

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2008-09)

SUBJECT CODE: CH/ME/CB64

B.Sc. DEGREE EXAMINATION, APRIL 2011
BRANCH IV - CHEMISTRY
SIXTH SEMESTER

Reg. No

COURSE : MAJOR ELECTIVE
PAPER : FUNDAMENTALS OF CLINICAL BIOCHEMISTRY
TIME : 30 MINUTES MAX. MARKS : 30

SECTION – A

TO BE ANSWERED ON THE QUESTION PAPER ITSELF.
ANSWER ALL THE QUESTIONS.

(30x1=30)

Choose the correct answer:

- Hemolysis of blood sample occurs because of
 - Using a dry syringe
 - Using a fine bore needle
 - Drawing blood slowly
 - None of the above.
- Hyperglycemia is usually accompanied by
 - Pancreatic diseases
 - Thyrotoxicosis
 - Cushing syndrome
 - All of these
- The major component of Benedict's solution is
 - Copper sulphate
 - Copper nitrate
 - Copper oxide
 - Copper sulphide
- Obstructive jaundice occurs because
 - No bilirubin is produced
 - Absence of bilirubin in plasma
 - Bilirubin not transported due to gall stones
 - None of these.
- Low levels of proteins in CSF is due to
 - Fever
 - Meningitis
 - Brain tumour
 - All the above.
- Post-prandial means
 - 2 hours after meals
 - 2days after meals
 - Fast after meals
 - Fast before meals

Fill in the blanks:

- Blood should not be collected in a _____ container if serum is required.
- The abnormal levels of blood glucose are above _____.
- Hypoglycemia in infants is called _____ hypoglycaemia.
- Amino acids are analysed by _____ chromatography.
- Serum amylase is found to be low in _____.
- Goitrogenic substances are found in vegetables like _____ and _____.

True or False:

13. A vein which can be felt is usually easier to enter than the one which can only be seen.
14. Glucose oxidase catalyses the reduction of glucose to hydrogen peroxide and gluconic acid.
15. Isoenzymes can be separated by ion-exchange chromatography.
16. Albumin levels are decreased during dehydration and malnutrition.
17. Soybeans are rich sources of urease.
18. Insulin increases blood glucose level.

Match the following:

- | | |
|-------------------------------------|---|
| 19. Urea | a) Lumbar puncture. |
| 20. Unsaturated fatty acids | b) Functional proteins. |
| 21. Cerebrospinal fluid | c) Meat free diet three days prior to test. |
| 22. Enzymes | d) Product of protein catabolism. |
| 23. T ₄ & T ₃ | e) Non atherogenic. |
| 24. Examination for occult blood | f) Normal growth and maturation. |

Answer the following in one or two sentences:

25. What are co-enzymes?

26. What are symptoms of diabetes mellitus?

27. What is the significance of alkaline phosphatase?

28. List out the ill effects of LDL.

29. What are the clinical manifestations of hypothyroidism?

30. What are anticoagulants? Give examples.

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Section – B

Answer any five questions. **(5 x 6 = 30)**

1. What are the factors that affect the composition of a clinical specimen?
2. Give the stepwise protocol to perform serum electrophoresis. What is its significance?
3. “Enzymes are analytical reagents.” Explain this statement.
4. What is the clinical significance of thyroxin? How is thyroxin estimated in the laboratory?
5. What is the clinical significance of cholesterol? How is it estimated?
6. Write a note on isoenzymes and give their diagnostic values.
7. How is the estimation of amino acids done by TLC.

Section – C

Answer any two questions. **(2 x 20 = 40)**

8. What are the types of specimens used in clinical diagnosis? How are they collected?
9. How is blood glucose estimated by Hexokinase and glucose oxidase methods? Give the clinical significance for each.
10. Write a detail protocol for the determination of any three enzymes. Give their clinical significance.
11. Give an account on the mechanism of action of hormones.

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