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KNU/2025/BSCCEMSE201

UG 2nd - Semester Examination - 2025 (Under NCCF)

Award: B.Sc.

Discipline : CHEMISTRY

Course Type : SEC-2

Course Code : BSCCEMSE201

Course Name : Pharmaceutical Chemistry

Full Marks - 35

Time - 2 hrs

1. Answer any *five* questions:

1×5=5

- Give an example of a drug related to HIV-AIDS.
- Write down two sources of Vitamin C.
- Write down the structure of aspirin.
- What do you mean by antipyretic agent?
- What is the function of an anti-inflammatory drug?
- What is Sulfa drug?
- Write down name of one drug used for antiviral medication.
- Give two examples of 'narrow spectrum antibiotics'.

2. Answer any *five* questions:

2×5=10

- State a briefly outline about how new drugs are discovered.
- Write the structure of Diazepam.
- What do you mean by essential amino acid? Give an example.
- Distinguish between drug and medicine.
- Name and draw the structure of an antibiotic used to treat typhoid.
- Draw the structure of Vitamin B12.
- Who invented Penicillin and mention its original source?
- What is the function of Acyclovir?

3. Answer any *two* questions for 2022 Batch :

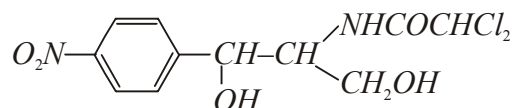
5×2=10

- Give the structure of Chloramphenicol. What is ibuprofen and write down IUPAC name of ibuprofen?
Write down the uses of citric acid. 2+2+1
- What is the basic difference between analgesic and antipyretic drug? Give one example of sulpha drug and state its use. 3+2
- Distinguish between aerobic and anaerobic fermentation.
 - Synthesize citric acid from glycerol. Draw the structure of lysine and glutamic acid. 2+3
- Write down the synthetic steps for Paracetamol from nitro-benzene. Give retrosynthetic approach. 2½+2½

4. Answer any *one* question:

10×1=10

- a) i) Describe the method of industrial production of aspirin from salicylic acid and write chemical reactions involved.
- ii) Why should it not be taken in empty stomach?
- iii) Identify the following drug and provide its synthesis and medicinal use.



5+2+3

- b) i) Outline the synthesis of paracetamol.
- ii) Write the name and structure of a cardiovascular drug.
- iii) Write down the synthesis of ethyl alcohol from molasses. Write down the name of the enzyme present in it. Write down the structure of streptomycin.
- iv) What do you mean by fermentation process?

2+2+(3+1+1)+1

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