

20-7-2018

Ministry of Higher Education
The Higher Institute of Engineering
and Technology in New Damietta
Course title: Bioorganic Chemistry
Course code: CHE 406
Semester: Summer Semester

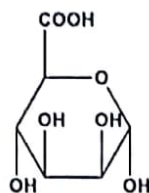


Department: Chemical Engineering
Level: Four
Time allowed: 60 min
Date: 30-7-2018 Day: Monday
Full Mark: 20
No. of exam pages:2

Model answer of midterm exam in Bioorganic Chemistry (summer semester)

Choose the correct answer of the following by circling the letter of correct answer and then fill the table in page 2 by your choices [20 marks, one mark for each point]

1. The soluble part in water in starch is
a) Amylopectin b) Amylose c) Amylodextrin d) dextran
2. The class of carbohydrate that gives more than ten units of monosaccharides is
a) Oligosaccharides b) Disaccharides c) Monosaccharides d) polysaccharides
3. Disaccharide that does not give mutarotation is
a) Lactose b) Sucrose c) Maltose d) all of them
4. Furanose is
a) Five membered ring b) Six membered ring c) open structure d) none of them
5. A sugar alcohol is
a) Mannonic acid b) Mannaric acid c) Mannitol d) none of them
6. D-Galactose is epimer of D-glucose in
a) C1 b) C2 c) C3 d) C4
7. Anomers of aldoses are different in configuration of
a) C1 b) C2 c) C3 d) C4
8. Aminosugars in which OH in is replaced by NH₂
a) C1 b) C2 c) C3 d) C4
9. Epimer of C₃ of D-xylose is
a) D-Ribose b) D-Lyxose c) D-Arabinose d) L-Ribose
10. The enantiomer of L-Ribose is
a) D-Ribose b) D-Xylose c) D-Arabinose d) L-Ribose
11. D-Erythrose and D-Threose are
a) Enantiomers b) Anomers c) ketoses d) Epimer
12. Ketoses cannot be oxidized to aldonic acid by
a) Fehling reagent b) Bromine water c) Tollens reagent d) Benedict reagent
13. When D-fructose dissolved in dilute alkaline medium, two aldohexoses which produced are
a) D-allose and D-Mannose b) D-Glucose and D-Mannose c) D-Glucose and D-galactose
14. Number of D-isomers of α -D-glucopyranose is
a) 4 b) 8 c) 16 d) 32
15. If the optical rotation of the α form of a pyranose is 150.7°; that of the β form is 52.8°. In solution, an equilibrium mixture of the anomers has an optical rotation of open structure 80.2°. The percentage of the α form at equilibrium is
a) 28% b) 32% c) 68% d) 72%
16. The name of the sugar below is

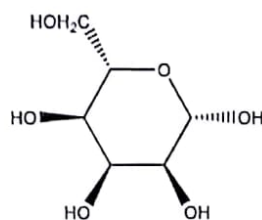


- a) α -D-Mannouronic acid b) α -D-Mannopyranouronic acid c) β -D-Mannouronic acid

17. The invert sugar is

- a) Maltose b) Lactose c) Reducing disaccharide d) none of them

18. The name of the sugar below is



- a) α -D-allopyranose b) α -L-allopyranose c) β -D-allopyranose d) β -L-allopyranose

19. The D-Ribaric acid produced by oxidation of D-ribose by

- a) Fehilng reagent b) Bromine water c) Tollens reagent d)none of them

20. One of the most important application in biochemistry for production of biofuel is

- a) Oxidation b) reduction c) Fermentation d) All of them

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

With my best wishes

Associate Professor Dr: Khaled Samir Mohammed