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Reg. No. :

Code No. : 40281 E Sub. Code : JMCH 31/
SMCH 31

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2019.

Third Semester

Chemistry — Main

ORGANIC CHEMISTRY – II

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. In the reaction of aldehyde and ketone, the carbonyl carbon is mostly attacked by
- (a) electrophiles (b) free radicals
(c) nucleophiles (d) carbenes

2. Aldol condensation provides a useful route for the preparation of
- (a) α , β –unsaturated compounds
(b) β –unsaturated compounds
(c) α –unsaturated compounds
(d) none of the above
3. Citric acid reacts with $\text{H}_2\text{S}_2\text{O}_7$ to give
- (a) Aconitic acid (b) Iso citric acid
(c) Acetone (d) Mesoconic acid
4. $\text{RCOONH}_4 \xrightarrow{\Delta} \text{X}$. Here 'X' is
- (a) RCONH_2 (b) RCH_2OH
(c) RCOOCH_3 (d) RCOONH_2
5. Which of the following organometallic compound reacts with ethylene to give a polymer?
- (a) RMgX (b) R_2Zn
(c) R_2CuLi (d) R-Li
6. Grignard reagent reacts with ketone followed by acid hydrolysis to give alcohol of the type
- (a) 1° (b) 2°
(c) 3° (d) None of the above



7. The reaction used to prepare ethylacetate is
- Aldol condensation
 - Claisen condensation
 - Knoevenagel condensation
 - Reimer-Tiemann reaction
8. If an organic compound exhibits tautomerism, it must possess atleast
- α -hydrogen atom
 - α -hydroxy group
 - β -hydrogen atom
 - β -hydroxy group
9. The most stable conformation of cyclohexane is
- boat
 - chair
 - half-chair
 - none of the above
10. On refluxing with Zn and NaI, 1, 3-dichloropropane gives
- cyclobutane
 - cyclopentane
 - cyclopropane
 - cyclohexane

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give the preparation, any two properties and uses of acrolein.

Or

- (b) What is the product obtained when aldehydes reacts with HCN? Write down its mechanism.

12. (a) How is citric acid obtained? Write down its any three properties.

Or

- (b) What are amides? How is urea prepared? Write down its structure?

13. (a) What are sulphones? How are they prepared?

Or

- (b) What is meant by reformatsky reaction?

14. (a) Explain briefly the oxime-nitroso tautomerism.

Or

- (b) Explain any three uses of diethyl malonate.

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[P.T.O.]



15. (a) Explain briefly the Sachse-Mohr theory.

Or

- (b) Explain Coulson and Moffit's concept.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss briefly the Meerwein Ponndorf Verley reduction.

Or

- (b) How is succinaldehyde prepared? Give its four properties and four uses.

17. (a) Write down the preparation, properties and uses of lactic acid.

Or

- (b) Explain briefly the esterification and ester hydrolysis with mechanism.

18. (a) Explain the preparation and properties of Thioethers.

Or

- (b) How is Grignard reagent prepared? Explain its any three uses.

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19. (a) Write down the preparation and uses of ethyl acetoacetate.

Or

- (b) Explain the keto-enol and amido imido tautomerisms with suitable examples.

20. (a) Write a note on the relative stabilities of cycloalkanes.

Or

- (b) Explain briefly the Baeyer's strain theory with suitable example.
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