

Code No: R7701

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

IV B.PHARMACY II SEMESTER EXAMINATIONS APRIL 2011

NOVEL DRUG DELIVERY SYSTEMS AND REGULATORY AFFAIRS

Time: 3 hours

Max. Marks: 80

**Answer any five questions
All questions carry equal marks**

1. Explain the various approaches for oral control drug delivery systems. [16]
2. Explain the various approaches used for the development of transdermal delivery systems. [16]
3. Describe the methods to evaluate the mucoadhesion and characteristics of mucoadhesive dosage forms. [16]
4. Explain various characterization techniques of liposomes. [16]
5. Explain the different methods employed in drug entrapment in erythrocytes. [16]
6. Explain the process of NDA and its benefits. [16]
7. Explain the various aspects of manufacturing control and list the documentation requirements. [16]
8. Describe the procedures involved in analytical method validation. [16]

Code No: R7702

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
IV B.PHARMACY II SEMESTER EXAMINATIONS APRIL 2011
PHARMACEUTICAL BIOTECHNOLOGY**

Time: 3hours

Max.Marks:80

**Answer any five questions
All questions carry equal marks**

1. a) Write about Biochemical oxygen demand.
b) Explain the various methods used in Effluent treatment. [16]
2. a) Discuss the various steps involved in the commercial production of β -lactum antibiotic.
b) Explain in detail the downstream process for production of Citric acid. [16]
3. a) What is Microbial transformation?
b) Explain the transformation process with special reference to Steroidal production. [16]
4. a) Explain in detail the various steps involved in Gene cloning.
b) Define Vector. Write a short note on p^{BR322} [16]
5. Differentiate the following
a) Cellular immunity and Humoral immunity.
b) Active immunity and Passive immunity. [16]
6. a) What is Enzyme immobilization? Give the advantages of immobilized enzyme over free enzyme.
b) Explain the various techniques of Enzyme immobilization. [16]
7. a) Write about the method of production, storage and control of Dextran.
b) Give an account on absorbable and non-absorbable surgical ligatures and sutures. [16]
8. a) Define Bioinformatics and write its applications.
b) Give an account on DNA and protein sequence Data bases. [16]

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
IV B.PHARMACY II SEMESTER EXAMINATIONS APRIL 2011
MEDICINAL CHEMISTRY-III

Time: 3hours

Max.Marks:80

Answer any five questions
All questions carry equal marks

1. a) Classify antihypertensive agents with one example for each class and give the synthesis of Methyl dopa and nifedipine.
b) Give a brief account on statins acting as Antihyperlipidemics. [12+4]
2. a) Enumerate Anticoagulants, Anti-anginals and Coronary vasodilators and mention any two drugs useful in each class and give the synthesis of Diltiazem.
b) Give the synthesis, mechanism of action and uses of Acetazolamide. [10+6]
3. a) Mention any four drugs used in case of Pancreatic malfunction and give the synthesis of Phenformin and acarbose.
b) Give the synthesis, mechanism of action and uses of Propylthiouracil. [10+6]
4. a) Classify Non-steroidal anti-inflammatory agents and give the synthesis of Ibuprofen and Diclofenac.
b) Write a short note on COX-2 inhibitors. [16]
5. a) Classify sulpha drugs used as Anti-bacterial agents and give the synthesis of Sulphadiazine and sulphamethoxazole.
b) Give the structure, mechanism of action and uses of Zidovudine and Fluconazole. [10+6]
6. a) Classify antitubercular agents and give the synthesis of Isonicotinic acid hydrazide and Ethambutol.
b) Give the structure, mechanism of action and uses of Dapsone and Diloxanide furoate. [16]
7. a) Classify antimalarial drugs and give the synthesis of Pyrimethamin and Norfloxacin.
b) Give the structure, mechanism of action and uses of Pyrantel palmoate and Procainamide. [10+6]
8. a). Give the chemical structure, mechanism of action of any four anticancer agents belonging to different classes and give the synthesis of Carmustine and Busulphan.
b) Write a brief note on α -glucosidase inhibitors. [12+4]

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
IV B.PHARMACY II SEMESTER EXAMINATIONS**

APRIL 2011

PHARMACOGNOSY-III

Time: 3 hours

Max. Marks: 80

**Answer any five questions
All questions carry equal marks**

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1. Write the various types of Adultrants in the crude drugs. Discuss the evaluation of crude drugs by
 - a) Microscopic method
 - b) Biological method[16]
2. a) Give the identification tests and discuss on the isolation techniques of plant constituents in detail with suitable example.
b) Give the general identification test of functional groups and elaborate on the estimation of any one functional group in detail. [8+8]
3. a) Explain the various chromatographic techniques and emphasis on GC method.
b) Give the application of GC in the evaluation of crude drugs. [8+8]
4. a) Define plant tissue culture, types of cultures and write briefly about callus culture and its applications.
b) Write a note on nutritional requirements in plant tissue culture. [8+8]
5. Give the common names, sources, chemical constituents and uses of following traditional drugs.
 - a) Shatavari
 - b) Rasna
 - c) Kalimusli
 - d) Methi[16]
6. a) Explain the following herbal formulations
 - i) Ayurveda
 - ii) Homoeopathy
b) Write briefly on method of preparation of following herbal formulations
 - i) Churnas
 - ii) Tailas[8+8]
7. a) Explain the role of following cosmeceuticals in cosmetics
 - i) Turmeric
 - ii) Sandalwood
b) Define neutraceuticals and write briefly on
 - a) Garlic
 - b) Soya[8+8]
8. Give the importance of the following
 - a) Herbal cosmetics
 - b) Herbal Medicines[8+8]

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
IV B.PHARMACY II SEMESTER EXAMINATIONS**

APRIL 2011

CLINICAL PHARMACY AND THERAPEUTICS

Time: 3 hours

Max. Marks: 80

**Answer any five questions
All questions carry equal marks**

1. Discuss the role of a clinical pharmacist and clinical pharmacy. [16]
2. Write a short note on
a) Drugs in geriatrics b) Drug interactions [8+8]
3. Discuss in detail about clinical management of various types of cardiac arrhythmias. [16]
4. Describe the detailed clinical management of asthma. [16]
5. What is diabetes mellitus? Discuss its pharmacological and non pharmacological treatment. [16]
6. Write a short note on etiology, symptoms and clinical treatment of
a) Anemia b) Gout [8+8]
7. Define therapeutic drug monitoring. Discuss its role and importance in clinical treatment of various diseases. [16]
8. Write a short note on
a) Essential drugs b) Rational drug use [8+8]
