limitations.
 - (b) Explain theory and instrumentation of colorimetric method of analysis
 - (c) Define electronic transition? Explain various type of electronic transition involved in UV spectroscopy.
 - (d) Discuss the Instrumentation of double beam UV spectroscopy.
 - (e) Write the application of UV spectroscopy in Pharmaceutical analysis.
2. Attempt any four : (4x5=20)
 - (a) Explain the theory and principle of IR spectroscopy.
 - (b) Explain the various sample technique used in IR spectroscopy.
 - (c) Explain the theory and Instrumentation of Fluorimetry spectroscopy.
 - (d) Explain the following :
 - (i) Fingerprint region
 - (ii) Types of vibrations in IR Spectroscopy.
 - (e) Explain the principle and Instrumentation of FTIR spectroscopy.
3. Write down the detailed notes on (any four) : (4x5=20)
 - (a) Principle of NMR
 - (b) Chemical Shift

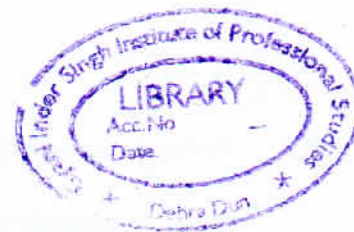
- (c) Spin- spin coupling
- (d) Shielding and deshielding
- (e) Splitting of signals

4. Attempt any four : (4x5=20)

- (a) Explain the theory and principle of mass spectroscopy.
- (b) Give the Instrumentation of mass spectroscopy.
- (c) Mc Lafferty Rearrangement in Mass Spectroscopy
- (d) Explain the following :
 - (i) Define mass analyzer.
 - (ii) Metastable ions
- (e) Explain the following :
 - (i) Molecular ion peak
 - (ii) Fragmentation pattern in mass spectroscopy.

5. Write down the detailed notes on (a) : (4x5=20)

- (a) Detectors used in GLC
- (b) Pharmaceutical application of GLC
- (c) Describe the Instrumentation and application of HPLC
- (d) Types of pump used in HPLC
- (e) Explain the sample in
- (f) Injection techniques in GLC

**Even Semester Examination 2017-18****B.Pharma. (SEMESTER-VIII)****CLINICAL PHARMACY AND DRUG INTERACTION****Time: 03:00 Hours****Max Marks : 100****Note :** Attempt **all** questions.**Q.1. Attempt any four :****[5x4=20]**

- (a) Role of pharmacists in clinical pharmacy
- (b) Role of patient's case history in drug therapy assessment
- (c) Brief account on patient medication history and patient counseling.
- (d) Write down various liver function tests and renal function tests.
- (e) Write down different diagnostic tests associated with cardiac disorders.
- (f) Classify the adverse drug reactions with suitable examples

Q.2. Attempt any four :**[5x4=20]**

- (a) Role of pharmacist in drug therapy monitoring committee and clinical trials of new drugs and their formulations
- (b) Role of pharmacist in errors eradication of medication charts.
- (c) Discuss in detail about drug utilization evaluation and review.
- (d) Various measurements adopted in quality assurance of clinical pharmacy services.
- (e) Enumerate and discuss the risk factors associated with adverse drug reactions.

Q.3. Write down **any two** :

[10x2=20]

- (a) Methods of bioavailability determination based on urinary drug excretion and plasma drug concentration data.
- (b) Methods for calculation of loading and maintenance dose.
- (c) Total clearance, renal clearance and hepatic clearance.
- (d) Write short notes on geriatric patients, dose adjustment in renal failure and Volume of drug distribution

Q.4. Attempt **any two** :

[10x2=20]

- (a) Symptoms and treatment for hypertension. Write a note on primary and secondary hypertension.
- (b) Parameters to monitor the therapy of congestive heart failure and Crohn' disease of gastrointestinal track
- (c) Role of anti-inflammatory drugs, antibiotics and antacids in peptic ulcers.
- (d) Symptoms and treatments of colitis, chronic renal failure and ischemic heart disease

Q.5. Attempt **any two** :

[10x2=20]

- (a) Various parameters and studies performed for clinical trials of drugs
- (b) Categories of phase IV studies
- (c) Ethical requirements for clinical research
- (d) Toxicity studies of drugs

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Even Semester Examination 2017-18**B.PHARMA. (SEMESTER-VIII)****ENVIRONMENT & ECOLOGY****Time: 03:00 Hours****Max Marks : 100**

1. Attempt **any four** of the following (5x4=20)
 - a. Give a brief account of importance of environmental studies.
 - b. What is the scope of environmental science? Discuss in brief four segments of environment.
 - c. What are renewable and non-renewable resources? Give examples.
 - d. Give a detailed account of the uses and exploitation of mineral resources.
 - e. What do you mean by deforestation? What are the problems caused by deforestation and how to control it?
 - f. Give a detailed account of the uses and exploitation of land resources.
2. Attempt **any four** of the following (5x4=20)
 - a. Explain the structure and function of an ecosystem.
 - b. Describe the major threats of biodiversity.
 - c. Short note on forest grassland ecosystem.
 - d. Give the importance of biological diversity.
 - e. Describe food chain, food web and ecological pyramids.
 - f. Explain ex-situ and in-situ conservations.

3. Attempt **any two** of the following (10x2=20)
- Define water pollution. Write down in details the causes and control measures of water pollution.
 - Define air pollution. Write down in details the causes and control measures of air pollution.
 - What are the major sources of soil pollution? How does soil pollution affect soil productivity? What measures can be taken to prevent soil pollution.
 - Describe the source, effect and control of noise pollution. Give an account of noise generated during diwali. What would you suggest to reduce this menace?
4. Attempt **any two** of the following (10x2=20)
- Write the constitution, powers and functions of centre and state boards under Air (Prevention and Control of pollution) Act 1987.
 - What are the objectives of water (Prevention and Control of pollution) act 1974? What are the functions of the central board under the act?
 - Why do we refer to environmental protection, act 1986 as an umbrella act? Discuss the major environmental protection rules 1986.
 - What are the power of the central government under the environment protection act for protection and improvement of the environment?
5. Attempt **any two** of the following (10x2=20)
- Write a note on Hazardous micro-organism rules.
 - Discuss the salient features of Hazardous wastes act.
 - Discuss Bio-medical waste (Management and Handling) rules.
 - Give the detailed features of Hazardous Chemical Act.

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