

Total No. of printed pages = 4

**BP 601 T**

Roll No. of candidate

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23/08/22

RIKA CHOWDHURY CENTRAL LIBRARY  
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Bhubaneswar - 751017

2022

**B.Pharm. 6<sup>th</sup> Semester End-Term Examination**

**MEDICINAL CHEMISTRY - III**

Full Marks – 75

Time – Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following (MCQ) : (20 × 1 = 20)
- (i) Which of these antimalarials is used for the liver stage of the disease?  
(a) Artemisinin (b) Chloroquine  
(c) Mefloquine (d) Primaquine
- (ii) Sodium stibgluconate is used specifically against  
(a) Filariasis (b) HIV  
(c) Leishmaniasis (d) Sleeping sickness
- (iii) Which of these antivirals is used specifically against influenza cases?  
(a) Oseltamivir (b) Zidovudine  
(c) Acyclovir (d) All of these
- (iv) The drug of choice for Filariasis is  
(a) DEC (b) Dapsone  
(c) Sodium stibgluconate (d) Chloroquine
- (v) Which of these drugs is characterized as Z in DOTS therapy  
(a) Isoniazid (b) Streptomycin  
(c) Pyrazinamide (d) Ethambutol
- (vi) Which of these drugs was under investigation for use in COVID-19?  
(a) Hydroxychloroquine (b) Ivermectin  
(c) Both of these (d) None of these

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- (vii) The ratio of trimethoprim and sulfamethoxazole in cotrimoxazole is  
 (a) 5:1 (b) 1:5  
 (c) 1:4 (d) 4:1
- (viii) Apart from TB the drug Rifampicin is also effective in treating?  
 (a) Whooping cough (b) Measles  
 (c) Leprosy (d) Septicemia
- (ix) Which one of the following concepts in QSAR describes a linear free-energy relationship?  
 (a) Taft's Equation (b) Hammett's Equation  
 (c) Hansch analysis (d) None of these
- (x) The category of Penicillins that is resistant to Beta-lactamase enzyme is  
 (a) Methicillin (b) Cloxacillin  
 (c) Dicloxacillin (d) All the above
- (xi) The azabicyclo [4.2.0] ring system is observed in  
 (a) Penicillin (b) Cephalosporin  
 (c) Tetracyclin (d) Carbapenams
- (xii) Find the odd one out.  
 (a) INH (b) Ethambutol  
 (c) Rifampin (d) Azithromycin
- (xiii) Which of these heterocyclic ring systems are observed in Nitrofurantoin?  
 (a) Pyridine and furan  
 (b) Furan and phenytoin  
 (c) Furan and hydantoin  
 (d) Hydantoin and benzimidazole
- (xiv) The antifungal drug which forms pores in the fungal ergosterol membrane  
 \_\_\_\_\_  
 (a) Griseofulvin (b) Ketoconazole  
 (c) Miconazole (d) Amphotericin-B
- (xv) Red coloured urine can be observed during the treatment course of which of these drugs?  
 (a) Chloroquine (b) INH  
 (c) Telmisartan (d) Rifampicin

- (xvi) Which vitamin deficiency is observed in people who take INH for a long time?
- (a) Vitamin B<sub>1</sub> (b) Vitamin B<sub>6</sub>  
(c) Vitamin B<sub>12</sub> (d) Vitamin B<sub>3</sub>
- (xvii) Sulfonamides essentially work by binding and inhibiting \_\_\_\_\_.
- (a) DHPS (b) DHF  
(c) THF (d) DPPS
- (xviii) Streptomycin is not administered orally because
- (a) It causes a metallic taste in the mouth  
(b) It causes excessive vomiting  
(c) Poor absorbance from stomach  
(d) Causes GI bleeding
- (xix) Select an anti-hepatitis antiviral drug from among the following
- (a) Lamivudine (b) Ribavirin  
(c) Interferon alpha (d) All of these
- (xx) The Gray baby syndrome is an ADR of
- (a) Chloramphenicol (b) Amoxicillin  
(c) Ornidazole (d) Cloxacillin

2. Answer any seven questions (7 × 5 = 35)
- (a) Write a detailed note on Reverse Transcriptase and mention the viruses which use this process.
- (b) Write the classification of antifungal drugs. Mention the structural aspects of Amphotericin B. (3+2)
- (c) Write a note on Solid phase and Solution phase synthesis.
- (d) Discuss the SAR of 4-aminoquinolines.
- (e) Write the synthesis of
- (i) Metronidazole  
(ii) Chloramphenicol
- (f) Write a note on the different types of Anthelmintic drugs. Write the synthesis of DEC. (3+2)
- (g) Discuss the structural features of Tetracycline.
- (h) Classify antiviral drugs. Write the synthesis of Acyclovir. (3+2)
- (i) Write a note on Urinary tract anti-infective drugs with structural examples.
- (j) Describe the SAR of sulphonamides.

3. Answer any two questions (2 × 10 = 20)
- (a) Write the synthesis of (any four) (4 × 2.5 = 10)
- (i) Chloroquine
  - (ii) Ciprofloxacin
  - (iii) Isoniazid
  - (iv) Dapsone
  - (v) Sulfacetamide
  - (vi) Trimethoprim
- (b) What is malaria? Discuss the chemical classification of malaria with a few structural examples. Write a note on the structural features of Artemisinin. (2+5+3 = 10)
- (c) Write short notes on: (any four) (4 × 2.5 = 10)
- (i) QSAR
  - (ii) Combinatorial chemistry
  - (iii) Hammett's Equation
  - (iv) Hansch Analysis
  - (v) Pharmacophore
  - (vi) Molecular docking

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