The University of Burdwan

B.Sc. (Hons.) Semester - V Examination (CBCS): 2020

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) Briefly discuss about initiation and termination of transcription process in *E. coli*.

b) List the name of enzymes involve in DNA replication and state the function of each enzyme.

c) Briefly describe the 'Watson and Crick Model' of DNA double helix with suitable diagram.

d) Write a brief note on "Human Genome Project".

e) Append a brief description on 'Genetic code'.

f) What do you mean by genomics? Write down the application of genomics in nutrition science research.

g) What is Chargaff's rule and why it is important?

h) Give a short description on recombinant DNA techniques and state its application.

i) 'RNA acts as genetic material in viruses'-Explain.

j) What do you mean by lagging and leading strand?

The University of Burdwan

B.Sc. (Hons.) Semester - V Examination (CBCS): 2020

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) Define absorbance. Write down the working principle of a spectrophotometer.

b) What do you mean by Thin-layer chromatography? Add a brief note on its uses.

c) Write down the basic principle of flow cytometry. Mention two important applications of flow cytometry.

d) Write down the differences between differential and density gradient ultracentrifugation.

e) What are the advantages and limitations of gas liquid chromatography?

f) Briefly describe the role of fluorescent probes in the study of protein and nucleic acids.

g) What do you mean by mobile phase? What do you mean by partial coefficient?

h) Write the full form of HPLC. State the application of reverse phase HPLC.

i) What is electromagnetic radiation? Write its effect on human health.

j) What is wave number? How it differs from wave length?
