

U.G. 1st Semester Examination - 2024**CHEMISTRY****[Skill Enhancement Course (SEC)]****Course Code: CHEM-SEC-T-01****(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 from the following:

1×5=5

- a) Draw the structure of Dapsone. Mention its application.
- b) What do you mean by analgesic drug? Give one example.
- c) Explain the difference between drug and pharmaceutical.
- d) Give one example of antiviral agent.
- e) Mention the difference between aerobic and anaerobic fermentation.
- f) Which kind of drug is diazepam?
- g) What is glutamic acid?

[Turn over]

h) How does deficiency of vitamin B₂ affect human system?

2. Answer any two questions from the following:

5×2=10

a) What is ibuprofen? Draw its structure. How is it prepared? Mention its uses. 1+1+2+1

b) Which kind of drug is glyceryl trinitrate? Mention its uses. Discuss the difference of activity between phenobarbital and diazepam. 2+1+2

c) How will you prepare magnesium bi-silicate? Mention its application. What is Lysine? 2+2+1

d) Draw the structure of Aspirin. What is its chemical name? How is it prepared? Mention its application. 1+1+2+1

3. Answer any two questions from the following:

10×2=20

a) What are the natural sources of vitamin B₁₂? Name the bacteria selected for the commercial production of it? What is its common name? Who elucidated the structure of it? Name the metal present in it with oxidation state. How does deficiency of vitamin B₁₂ affect human system? Explain the effect of heating during cooking on it. 2+1+1+1+1+2+2

103/Chem(N)

(2)

b) Write in detail about the production of rectified spirit from molasses by fermentation process. How is absolute alcohol prepared commercially? 7+3

c) Write the formula of citric acid. What are the natural sources of citric acid? Write the industrial production of citric acid. Mention the main uses of citric acid. 1+2+5+2

d) Give a brief account on the following:

i) HIV-AIDS related drugs

ii) Antibiotics

iii) Anti-inflammatory agents

iv) Drug discovery 3+2+2+3

103/Chem(N)

(3)