

2019/TDC/ODD/SEM/CHMSEC-301T/137

TDC (CBCS) Odd Semester Exam., 2019

CHEMISTRY

(3rd Semester)

Course No. : CHMSEC-301 T

(Analytical Clinical Biochemistry)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

GROUP—A (Marks: 15)

Answer **three** questions from each Unit
from this Group

UNIT—I

1. "Glycolysis can take place with or without oxygen." Write true or false. 1
2. How many molecules of ATP are produced in glycolysis? 1
3. Whether the alcoholic fermentation by yeasts is an aerobic process or an anaerobic process? 1
4. What is the full form of NADH? 1

20J/1170

(Turn Over)



(2)

UNIT—II

5. What are the different classes of protein? 1
6. What is meant by 'active site' of an enzyme? 1
7. What is coenzyme? 1
8. What is meant by denaturation of protein? 1

UNIT—III

9. What are lipids? 1
10. Draw the structure of cholesterol. 1
11. What is lipoprotein? 1
12. Provide one example of steroid hormone. 1

UNIT—IV

13. Which vitamin is important for blood coagulation? 1
14. What are the important functions of blood? 1

20J/1170

(Continued)



15. What are major constituents of urine? 1

16. What is anaemia? 1

UNIT—V

17. What is the normal range of creatinine in blood? 1

18. What does a high level of urea in blood indicate? 1

19. What is bilirubin? 1

20. What is the normal range of cholesterol in blood? 1

GROUP—B (Marks: 10)

Answer **one** question from each Unit
from this Group

UNIT—I

21. Provide the important functions of carbohydrate. 2

22. What are the microbes used in ethanol fermentation? What is/are the byproduct(s) of this process? 2

20J/1170

(Turn Over)

UNIT—II

23. What are the α -helix and β -pleated sheet structures of protein? 2
24. Discuss the effect of pH on enzyme activity. 2

UNIT—III

25. How are lipids classified? Provide example. 2
26. Mention the biochemical functions of steroid hormones. 2

UNIT—IV

27. What are the different methods of collection of blood sample? 2
28. How is the urine sample preserved for pathological analysis? 2

UNIT—V

29. How is the information of blood sugar (fasting and PP) clinically interpreted? 2
30. How is bilirubin in blood analyzed pathologically? 2

(5)

GROUP—C (Marks : 15)

UNIT—I

31. Discuss the process of glycolysis. 5

Or

Visualize the lactic acid fermentation process.

UNIT—II

32. How can proteins be isolated and characterized? 2+3=5

Or

How are enzymes classified? Provide an account on the mechanism of enzyme action.

2+3=5

UNIT—III

33. What is triglyceride? Provide an example (with structure). What important biological role they play? What is the effect of high level of triglyceride in the blood stream of human?

1+1+2+1=5

Or

Provide an account of important biological function played by hormones.

5

20J/1170

(Turn Over)



(6)

UNIT—IV

34. Discuss the composition of blood. How is blood preserved after collection? $3+2=5$

Or

How is the estimation of clinically important constituents of urine performed? 5

UNIT—V

35. What are the clinically important parameters of blood analysis (routine)? Provide the method of analysis of any one of them. $2+3=5$

Or

What is the need of estimation of urea in blood? What is its normal range? What does it indicate if the observed value is higher or lower than the normal range? $2+1+2=5$

★ ★ ★

20J—490/1170

2019/TDC/ODD/SEM/
CHMSEC-301T/137

