

The University of Burdwan
B.Sc. (Hons.) Semester - V Examination (CBCS): 2021
Subject: Nutrition
Course Code: DSE-2
Course Title: Molecular Biology

The figures in the right hand margin indicate full marks

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

Answer all *questions* as instructed

Examinees are instructed to submit the scanned copies / photographs of their answer
scripts within 30 minutes after the completion of examination

F.M.-40

Time: 2hrs

1. Answer any eight questions of the following:

5×8=40

- a) Write a short note on different types of RNA.
- b) What is proteomics? Discuss the application of proteomics in nutrition science research.
- c) Give a detailed account on DNA as a genetic material.
- d) Name any two enzymes that are involved in replication? Explain their function separately.
- e) Briefly discuss the central dogma of molecular biology.
- f) What is okazaki fragment? Differentiate between lagging and leading strand of DNA?
- g) What is a promoter? Why is promoter significant in gene-function?
- h) What is codon? Write a brief note on 'Genetic code'.
- i) Explain the advantages and limitations of recombinant DNA techniques.
- j) Describe the initiation and termination of transcription process in prokaryotes.

The University of Burdwan
B.Sc. (Hons.) Semester - V Examination (CBCS): 2021
Subject: Nutrition
Course Code: DSE-2 (OR)
Course Title: Biophysics and Bioinstrumentation

The figures in the right hand margin indicate full marks

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

Answer all *questions* as instructed

Examinees are instructed to submit the scanned copies / photographs of their answer
scripts within 30 minutes after the completion of examination

F.M.–40

Time: 2hrs

1. Answer any eight questions of the following:

5×8=40

- a) Write your concept on static and dynamic quenching in reference to fluorescence spectroscopy.
- b) What do you mean by RF value? Write down the applications of paper chromatography.
- c) What do you mean by molar extinction co-efficient? Explain Beer-Lambert law.
- d) What is sedimentation coefficient? Comment on factors affecting sedimentation velocity.
- e) Discuss the effect of long term exposure of electromagnetic radiation on human health.
- f) Give a brief description on density gradient centrifugation.
- g) Explain the principle of flow cytometry in reference to cell sorting.
- h) What is stationary phase? How it differs from mobile phase?
- i) Write down the advantages and limitations of high performance liquid chromatography.
- j) Append a comparative discussion between partition chromatography and absorption chromatography.
