BACHELOR OF PHARMACY (B. PHARM.) (CBCS-2019 COURSE) B. Pharm. Sem-VI :SUMMER- 2022 SUBJECT: MEDICINAL CHEMISTRY-III (THEORY)

Time: 10:00 AM-01:00 PM

Day: Tuesday S-20680-2022 Date: 12/7/2022

Max. Marks: 75

N.B.:

- All questions are **COMPULSORY**. 1)
- Figures to the right indicate FULL marks. 2)
- Answers to both the sections should be written in **SEPARATE** answer book. 3)

SECTION-I

Answer all the questions: $(2 \times 10 = 20)$ 0.1

- a) Antifungal polyene macrolide that preferentially binds to fungal ergosterol (02) which alters cellular permeability.
 - i) Ketoconazole

ii) Amphotericin B

iii) Miconazole

- iv) Griseofulvin
- **b)** Effornithine is a/ an analog of
- ii) Isatin

i) Naphthalene iii) Ornithine

- iv) Imidazoline
- Starting material for metronidazole synthesis is

(02)

(02)

- i) Glyoxal, ammonia and acetaldehyde
- ii) Ethane-1, 2 diamine
- iv) Only glyoxal
- iii) Both

- (02)
- d) Identification of a lead nucleus depends on the consideration of i) Molecular structure
 - ii) Geometry of receptor
 - iii) Drug receptor interaction
- iv) Observed biological responses
- v) All of the above
- e) Lipinski's rule of five is used for

(02)

i) Docking

- ii)Similarity search
- iii) Drug likeness
- iv) Dynamics simulation
- f) Basic nucleus present in Nalidixic acid is.

(02)

i) Quinoline

- ii) 1,7- Naphthyridine
- iii) Isoquinoline
- iv) 1, 8- Naphthyrindine
- g) Which is a derivative of Adamantane?

(02)

i) Didarosine

- ii) Gancyclovir
- iii) Vidarabine iv) Rimantadine
- h) As per SAR studies 1. 3 propanediol moiety should be present in which (02)
 - configuration in Chloramphenicol. i) Lerythro configuration
- ii) D erythro configuration
- iii) D threo configuration
- iv) None of the above
- According to SAR studies of Clindamycin

- (02)
- i) It is obtained by replacing 7 (R) OH of Lincomycin to 7 (Cl group) ii) 7- (Cl group has stronger activity that and (R) Cl or OH or sulphur
- iii) It is also k/a Chloro and deoxy Lincomycin
- IV. All of the above
- Which of the following is an example of a mutual prodrug?
- (02)

- i) Prontosil is the prodrug for sulfanamide
- ii) Aspirin is the prodrug of salicylic acid
- iii) Benorylate prodrug for NSAIDs and paracetamol
- iv) Diesters pro prodrug for pilocarpic acid

P. T. O.

- Q.2 Attempt any TWO of the following: $(2 \times 10 = 20)$
 - a) Classify antitubercular agents with representative structures, IUPAC and ADR. Discuss chemistry and SAR of three classes with suitable examples.
 - b) Classify antibiotics with representative structures. Discuss MOA and SAR with suitable examples of Aminoglycoside antibiotics.
 - c) Write the structure and uses of three drugs from cephalosporins and tetracycline. Discuss in detail structural activity relationship of tetracyclines.

SECTION-II

- Q.3 Answer any SEVEN of the following: $(7 \times 5 = 35)$
 - a) What are Antifungal drugs? Explain chemistry, structural activity relationship of synthetic antifungals.
 - **b)** Define and classify antiamoebic agents with suitable examples. Outline the synthesis of metronidazole.
 - c) Define QSAR. Explain Hansch anlaysis.
 - d) Explain the synergism of Trimethoprim and Sulfamethoxazole.
 - e) Classify anthelmintics with their MOA and suitable examples.
 - f) Discuss the structural activity relationship of sulfonamides.
 - g) Write the synthesis and uses of Sulphacetamide and Mebendazole.
 - h) Write a note on Pharmacophore modeling.
 - i) Write a note on Macrolides.

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