



বিদ্যাসাগর বিশ্ববিদ্যালয়
VIDYASAGAR UNIVERSITY
Question Paper

B.Sc. Honours Examinations 2022

(Under CBCS Pattern)

Semester - VI

Subject : PHYSIOLOGY

Paper : DSE-4T

Cognitive Science

Full Marks : 40

Time : 2 Hours

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Group-A

Answer any *four* of the following questions :

5×4=20

1. Name the fissures of cerebellum and mention location on cerebellar cortex. 5
2. Write a brief note on EEG. 5
3. Discuss vascular dementia. What are the risk factors for dementia? $1\frac{1}{2}+1\frac{1}{2}+2$
4. Write a note on aphasia. 5
5. Do dyslexia affect reading? What is the main cause of autism? $2\frac{1}{2}+2\frac{1}{2}$
6. What is Alzheimer's disease? What are the symptoms of Schizophrenia? $2\frac{1}{2}+2\frac{1}{2}$

Group-B

Answer any *two* of the following questions :

10×2=20

1. Distinguish between decerebrate and decorticate rigidity. Distinguish between lower motor and upper motor neuron. (2½+2½)+(2½+2½)
 2. How is MRI performed? What is the principle of PET scan? 5+5
 3. What is the neurological basis of memory? State neural basis of attention and cognition. 5+5
 4. What causes mental retardation? Describe briefly the cognitive changes with aging. 5+5
-

Vidyasagar University

Or
Community medicine, Epidemiological Data Analysis

Group-A

Answer any *four* of the following questions :

5×4=20

1. What was the difference between the concept of health and disease in ancient culture?
What are morbidity and mortality indicators? 3+2
2. What are measures of error and bias? Write a note on 'R' software. 2+3
3. What do you mean by disease vector and herd immunity? What is zoonosis. (2+2)+1
4. What is epidemiology and why is it important? 2+3
5. What is PEM? Mention three clinical symptoms of Vitamin C deficiency. 2+3
6. Discuss briefly about the methods of detection of disease (like hypertension) in a population. 5

Group-B

Answer any *two* of the following questions :

10×2=20

1. Write a brief note on the 'National Health Policy' in India. What are the health impacts of air pollution? State the preventive measures for air pollution. 3+4+3
 2. What is balanced diet? What is COPD? State the nutritional therapeutic preventive approach of COPD. 2+2+6
 3. What are the main causes of water pollution? What are the effects of water pollution? Describe the Control Measures of Water Pollution. 2+3+5
 4. What is the best quality assessment tool for descriptive cross-sectional survey studies? What is null hypothesis? Discuss about the different types of 'ANOVA'. 4+2+4
-

Or

Patho-physiological Basis of Diseases

Group-A

Answer any *four* of the following questions : 5×4=20

1. What are cancer stem cells? Write the characteristics of malignant neoplasm. 2+3
2. Discuss of general features of chronic inflammation? 5
3. Write down the effects of iron deficiencies in the body? 5
4. What are the differences between hemostasis and thrombosis? Does hemostasis lead to thrombosis? 3+2
5. What are the characteristics of benign and malignant tumor? 5
6. What are the differences between Marasmus and Kwashiorkor? 5

Group-B

Answer any *two* of the following questions : 10×2=20

1. What do you mean by reactive hyperaemia and myocardial infraction? Discuss about the deficiency diseases of vitamins A and B-complex. 5+5
 2. What do you mean by hyperplasia, hypertrophy and atrophy? What are the differences between necrosis and apoptosis? (2+2+2)+4
 3. Describe the intrinsic pathways for apoptosis. Discuss about the basic mechanisms of tissue regeneration. 5+5
 4. Write down the cause, prevention, treatment and control of intestinal infections. 10
-

Or

Research Methodology and Design

Group-A

Answer any *four* of the following questions :

5×4=20

1. What is meant by motivations of research? Write the Criteria of good research. What is copy write? 2+2+1
2. Describe the steps involved in research process with suitable examples. Write the features of good research design? 4+1
3. How could you reduce type-T error, Briefly mention the significance of hypothesis in research design. 2+3
4. “Research design in exploratory studies must be flexible but in descriptive studies, it must minimise bias and maximise reliability.”—Discuss. Define Plagiarism. 3+2
5. Write any two short notes from the following :
(a) Bio-safety, (b) Patent law, (c) Marker enzymes, (d) SDS-PAGE 2½×2
6. Write the principle and application of Ion-exchange chromatography? Mention the biological application of scanning Electron microscopy (SEM). (2+2)+1

Group-B

Answer any *two* of the following questions :

10×2=20

1. What is research problem? Explain the main issues which should receive the attention of the researchers in formulating the research problem. State the importance of research ethics in any scientific research. 2+5+3
 2. Mention the steps of writing a Review of literature? Clearly explain the difference between collection of data through questionnaires and schedules? Discuss the features of interview as a technique of data collection. 4+3+3
 3. Write the basic principles of X-ray crystallography? Write its role in characterization of proteins and nucleic acids? Discuss the process of cell fractionation techniques? Write the principle of sucrose density gradient centrifugation? 2+3+3+2
 4. Write the applications of Spectrophotometer in biological research? Write the principles of ELISA techniques and SDS-PAGE. 5+(2½+2½)
-