

M.Sc. ZOOLOGY
THIRD SEMESTER
ANIMAL PHYSIOLOGY AND BIOCHEMISTRY-II
MSZ-304E

SET
A

[USE OMR FOR OBJECTIVE PART]

Duration: 1.30 hrs.

Full Marks: 35

(Objective)

Time: 15 min.

Marks: 10

Choose the correct answer from the following:

1X10=10

- Which of the following GI hormone has an opposite function of Gastrin hormone in respect to gastric secretion and motility?
 - Secretin
 - Cholecystokinin
 - GIP
 - All of the above
- In regulatory pathway of gastric secretion, what type of cell has been stimulated by acetylcholine released from parasympathetic nerve?
 - Peptic cell
 - Parietal cell
 - Mucous cell
 - All of the above
- Select the correct role of prostaglandin in anti-haemostasis.
 - Inactivates platelets preventing aggregation
 - Prevents heparin sulphate formation
 - Degenerates F-V and F-XIII
 - Activates protein C
- The major factors that contribute to the build up of solute concentration into the renal medulla is
 - Active transport of sodium ions and co-transport of potassium, chloride out of the thick portion of the ascending limb of the loop of Henle
 - Active transport of ions from the collecting ducts
 - Diffusion of only small amounts of water from the medullary tubules
 - All of these
- QRS complex in ECG indicates
 - Atrial depolarization
 - Ventricular depolarization
 - Atrial repolarization
 - Ventricular repolarization
- Which of the following is a gated channel in membrane?
 - Voltage gated
 - Ligand gated
 - Mechanical gated
 - Ion gated
- The globular head of myosin has
 - An active ATPase enzyme
 - Binding site for ATP
 - Both a and b
 - None of these

8. Calmodulin is most closely related, both structurally and functionally, to which of the protein molecules?
- a. G-actin
 - b. Troponin C
 - c. Myosin light chain
 - d. Tropomyosin
9. Why taking alcohol, smoking and maternal fasting is prohibited during pregnancy?
- a. They can inhibit foetal breathing
 - b. They can increase foetal breathing
 - c. They can decrease the foetal blood volume
 - d. None of these
10. The characteristics of the receptor protein present in olfactory cilia are
- a. The receptor protein is a G protein couples receptor
 - b. It is 5 times folded long protein.
 - c. The odorant receptor folds towards the cytoplasmic side
 - d. All of the above.

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(Descriptive)

Time : 1 hrs. 15 min.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

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| 1. Write briefly on any one of the following | 5 |
| a. Types of chemical transmitters | |
| b. Nernst equation and GHK equation | |
| 2. Describe the structure of Ear with labelled diagram. Diagrammatically represent the structure of inner ear and organ of corti. Describe about different membranes of ear that helps in auditory process. | 4+3+3=10 |
| 3. What are the basic requirements for excreting a concentrated urine? Explain the Counter-current mechanism of producing hyperosmotic renal medullary interstitium. | 5+5=10 |
| 4. Explain the mechanism of homeostasis in mammalian circulatory system. Mention at least two differences between homeostasis and coagulation of blood. | 9+1=10 |
| 5. Discuss the structural arrangement of smooth muscle. How does smooth muscle contraction take place? | 5+5=10 |

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