

# THE UNIVERSITY OF BURDWAN

**BSc. (Hons.) Sem-IV Examination-2022(CBCS)**

**Sub-Physiology**

**Paper-SEC 2A**

**(Clinical Biochemistry)**

The figure in the margin indicates full marks of each question.

Candidates are required to give their answers in their own words as far as practicable and submit the photograph or scanned copy of their answer script within 30 min after the completion of the examination through the email to the respective examiner

**FM-40**

**Time-2 Hours**

1. Answer any **five** questions: 5x2=10
  - a. What is albumin globulin ratio?
  - b. Give the composition of alkaline copper reagent.
  - c. Name the chromogen used for colorimetric estimation of amylase and inorganic phosphate .
  - d. What is the composition of drabkin's reagent?
  - e. What is the significance of high albumin globulin ratio?
  - f. What is the use of estimating serum amylase activity?
  - g. What are the indications of high inorganic phosphate level?
  - h. What is ANSA and what is its use?
  
2. Answer any **two** questions: 2X5=10
  - a. Write the principle of blood glucose estimation by Nelson Somogyi method. 5
  - b. Outline the principle of estimation of total serum protein by biuret method. 5
  - c. Explain the principle of blood inorganic phosphate estimation by Fiske Subbarow method. 5
  - d. Discuss the procedure of serum amylase determination by iodometric method. 5
  
3. Answer any **two** questions: 2X10=20
  - a. What is monochromatic filter? Explain the principle and uses of colorimeter. 10

- b. Discuss the procedure of blood glucose estimation by Nelson Somogyi method. How would you calculate blood glucose from your results.
- c. Write down the procedure and calculations of albumin globulin estimation from supplied serum sample.
- d. With a flowchart discuss the steps of colorimetric estimation of hemoglobin. Interpret your results.

**B. Sc. Semester IV (Honours) Theory Examination, 2022 (CBCS)**

**SUBJECT: PHYSIOLOGY**

**Paper: SEC2B (Hematological Techniques)**

**Time: 2 Hours**

**Full Marks: 40**

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

1. Answer any five questions of the following: 2 x 5=10
  - a) Name the common stain used to stain blood smear and mention composition of it?
  - b) Explain the rule of three in routine examination of blood?
  - c) What is CT and what is its normal value?
  - d) What is phlebotomy?
  - e) Mention the importance of BT test.
  - f) What are the common causes of poor blood smear?
  - g) Name two best anticoagulants used in haematological techniques.
  - h) What is Arneht Count?
  
2. Answer any two questions of the following: 5 x 2=10
  - a) What is the clinical significance of plasma and serum isolation.
  - b) Discuss the clinical significance of hematocrit estimation.
  - c) Explain the principle of SGOT estimation
  - d) Mention the detailed procedure of BT test.

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

10 x 2=20

- a) How to make a blood smear? Mention detail procedure of staining of blood smear with Leishman stain. Mention the principle of Leishman stain.
- b) Name the instruments used for Hb estimation. Write the detail steps of estimation of Hb. What is the normal value of Hb? What are the meaning of low and high Hb amount?
- c) Suppose you are supplied with a slide of stained blood smear and asked to identify different types of WBCs. Mention with diagram the different types of WBCs.
- d) What are the causes of elevated SCOT and SGPT. How is alcohol abuse related to altered liver function tests and red cell indices?

