

**The West Bengal University of Health Sciences**  
**IBBS 2nd Professional Examination(New Regulation) March - April 2023**

Subject: Pharmacology  
Paper: II

Full Marks: 100  
Time: 3 hours

*Attempt all questions. The figures in the margin indicate full marks.*

1. a) A 45 year old lady with graves disease is presented with a rapid heart beat, tremor, weight loss, diarrhoea and bulging of eyes. Her blood test reveals thyroid hormones raised. Her total  $T_4$  13  $\mu\text{g}/\text{dl}$ , free  $T_4$  3  $\text{ng}/\text{dl}$ , Total  $T_3$  300  $\text{ng}/\text{dl}$ , TSH 0.2  $\text{mU}/\text{L}$ .
  - i) Enumerate the drugs to treat this.
  - ii) Mention the side effects of those drugs.
  - iii) How a case of thyroid storm is treated ? 6+6+3  
b) A middle aged female patient at medicine OPD has presented herself with fatigue weight loss, joint pain, swelling, morning stiffness, joint deformity. She has been diagnosed with rheumatoid arthritis after laboratory confirmation.
  - i) Prepare an essential medicine list for RA.
  - ii) How will you treat this case?
  - iii) How do the drugs modify the disease process ?
  - iv) Write down the adverse effects of any one of them. 2+5+4+4
2. a) Intensive glycemic control and targeting normal or near-normal glucose control with comprehensive self-management training is standard therapy in diabetes patient. Enumerate the available insulin preparations. What are the therapeutic uses of insulin? What are the oral drugs used as insulin secretagogues and what are the adverse effects? 3+3+2+2  
b) Enumerate the drug useful to treat parkinsonism. Mention the mechanism of action and side effects of levodopa. What is the meaning of ~~imagery~~ <sup>latrogenic</sup> parkinsonism. 4+2+2+2  
c) Classify Antiretroviral drugs. Write down the mechanism of action of Dolutegravir. Write two adverse effects of protease inhibitors. 5+3+2
3. Write short notes on following: 2 x 5
  - a) Clinical uses of prostaglandins.
  - b) Methotrexate.
4. Explain the following statements: 5 x 4
  - a) Oxytocin but not ergometrine is used for induction of labour.
  - b) Patients on MAO-inhibitors should avoid foods with high tyramine content.
  - c) Folinic acid but not folic acid is given in methotrexate toxicity.
  - d) Clavulanic acid is added with beta-lactam antibiotics.
  - e) Succinyl choline can cause prolonged apnoea in some individuals.

10 x 1

5. Choose the correct option for each of the following:

☒ Mark the correct matching about the agent and its primary action.

- ☒ a) ~~Paraminobenzoic acid~~ – reflected sunscreen
- b) Selenium sulphide – antikeratolytic
- c) Benzophenones – sunscreen
- d) Trichloroacetic acid – counterirritant

ii) Which of the following statement is wrong about the drug, its use and route of administration?

- a) Calcitonin – hypercalcaemia – intramuscular
- ☒ b) ~~Alendronate~~ – osteoporosis – nasal spray
- c) Raloxifene – osteoporosis – oral
- d) Calcitonin – osteoporosis – nasal spray

iii) Amphotericin B is used for all of the following conditions EXCEPT.

- a) Histoplasmosis
- ☒ b) ~~Onychomycosis~~
- c) Aspergillosis
- d) Blastomycosis

iv) Selective estrogen receptor modulators usually act as:.

- a) Estrogen receptor antagonists in breast tissue
- b) Estrogen receptor antagonists in uterine tissue
- c) Estrogen receptor agonists in bone tissue
- ☒ d) ~~All of the above~~

v) Regarding vancomycin, which of the following statement is incorrect?

- ☒ a) ~~It is an aminoglycoside antibiotic effective against MRSA~~
- b) Worsens the ototoxicity when combined with other aminoglycosides
- c) Worsens the nephrotoxicity when combined with other aminoglycosides
- d) Mechanism of action does not include inhibition of bacterial protein synthesis

vi) A known case of seizure disorder has been on long term phenytoin therapy. Which of the following statements about this drug would be incorrect?

- ☒ a) ~~Extensively bound to plasma proteins~~
- b) Metabolism follows only zero order kinetics
- c) Requires therapeutic drug monitoring
- d) Metabolized extensively by the CYP enzymes in the liver

vii) Which of the following actions is exhibited by metoclopramide?

- a) Inhibits cholinergic smooth muscle stimulation in the gastrointestinal tract
- b) Decrease lower esophageal sphincter pressure
- c) Stimulates D2 receptor
- ☒ d) ~~Enhances gastrointestinal motility~~

viii). The success of oral rehydration therapy of diarrhoea depends upon the following process in the intestinal mucosa:

- a) Sodium pump mediated Na<sup>+</sup> absorption
- b) Glucose coupled Na<sup>+</sup> absorption
- c) Bicarbonate coupled Na<sup>+</sup> absorption
- d) Passive Na<sup>+</sup> diffusion secondary to nutrient absorption

ix) Drug used in prostatic carcinoma

- a) Flutamide
- b) Letrozole
- c) Tamoxiphane
- d) Methotrexate

x) Haemorrhagic cystitis is a side effect of following anticancer drug :

- a) Vincristine
- b) Bleomycin
- c) Cyclophosphamide
- d) Chlorambucil