



(2)

6. Discuss the molecular mechanism of olfactory signal transduction.  
What are the cells of olfactory bulb? 3+1
7. Where and how sensory auditory signals are integrated? What is the physiological basis of pitch perception?  $2\frac{1}{2} + 2\frac{1}{2}$
8. Discuss the structure and mechanism of action of nACh receptor. 2+2

**Group C**

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

9. How photo transduction occurs in photoreceptors? What is mesopic vision?
10. Discuss the types of excitation -- contraction coupling of muscle fibres. Mention the structural difference of slow twitch and fast twitch fibres.

**UNIT – 18    Marks 20**

**[PHYSIOLOGY OF EXCITABLE CELLS AND HIGHER FUNCTIONS OF BRAIN]**

**Group A**

**Answer any two questions from the following: 2x2= 4**

1. What is myotatic reflex ? 2
2. What is Wernicke's aphasia? 2
3. Define sleep spindle. 2
4. What are the deep cerebellar nuclei? 2

(3)

**Group B**

**Answer any two questions from the following: 2x4 = 8**

5. What are the circuits responsible for wakefulness of human? What is narcolepsy? 3+1
6. Discuss the role of Papez circuit in controlling emotional behaviour. 4
7. "The cerebral cortex is the major long term repository of declarative memory"- explain with evidence. 4
8. Discuss the mechanism of  $\alpha - \gamma$  motor neurone coordination for maintenance of muscle tone. What is the physiological importance of  $\gamma$  motor loop?" 3+1

**Group C**

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

9. Discuss the role of suprachiasmatic nuclei in the maintenance of circadian rhythm. What are the criterion of biological rhythm to be circadian? 5+3
10. Describe the structure of semicircular canal and its role in sensation of head rotation. 4+4
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