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**School of Medical and Allied Sciences**

Bachelor of Pharmacy

Semester End Examination - Jun 2024

Duration : 180 Minutes

Max Marks : 75

**Sem IV - BP401T - BPHT4001 Pharmaceutical Organic Chemistry III**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Outline any two chemical structures of the 6-membered ring having oxygen. K2 (2)
- 2) Outline any two chemical structures of the 5-membered ring having nitrogen. K2 (2)
- 3) List any two chemical structures of the 5-membered ring having S-atom. K1 (2)
- 4) Outline any two examples of E-Z isomers. K2 (2)
- 5) List any two chemical structures of the 5-membered ring having S- and N-atoms. K1 (2)
- 6) Outline any two examples of cis-trans isomers. K2 (2)
- 7) List any two chemical structures of the 5-membered ring having O- and N-atoms. K1 (2)
- 8) Outline any two chemical structures of the 5-membered ring having oxygen. K2 (2)
- 9) Name any two examples of metamers. K1 (2)
- 10) Name any two examples of tautomers. K1 (2)
- 11) Identify the elements of symmetry with examples. K3 (5)

**OR**

- Identify the E-Z notation with examples. K3 (5)
- 12) Construct the synthetic reaction of Knorr pyrazole. K3 (5)
- 13) Inspect any one method of synthesis of pyridine. K4 (5)
- 14) Construct the synthetic reaction of pechmann pyrazole. K3 (5)

15) Inspect the conformational isomerism in ethane. K4 (5)

16) Examine the diazo coupling of pyrrole. K4 (5)

**OR**

Examine the geometrical isomerism in nitrogen compounds (bond C=N and N=N). K4 (5)

17) Analyze the Ullmann synthesis. K4 (5)

18) Elaborate the birch reduction along with its mechanism. K6 (10)

19) Determine the any three chemical properties of thiophene. K5 (10)

**OR**

Explain the clemmensen reduction along with its mechanism. K5 (10)