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2022

D.Pharm 1<sup>st</sup> Year End-Term Examination

Part - I

PHARMACEUTICAL CHEMISTRY - I

Full Marks – 80

Time – Three hours

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

A. Objective type questions (Answer all)

(20 × 1 = 20)

1. (i) Cefadroxil is an example of
- (a) 1<sup>st</sup> Generation Cephalosporin
  - (b) 2<sup>nd</sup> Generation Cephalosporin
  - (c) 3<sup>rd</sup> Generation Cephalosporin
  - (d) 4<sup>th</sup> Generation Cephalosporin
- (ii) The best example of sedative and hypnotic is
- (a) Acetazolamide
  - (b) Metformin
  - (c) Cyproheptadine
  - (d) Alprazolam
- (iii) Risperidone is a(n)
- (a) Antipsychotic drug
  - (b) Diuretic
  - (c) Antineoplastic agent
  - (d) All of the above
- (iv) The yellow colour stain formed on lead acetate paper during the limit of Arsenic is due to-
- (a) Arsennious acid
  - (b) Amine gas
  - (c)  $ZnCl_2$
  - (d)  $H_2S$
- (v) Streptomycin is a (n)
- (a) Aminoglycoside
  - (b) Barbiturate
  - (c) Steroid
  - (d) None
- (vi) Pen-G contains
- (a) Cyclic ring
  - (b) Pyridine ring
  - (c) Thiazolidine ring
  - (d) Beta-lactam and thiazolidine ring

[Turn over

- (vii) Phaenothiazine ring is mostly found in-
- (a) Chlorpromazine (b) Haloperidol  
(c) Ketamine HCl (d) All of the above
- (viii) Which of the following is not an example of intravenous anaesthetics?
- (a) Etomidate ketamine (b) Fentanyl  
(c) Diazepam (d) Halothane
- (ix) Brand name of Imipramine is-
- (a) Luvox (b) Celexa  
(c) Paxil (d) Tofranil
- (x) What is the storage condition of Alprazolam?
- (a) 20-25°C (b) 30-35°C  
(c) 10-15°C (d) 15-20°C
- (xi) The chemical name of \_\_\_\_\_ is 5-fluoro-1H, 3H-pyrimidine-2, 4-dione
- (a) Vincristine (b) Vinblastine  
(c) Dactinomycin (d) Fluorouracil
- (xii) Copper sulphate is also known as
- (a) Blue vitriol (b) Red vitriol  
(c) Green vitriol (d) All of the above
- (xiii) The molecular weight of nitrous oxide is-
- (a) 46.1 (b) 44.0  
(c) 40.2 (d) 42.2
- (xiv) Which of the following is not an example of non-systemic antacid
- (a) Aluminium salts (b) Magnesium salts  
(c) Sodium bicarbonate (d) Calcium carbonate
- (xv) Sodium fluoride is a(n)
- (a) Anticaries agent (b) Antacid  
(c) Antibiotic (d) Analgesic
- (xvi) Amitryptiline is a
- (a) Dibenzcycloheptane derivative  
(b) Dibenzazepine derivative  
(c) Barbituric acid derivative  
(d) Biguanide derivative
- (xvii) The best example of thiazolidinediones is
- (a) Rosiglitazone (b) Ciglitazone  
(c) Both (a) and (b) (d) Only (a)
- (xviii) Which of the following is an anti-psychotic drug?
- (a) Gabapentin (b) Duloxetine  
(c) Chlorpromazine (d) Propofol

(xix) Dopamine is a (n)

- (a) Neurotransmitter (b) Drug  
(c) Medicine (d) All of the above

(xx) Propranolol is \_\_\_\_\_

- (a) Antihypertensive (b) Antineoplastic  
(c) Antimalarial (d) All of the above

B. Answer the following questions. (ten out of 11) (10×3=30)

2. What do you mean by anti-convulsants? Write down the structures of the following

- (a) Phenytoin  
(b) Valproic acid

3. Define tuberculosis. Classify anti-tubercular drugs with suitable examples. Write down the structures of

- (a) Isoniazid  
(b) PAS

4. What are antacids? What are the ideal properties of antacids? Classify antacids with examples.

5. Mention the preparation, physical properties, chemical properties, storage conditions and uses of sodium bicarbonate.

6. Describe the pharmaceutical formulation, preparation, storage condition of Magalgrate.

7. Define the following

- (a) Determinate error  
(b) Accuracy  
(c) Precision

8. What do you mean by anaesthetics? With suitable examples briefly classify general anaesthetics.

9. Write down the structures and IUPAC names of the following

- (a) Thiopental sodium  
(b) Ketamine HCl  
(c) Tribromo ethanol

10. What are sedatives and hypnotics? write down the structures of

- (a) Diazepam  
(b) Nitrazepam  
(c) Phenobarbitul

11. What is  $\text{Al}(\text{OH})_3$  Gel? Write the physical and chemical properties, preparation and storage conditions of aluminium hydroxide gel.
12. What is streptomycin? Write down its mechanism of action, storage and pharmaceutical preparations involved.
- C. Answer the following questions. (six out of 7) (6 × 5 = 30)
13. Define antibiotics. Classify them with suitable examples. Write down the structures of the following with their IUPAC names
- Pen-G
  - Pen-V
  - Ampicillin
14. What do you mean anti-neoplastic agents? Write down the structures of the following
- Cyclophosphamide
  - Fluorouracil
  - Busulfan
  - Methotrexate
15. Define anti-malarials. Classify them with examples. Draw the structures of the following
- Quinine sulphate
  - Chloroquine
  - Mefloquine
16. What are sulphonamides? Write down the structures of the following
- Sulfadiazine
  - Sulfamethazole
  - Sulfacetamide
17. Define anti-virals. Classify them with suitable examples. Write down the structures of
- Acyclovir
  - Gancyclovir
  - Remdesivir
18. What are anti-hypertensive agents? Write a note on propranolol with its chemical and physical properties together with its storage conditions
19. Define diuretics. Classify them with suitable examples. Write the structure of acetazolamide and furosemide with special emphasis on the physical, chemical and storage conditions of furosemide.