

B.Sc. Semester-IV Examination, 2022-23**PHYSIOLOGY [Honours]**

Course ID : 42515 Course Code : SH/PHY/405/SEC-2(T)

Course Title : Clinical Biochemistry

Time : 2 Hours

Full Marks : 40

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **five** questions of the following:

2×5=10

- Differentiate between colorimetry and photometry.
- What do you mean by optical density?
- What is the renal threshold for glucose?
- State the limitations of Beer-Lambert law.
- What is the major protein found in glomerular proteinuria?
- Write any two application of colorimeter.
- What is glycosuria?
- Write any two causes for elevation in serum analyse level.

2. Answer any **four** questions of the following:

5×4=20

- Briefly describe the procedure of blood inorganic phosphate by Fiske - Subbarow method. 5
- What is Whipple's experiment? Write a short note on plasma proteins. 2+3
- Describe the principle of Nelson-Somogyi method for blood glucose measurement. Mention the normal value of blood glucose level. 4+1
- Write the clinical significance of albumin globulin ratio. State the functions of serum protein. 2+3
- Mention the principle of Biuret method for total protein estimation. What are the reagents used in Biuret method? 3+2
- Why iodine is used in amylase test? What happens when amylase level is high? Can fasting increase amylase? 2+2+1

3. Answer any **one** questions of the following:

10×1=10

- a) Why optical density is important in clinical biochemistry? Describe the different parts of photoelectric colorimeter with labelled diagram. State any two precautions of colorimetry. 2+6+2
- b) Briefly discuss the reagents used in 'Fiske-Subbarow' method for blood inorganic phosphate estimation. State the significance of this method. Write the advantages of Biuret method. 4+3+3

B.Sc. Semester-IV Examination, 2022-23

PHYSIOLOGY [Honours]

Course ID : 42515 Course Code : SH/PHY/405/SEC-2(T)

Course Title : Pathological Microbiology and Bio-Medical Technology

Time : 2 Hours

Full Marks : 40

The figures in the right-hand margin indicate marks.

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

1. Answer any **five** questions of the following:

2×5=10

- a) What do you mean by 'Gram Stain'?
- b) What is cardiac vector?
- c) Write any two examples of 'Gram negative bacteria'.
- d) What is the significance of alcoholic KI in 'Gram Staining'?
- e) What do you mean by 'Angina Pectoris'?
- f) What is bipolar lead?
- g) What is electrocardiograph?
- h) Write any two symptoms of 'Tuberculosis'.

2. Answer any **four** questions of the following:

5×4=20

- a) What is sterilization? Write two method for sterilization. 2+3
- b) What do you mean by chest lead? Draw a diagram and mention the positions of chest leads. 2+3
- c) Write down the precautionary measures should be taken before handling Tuberculosis sputum in laboratory. 5
- d) Describe the structure of Gram negative cell wall of bacteria with diagram. 3+2
- e) State the protocol of 'Gram Staining' procedure. 5
- f) Define centrifugation. What are the applications of centrifuge machine in laboratory?

3. Answer any **one** question of the following:

10×1=10

- a) Briefly describe QRS complex and ST segment of a normal ECG. Write the differences between bipolar and unipolar leads. (3+2)+5

- b) Describe the proper method for identification of Mycobacterium tuberculosis in sputum. Discuss in brief about bacteria culture media.

5+5
