

GUJARAT TECHNOLOGICAL UNIVERSITY**B. PHARM. - SEMESTER – VII • EXAMINATION – WINTER 2012****Subject code: 270003****Date: 01/01/2013****Subject Name: Pharmaceutical Chemistry-IX (Medicinal Chemistry)****Time: 10.30 am - 01.30 pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a) Explain briefly following terms: 6
1. Chemotherapeutic agent 2. Antibiotics 3. Transduction
4. Chemotherapeutic index 5. Synergistic effect 6. Crystaluria
- (b) Classify β -lactam antibiotics, and write short note on Repository Preparation of Penicillin-G. Explain disadvantages of Penicillin-G 5
- (c) Write short note on Semisynthetic Penicillins. 5
- Q.2 (a) Explain mechanism of action of co-trimoxazole. Pharmacologically classify Sulpha drugs and give SAR of Sulphonamides 6
- (b) Give synthesis of following drugs: 5
1. Sulphacetamide 2. Trimethoprim 3. Penicillin-G
4. Chloramphenicol 5. Ketoconazole
- (c) Write short note on SAR of Tetracyclines. Explain the term Fanconi like syndrome 5
- Q.3 (a) Enumerate different Protozoal infections mentioning their causative organism. Explain sexual phase of malaria parasite. How these phase could be controlled 6
- (b) Classify antiviral agents and write short note on Anti-HIV agents 5
- (c) Give synthesis of following drugs: 5
1. INH 2. PAS 3. Chloroquine 4. Metronidazole 5. Methimazole
- Q.4 (a) Explain bioactivation of Cyclophosphamide and Write note on Natural Products used in treatment of cancer 6
- (b) Classify anti neoplastic agents and write short note on alkylating agents 5
- (c) Explain the following terms: 5
1. Malignant tumour 2. Metastasis 3. Leukemia
4. Apoptosis 5. Graying syndrome
- Q.5 (a) Explain the following terms: 6
1. Type I diabetes 2. Type II diabetes 3. Gestational diabetes.
Write short note on Oral Hypoglycemic agents
- (b) Enumerate male and female sex hormones. Give name of synthetic analogue of each category, and write short note on oral contraceptives 5
- (c) Give structure, category and synthesis of following (any two) 5
1. Pyrimethamine 2. Tamoxifen 3. Glipizide
- Q. 6 (a) Explain Nomenclature and stereochemistry of Steroids 6
- (b) Classify steroids, and write short note on Glucocorticoids 5
- (c) Give importance of Thyroid Hormones and write short note on anti thyroid drugs 5
- Q.7 (a) What are immunomodulators, give their applications. What are the drawbacks associated with their uses, how they could be minimized. 6
Comment: Stem cells are good alternative to immunomodulators
- (b) Enumerate antibiotics of Fungal, Actinomycetous and Bacterial origin. Chemically classify antibiotics. 5
- (c) Differentiate the following: 5
(1) Quinolones and Quinolones. (2) Metabolites and Antimetabolites.
Write short note on Antifungal agents effective which are effective both systemically as well as topically
