

Human Physiology (P.G.)**[CBCS]****M.Sc. Second Semester End Examination-2024****(Regular & Supplementary Paper)****PAPER-PHY-203****Full Marks: 40****Time: 02 Hrs***The figures in the right hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.**(Use separate answer script for each unit)***Unit – 17****[Marks – 20]****[Nerve muscle and Sensory Physiology]**

- 1. Answer any two questions of the following: 2x2=4**
- a. What is anosmia?
 - b. Name two inhibitory neurotransmitters. 1+1
 - c. What is peripheral neuropathy?
 - d. What are different types of molecules responsible for induction of taste sensations?
- 2. Answer any two questions of the following: 2x4= 8**
- a. How does acetylcholine help in signal propagation on neuromuscular junction? 2+2
 - b. Describe two modes of action of GABA. 2+2

(2)

c. What are the reasons of nerve injury? Classify peripheral nerve injury? 2+2

d. How do hair cells produce electrical signal in the auditory nerve? 4

3. Answer any one question of the following: 1x8=8

a. Briefly describe the structure of NMJ in skeletal muscle. Briefly discuss excitation-contraction coupling. How does calmodulin modulate gene transcription? 2+4+2

b. How does vit-A help in visual perception? What is the function of 'geniculate body' in visual reflex generation? Describe the structure of retina with suitable diagram. 2+2+4

Unit – 18

[Marks – 20]

[Physiology of Excitable cells and Higher functions of brain]

1. Answer any two questions of the following: 2x2=4

a. Which areas of brain encode explicit memory? 2

b. What is maze learning? 2

c. Write down the physiological significance of the biological clock. 2

d. Justify 'Hypothalamus as a neuroendocrine gland'. 2

2. Answer any two questions of the following: 2x4= 8

a. What is the significance of rhythms in human life? Define seasonal affective disorder. 2+2

(3)

b. Differentiate between long term and short term memory. 4

c. What is Parkinsons disease? Mention its clinical features.

d. Differentiate between habituation and sensitization.

3. Answer any one question of the following: 1x8=8

a. Give a brief idea on the regulation of the muscle tone by the descending tracts and the cerebellum.

b. Explain the neural basis for sleep and arousal. Why REM sleep is called paradoxical sleep? 6+2
