

U.G. 1st Semester Examination - 2023**CHEMISTRY****[Skill Enhancement Course (SEC)]****Course Code : CHEM-SEC-1****(Pharmaceutical Chemistry)****[NEP-2020]****Full Marks : 35****Time : 1½ 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 : 1×5=5
- a) Draw the structure of ibuprofen. Mention its application.
 - b) What is the chemical name of aspirin? Draw its structure.
 - c) Explain the term "antibiotic". Name one beta-lactam antibiotic.
 - d) What is nitroglycerin? Mention its medicinal application.
 - e) Mention one anti-leprosy drug and draw its structure.
 - f) Mention one anti-anxiety drug and draw its structure.

[Turn over]

g) What is anti-fungal agent? Give an example.

h) Name one anti-epileptic drug. Draw its structure.

2. Answer any two questions : $5 \times 2 = 10$

a) What is paracetamol? Draw its structure. How paracetamol is prepared? Mention its uses.

1+1+2+1

b) What is Dapsone? Draw its structure. How Dapsone is prepared? Mention its uses.

1+1+2+1

c) How does vitamin B₁₂ deficiency affect human body? Mention some sources of vitamin B₁₂. What is the common name of vitamin B₁₂?

2+2+1

d) What are denatured, methylated and rectified spirit? What is absolute alcohol and how is it prepared?

1+1+1+2

3. Answer any two questions : $10 \times 2 = 20$

a) Draw the structure of phenobarbital. In which family of drug molecules does phenobarbital belong? How will you prepare it? Mention some of its applications. How will you prepare nitroglycerin? Mention some properties of nitroglycerin.

1+1+3+2+2+1

b) Draw the structure of vitamin C. What is the chemical name of it? How will you synthesize vitamin C from D-glucose? How is it purified? How does vitamin C deficiency affect human system?

1+1+4+2+2

c) Name two important chemicals produced by fermentation process? Name the scientist who laid the foundation of science of fermentation. What was his findings? How his findings were latter modified? What is understood by the term aerobic and anaerobic fermentation? How ethyl alcohol is prepared from starch?

1+1+1+2+2+3

d) Explain the following terms with proper examples:

2×5=10

i) Analgesic agents

ii) Antipyretic agents

iii) Anti-inflammatory agents

iv) Anti-viral agents

v) Antacid