

U.G. 4th Semester Examination - 2024**CHEMISTRY****[PROGRAMME]****Skill Enhancement Course (SEC)****Course Code : CHEM-G-SEC-T-2****(Pharmaceutical Chemistry)**

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.*

1. Answer any five questions from the following:

2×5=10

- a) Mention some uses of chloramphenicol.
- b) What is the chemical name of aspirin? Draw its structure.
- c) Explain the term "fermentation". Who laid the foundation in understanding the science of fermentation?
- d) What is enzyme? Which enzyme can hydrolyze Sucrose?
- e) Mention some natural sources of vitamin C.
- f) What do you mean by drug? Mention one anti-anxiety drug.

[Turn Over]

- g) What is lysine? Draw its structure.
- h) Mention important characteristics and application of glutamic acid.
2. Answer any two questions: $5 \times 2 = 10$
- a) How paracetamol is prepared? Mention its uses. Between paracetamol and aspirin, which one is more toxic? $2+2+1$
- b) Draw the structure of Dapsone. How Dapsone is prepared? Mention its uses. $1+2+2$
- c) What is nitroglycerine? How is it prepared? Mention its properties and applications. $1+2+2$
- d) How many chiral centres are present in chloramphenicol? How will you outline the synthesis of Chloramphenicol? $1+4$
3. Answer any two questions from the following : $10 \times 2 = 20$
- a) What is the common name of vitamin B₁₂? Who elucidated the structure of vitamin B₁₂? What is the natural source of it? Name the bacteria selected for the commercial production of it. Name the metal present in it. What are the different uses of vitamin B₁₂? Give an outline for large scale production of ethyl alcohol from molasses. $1+1+1+1+1+1+4$

- b) What is the chemical formula and name of vitamin C? How will you synthesize vitamin C from D-glucose? How is it purified? How does vitamin C deficiency affect human system? $2+4+2+2$
- c) Draw the structure of citric acid. Mention some uses of it. What do you mean by the term absolute alcohol? How is it prepared? How are crude crystals of chloromycetin purified? Mention therapeutic use of chloromycetin. $1+2+1+2+2+2$
- d) How will you prepare magnesium bisilicate? Explain the following terms with proper examples:
- i) Anti-epileptic agents
- ii) Anti-inflammatory agents
- iii) Anti-viral agents
- iv) Antacid $2+(2 \times 4)$