

T.Y.B.Sc. Sem-V (ATKT) MOCK QUESTION PAPER

Paper-III ORGANIC CHEMISTRY

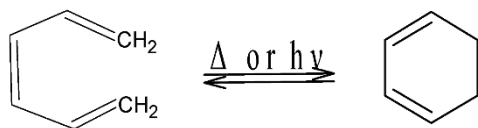
1. Which statement is false about basicity?

- a) It is the extent to which base accepts proton.
- b) It has absolute value (k_b)
- c) It affects the rate of reaction
- d) It is thermodynamic term

2. Which statement is false about neighbouring group effect?

- a) the rate of reaction is very fast
- b) the NG provides an electron pair temporarily to the reaction centre.
- c) the reaction proceeds in one step.
- d) it involves the formation of bridged intermediate.

3. Identify the type of the following given reaction.



- a) Electrocyclic reaction
- b) Cycloaddition reaction
- c) Cheletropic reaction
- d) Sigmatropic reaction

4. Hexa-2, 3, 4-triene shows-----

- a) Optical isomerism
- b) Geometrical isomerism
- c) Atropisomerism
- d) chain isomerism

5. Trans-2, 4-Dimethyl-trans-1.3-cyclobutane di carboxylic acid possess:

- a) center of symmetry
- b) An alternating axis of symmetry
- c) A plane of symmetry
- d) No element of symmetry

6. Oxidation of Isoquinoline with alkaline $KMnO_4$ gives

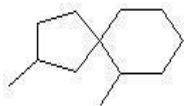
- a) Phthalic acid
- b) Benzoic acid
- c) Acetic acid

d) HNO₃

7. In bridged ring system, the common carbon atoms are called _____ carbon.

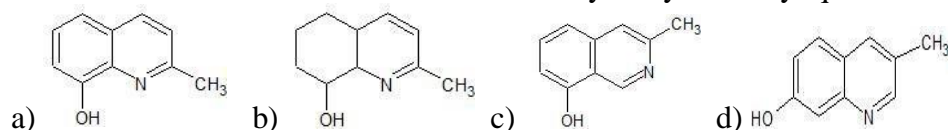
- a) Bridge head
- b) Tail end
- c) spiro
- d) pivotal

8. Choose the correct IUPAC name for the following compound

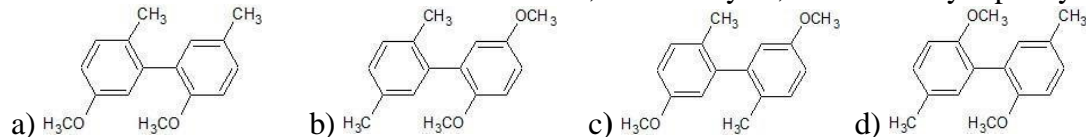


- a) 3,6-dimethyl spiro [5.4] decane
- b) 1,8-dimethyl spiro [4.5] decane
- c) 2,6-dimethyl spiro [4.5] decane
- d) 2,6-dimethyl spiro [5.4] decane

9. Select the correct structural formula of 8-hydroxy-2-methyl quinoline



10. Select the correct structural formula for 2, 2'-dimethyl-5, 5'-dimethoxy biphenyl



11. Mannich reaction is an example of _____

- a) Linear synthesis
- b) Convergent synthesis
- c) Metathesis
- d) Multicomponent synthesis

12. Which of the following solvent is not considered as green solvent?

- a) Supercritical CO₂
- b) Methylene chloride
- c) Water
- d) Ionic Liquids

13. Which of the following component is not used in Biginelli reaction?

- a) Urea
- b) Aryl aldehyde
- c) Alcohol
- d) β -keto ester

14. p-Nitroacetanilide on acid hydrolysis gives _____
- p-nitroaniline
 - p-dinitrobenzene
 - m-nitroaniline
 - m-dinitrobenzene
15. Which structure is that of isoprene?
- $\text{CH}_3\text{-CH=CH-CH=CH}_2$
 - $\text{H}_2\text{C=CH-CH}_2\text{-CH=CH}_2$
 - $\text{CH}_3\text{-CH(CH}_3\text{)-CH=CH}_2$
 - $\text{H}_2\text{C=C(CH}_3\text{)-CH=CH}_2$
16. Which of the following is obtained when Citral is reduced with Sodium amalgam?
- Geraniol
 - Geranic acid
 - α - Terpeniol
 - Laevulic acid
17. Which reaction is used to confirm the presence of $\text{CH}_3\text{-C=O}$ (Methyl ketone) group in methyl heptenone?
- Reduction
 - Reformatsky reaction
 - Haloform reaction
 - Oxidation
18. What is the type of both nitrogen atoms present in nicotine?
- Secondary, Primary
 - Primary, Tertiary
 - Both Secondary
 - Both Tertiary
19. of the following wavelength ranges is associated with UV spectroscopy?
- 0.8 – 500 μm
 - 100 – 400 nm
 - 0.01 – 10 nm
 - 380 – 750 nm
20. Which species of the following is used to bombard with the sample for which mass spectroscopy has been performed?
- Alpha particles
 - Neutrons
 - Electrons
 - Protons

ANSWER KEY:

1	c	11	d
2	c	12	b
3	a	13	c
4	b	14	a
5	a	15	a
6	a	16	a
7	a	17	c
8	c	18	d
9	a	19	b
10	c	20	c