



**NAVRACHANA  
UNIVERSITY**

a UGC recognized University

**School:** School of Engineering and Technology

**Program/s:** BMS

**Year:** 5th **Semester:** 9th

**Examination:** End Semester Examination

**Examination year:** December - 2021

**Course Code:** BM514

**Course Name:** Neurobiology- IV

**Date:** 07/12/2021

**Time:** 8:30 am to 10:30 am

**Total Marks:** 40

**Total Pages:** 1

**Instructions:**

- Write each answer on a new page.
- Use of a calculator is permitted.
- Draw all relevant waveforms in answer sheet only.
- \*COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL#
Q.1	<p>Multiple Choice Question:</p> <ol style="list-style-type: none"> <li>What is the main goal of therapy for a patient being treated for Alzheimer's disease?               <ol style="list-style-type: none"> <li>Treat the patient's symptoms</li> <li>Reverse the patient's cognitive decline</li> <li>Maintain the patient's independence</li> <li>Effectively treat psychiatric and behavioral complications</li> <li>Manage financial costs of the patient's therapy</li> </ol> </li> <li>A patient that has lost psychomotor skills, lost the ability to speak and communicate effectively, and is completely dependent upon their caretaker falls into what category of cognitive decline?               <ol style="list-style-type: none"> <li>Mild</li> <li>Moderate/Severe</li> <li>Severe</li> <li>Very severe</li> </ol> </li> <li>Which of the following conditions can affect a patient's cognitive function and produce dementia-like symptoms?               <ol style="list-style-type: none"> <li>Infections</li> <li>Stroke</li> <li>Metabolic disorders</li> <li>All of the above</li> </ol> </li> <li>Which of the following are risk factors for Alzheimer's disease?               <ol style="list-style-type: none"> <li>Hypertension and high triglycerides</li> <li>Age and head trauma</li> <li>Family history and history of tobacco use</li> <li>Diabetes and history of ethanol use</li> </ol> </li> <li>Which of the following is true regarding mild cognitive impairment (MCI)?               <ol style="list-style-type: none"> <li>Seventy-five percent of Americans over age 60 are affected by mild cognitive impairment.</li> <li>Mild cognitive impairment always progresses to Alzheimer's disease.</li> <li>Mild cognitive impairment should be treated with cholinesterase inhibitors.</li> <li>A patient who is affected by mild cognitive impairment has more cognitive impairment that would be expected for their age, but it is not severe enough to be considered dementia.</li> </ol> </li> <li>Where in the brain's structure are senile plaques found?</li> </ol>	7	CO1	BT1, BT2

	<ul style="list-style-type: none"> <li>a. Inside glial cells</li> <li>b. In the extracellular spaces between brain cells</li> <li>c. In the synapse</li> <li>d. Within the cytoplasm of degenerating neurons</li> </ul> <p>7. Where do deposits of amyloid come from in the brain?</p> <ul style="list-style-type: none"> <li>a. From glial cells</li> <li>b. From the breakdown of the beta amyloid precursor protein (<math>\beta</math>-APP)</li> <li>c. From the breakdown of acetylcholine (ACH)</li> <li>d. From toxins in the diet</li> </ul>			
<b>Q.3</b>	<p>Write Short notes on (Any Three)</p> <ul style="list-style-type: none"> <li>1. Spinal cord structure</li> <li>2. Spinal nerve injuries and application of stem cell</li> <li>3. Parkinson's disorder</li> <li>4. Management of behavioural disorders.</li> </ul>	<b>15</b>	CO2	BT3, BT4
<b>Q.4</b>	<p>Answer the following questions in detail: (Any Three)</p> <ul style="list-style-type: none"> <li>1. Design an experiment to study the pathophysiology associated with either any one neurodegenerative disease or any one behavioural disorders. The experiment should include Aim, Objectives, Research Hypothesis, Methodology, expected research outcomes and significance of the study.</li> <li>2. What are the major pathophysiologicals associated with neurodegenerative disorders? Explain in detail.</li> <li>3. Given the understanding of stress and its impact on the brain cognitive capabilities and late onset neurodegeneration, design a preventive strategy for an individual of your age who would be interested in reducing the chances of getting any disorders related to cognition and overall functioning of the brain. Use different approaches to ensure a quality living for such an individual and give scientific basis for your recommendations.</li> <li>4. In your opinion, what would be the concerns associated with Mental Illness and behavioural issues in the human population in the coming times assuming the next ten years. What will be the major issues? What would be the reasons associated with these issues? State reasons for your conclusions.</li> </ul>	<b>18</b>	CO3, CO4	BT2, BT3, BT4

\*\*\*\*\*End of Question Paper\*\*\*\*\*