

U.G. 4th Semester Examination - 2020

CHEMISTRY

[HONOURS]

Skill Enhancement Course (SEC)

Course Code : CHEM(H)-SEC-T-2(A)&(B)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate marks.

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

Answer all the questions from selected Option.

OPTION-A

CHEM(H)-SEC-T-2A

(Pharmaceutical Chemistry)

1. Answer any **five** questions: 2×5=10
 - a) What is antipyretic agent? Give an example of it and its structure.
 - b) What do you mean by analgesic and antiinflammatory agents? Give examples.
 - c) What is meant by drugs and pharmaceuticals? Give examples.
 - d) What is phenobarbitol? Write its structure and use.

- e) Write the biochemical name of Vit B₂ and its structure and uses.
- f) What is antacid? Give an example of it and its mode of action in our body.
- g) What are essential amino acids? Give example of an acidic and basic amino acid.
- h) Write fermentative production of penicillin in short.

2. Answer any **two** questions: 5×2=10
 - a) What are antibacterial, antifungal and antiviral agents? Give example of each group. 3+2
 - b) Write down the method of synthesis of paracetamol and mention its uses. 4+1
 - c) What is fermentation? Write the differences of aerobic and anaerobic fermentation with examples. 2+3
 - d) What is a therapeutic agent? What are sulfonamides? How it is helpful for health problems? Give examples. 1+1+2+1
3. Answer any **two** questions: 10×2=20
 - a) Write the chemical name and structure of vitamin C? What are the sources of vitamin C and how it is important in human health? Write down its synthetic procedure. 2+1+1+6

[Turn Over]

- b) How aspirin is synthesized? What are their uses and disadvantages in human systems? 6+2+2
- c) Write down the fermentative production of ethyl alcohol. What are its uses? What is absolute alcohol and rectified spirit? 6+1+3
- d) What is vitamin? Write down the chemical name and sources of vitamin B₁₂. How it is synthesized? How it is important in human health? 1+2+6+1

OPTION-B

CHEM(H)-SEC-T-2B

(Analytical Clinical Biochemistry)

1. Answer any **five** question: 2×5=10
- a) Write the names of structural components of DNA and RNA.
- b) What is a peptide bond? How it is formed?
- c) What is glycolysis and Krebs's cycle?
- d) How protein is classified on bases of structure?
- e) What is triglyceride? Mention its biological importance.
- f) What is reducing sugar? Give an example of it and how it can be detected?
- g) What is glycogenesis and glycogenolysis?
- h) What is Diabetes Mellitus? Name two hormones which are important to regulate blood glucose level.

2. Answer any **two** questions: 5×2=10
- a) What is the composition of human blood and what is blood coagulation? What are meant by anticoagulant factors? 2+2+1
- b) What are biocatalysts? Give examples. How temperature and pH of the medium affect reaction rates? 2+1+2
- c) What are the pathological conditions associated with high creatinine and bilirubin levels of blood? What is anemia? 2+2+1
- d) What is the composition of lipid membrane? What is liposome? How it is important? 2+2+1
3. Answer any **two** questions: 10×2=20
- a) What are hormones? Give examples of two steroid hormones. Write the method of protein estimation in laboratory. What is WPN? 2+1+6+1
- b) What is Soap? How saponification number of oil is determined? What is iodine number of an oil? 2+6+2
- c) What is the chemical nature of cholesterol? How it is related to human health? How it is estimated? 2+2+6