

December 2016

19 Monday

20

Tuesday

Wednesday

Dr. H. K. Shrivastava
Dept. of Chemistry

Karim College
Semester - VI C-C-14
(Organic Chemistry)

Group - A

(Objective type - Question)
(Compulsory)

1. Select correct choice of the following

(a)

The monomer of Nylon 66 is

(i) Vinyl cyanide

(ii) Formaldehyde and phenol

(iii) Adipic acid and hexamethylene diamine

(iv) None of the above.

(b) Which of the following carbohydrate will not give the red ppt of Cu_2O , when heated with Benedict solution

(i) Maltose (ii) Glucose (iii) Sucrose (iv) Fructose.

(c) The five element present in most naturally occurring protein are

(i) C, H, O, P and S

(iii) N, C, H, O and I

(ii) N, S, C, H and O

(iv) C, H, O, S and I

(d) Malachite green is obtained by the condensation of

- (i) Benzaldehyde and dimethylaniline
(ii) Formaldehyde and dimethylaniline
(iii) Benzaldehyde and N-methylaniline
(iv) Formaldehyde and N-methylaniline.

(e) Upon hydrolysis, protein give

(i) Amino acid

(ii) Hydroxy acid

(iii) fatty acid (iv) alcohol

(f) The number of asymmetric carbon atom in the α -D-glucopyranose molecule is

(i) 2

(ii) 3

(iii) 4

(iv) 5

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- (g) ~~The~~ which of the following polymer contain Nitrogen
 (i) PVC (ii) Teflon (iii) Nylon (iv) Terylene.
- (h) which of the following is a chromophore
 (i) $-\text{NO}_2$ (ii) $-\text{SO}_3\text{H}$ (iii) $-\text{OH}$ (iv) $-\text{COOH}$.
- (i) Periodic acid is used in the structural determination of
 (i) vic-diol (ii) carbohydrate (iii) unsaturation
 (iv) none of these
- (j) A zwitterion is
 (i) an ion that is positively charged in solution
 (ii) an ion that is negatively charged in solution
 (iii) a compound that can ionise both a base and an acid
 (iv) a carbohydrate with an electrical charge

Group - B

Short Answer Type Question

25 Sunday

Answer any four question of the following 5x4

2. Draw Haworth's formula of

- (i) α -D-Glucose (ii) β -D-fructose
 (iii) α -D(+) glucopyranose (iv) β -D(-) Fructofuranose.

3. Discuss the mechanism of free-radical polymerisation or cationic chain polymerisation.

4. Write note on electronic concept of colour and constitution.

DECEMBER							JANUARY						
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7	8	9	10	11	12	13	5	6	7	8	9	10	11
14	15	16	17	18	19	20	12	13	14	15	16	17	18
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5. How lead lehrā acetale and Periodic acid are used in the structural determination of vic-diol and carbohydrate.
6. State the difference between isotactic, Syndiotactic and atactic polymerisation.
7. Give the evidences of cyclic structure of D(+) glucose.
8. Write short note on Crystal violet.
9. How would you explain that fructose without containing any reducing group, it is able to reduce Tollen's reagent and Fehling solution?
Group - C

(Long Answer type - Question)

Answer any two question of the following 15x2

10. Discuss the method of preparation and synthetic application of following reagent in Organic reaction (any three)
 - (a) LiAlH_4 (lithium aluminium hydride)
 - (b) SeO_2 (Selenium dioxide)
 - (c) NaBH_4 (Sodium borohydride)
 - (d) NaNH_2 (Sodamide)
 - (e) HIO_4 (Periodic acid)
 - (f)
12. (a) What are carbohydrate? Classify them.
(b) What product are obtained by the action of phenyl hydrazine ($\text{C}_6\text{H}_5\text{NHNH}_2$) on glucose, D-Fructose and D-Mannose. 2. Discuss the mechanism involved.
(c) Convert aldohexose into Aldopentose and vice versa.

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12. (a) Define and give example of homopolymer and co-polymer
 (b) Discuss the synthesis, structure and uses of the following (any three)

(i) Nylon-6

(ii) Phenol formaldehyde (Bakelite)

(iii) Polyethylene terephthalate (Polyester)

(iv) Polyacrylonitrile (Orlon)

(v) Buna-S.

13. (a) Give one method of preparation of each of the following (any three)

(i) Malachite green

(ii) Phenolphthalein

(iii) Methyl orange

(iv) Congo red.

(b) Justify by resonance theory / electronic theory, although benzene is colourless and p-nitro-aniline is yellow.

Answer of objective question-

(a) - III - Adipic acid and hexamethylene diamine

(b) - (ii) Sucrose

(c) - [II] N, S, C, H and O

(d) - (i) Benzaldehyde and dimethylaniline

(e) - (i) Amino acid

(f) - (iv) 5

(g) - (iii) Nylon

(h) (i) - NO_2 group

(i) (ii) Carbohydrate

(j) (iii) a compound that can ionise both a base and an acid

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