

(6 pages)

Reg. No.:.....

Code No. : 30076 E Sub. Code : GMCH 62

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2020.

Sixth Semester

Chemistry — Main

ORGANIC CHEMISTRY–IV

(For those who joined in July 2012–2015)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer

1. An example for monosaccharide is _____
(a) Sucrose (b) Lactose
(c) Glucose (d) All
2. Reduction of fructose with HI/P gives
(a) n-hexane (b) Sorbitol
(c) Manitol (d) None

3. Substituted benzoic acid is _____
acidic than benzoic acid
(a) Less (b) Same
(c) More (d) None
4. Electron withdrawing substituents _____
acidity of aromatic carboxylic acid.
(a) Enhance (b) Decrease
(c) No effect (d) None
5. Lead tetra acetate is used as _____
(a) Oxidizing agent (b) Acetoxyating agent
(c) Methylating agent (d) All
6. LiAlH_4 is a _____
(a) Oxidizing agent (b) Reducing agent
(c) Hydrolyzing agent (d) None
7. Neutral ferric chloride produce _____
colour with phenolic group.
(a) Pink (b) Red
(c) Green (d) Violet

8. N-CH_3 group in an alkaloid is estimated by _____
- (a) Zeisel method
 - (b) Herzig–Meyer method
 - (c) Hofmann exhaustive methylation method
 - (d) None
9. Shift of adsorption maximum to shorter wavelength side is called _____
- (a) Red shift
 - (b) Hyper chromic effect
 - (c) Blue shift
 - (d) Hypo chromic effect
10. An example for auxochrome is called
- (a) $-\text{NH}_2$
 - (b) $-\text{N}=\text{N}-$
 - (c) $>\text{C}=\text{O}$
 - (d) All

PART B — ($5 \times 5 = 25$ marks)

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

Each answer should not exceed 250 words.

11. (a) Write note on Epimerisation.

Or

- (b) How will you convert fructose into glucose?

12. (a) What is cannizaroi reaction? Write its mechanism.

Or

- (b) How is benzene 1,2-dicarboxylic acid prepared?

13. (a) Explain the mechanism Schmidt rearrangement.

Or

- (b) Discuss Hofmann rearrangement with suitable example.

14. (a) Write note on Isoprene rule.

Or

- (b) How are allcaloids classified?

15. (a) Write note on spin-spin coupling.

Or

- (b) Explain chromophore and auxochrome with example.

PART C — ($5 \times 8 = 40$ marks)

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

Each answer should not exceed 600 words.

16. (a) Discuss the open chain structure of fructose.

Or

- (b) Write any four chemical properties of sucrose with example.

17. (a) Explain the evidence quinone mono oxime tautomerism.

Or

- (b) How are the following prepared? Mention their uses

- (i) Mitchler's Ketone
- (ii) Benzene 1,4-dicarboxylic acid

18. (a) Explain Fries rearrangement with suitable example.

Or

- (b) Write the application of the following in organic chemistry.

- (i) BF_3
- (ii) $\text{H}_2/\text{Pd}-\text{BaSO}_4$

19. (a) Discuss the structure of piperine.

Or

- (b) Discuss the structure of Citra.

20. (a) Explain Woodward – Fischer rule with suitable example.

Or

- (b) How is the following determined by uv spectroscopy

- (i) C is – trans isomer
 - (ii) Nature of double bond.
-