16/12/23

Seat Number | | | | | | |

DAGDU-04

BP-202T

Pharmaceutical Organic Chemistry–I

(712202)

Total Pages : 6]

Time : 3 Hours **Max. Marks : 75**

Note : (1) Do not write anything on question paper except Seat No.

(2) Graph or diagram should be drawn with blank ink pen being used for writing paper or black HB pencil.

(3) Students should note, no supplement will be provided.

(4) *All* questions are compulsory.

(5) Draw neat chemical structures wherever necessary.

1. (A) Select the appropriate option for the following : 10

(*i*) Due to (–I) inductive effect, acidity of chloroacetic acid .....

(*a*) Decreases

(*b*) Increases

(*c*) Do not change

(*d*) Remains same

(*ii*) Aldol condensation needs an aldehyde containing hydrogen on ..... carbon atom.

(*a*) Alpha

(*b*) Beta

(*c*) Gamma

(*d*) Delta

P.T.O.

(*iii*) Which of the following is most basic ?

(*a*) 4-methylaniline

(*b*) 4-nitroaniline

(*c*) 4-methoxyaniline

(*d*) aniline

(*iv*) The least stable carbocation among the following is :

(*a*) 1° carbocation

(*b*) 2° carbocation

(*c*) 3° carbocation

(*d*) All of the above

(*v*) In nucleophilic substitution reaction, the formation of carbocation is observed in :

(*a*) SN^1

(*b*) SN^2

(*c*) Neither SN^1 nor SN^2

(*d*) Both (*a*) and (*b*)

(*vi*) Anti-Markonikov's orientation involves :

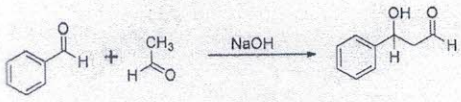
(*a*) nucleophilic substitution

(*b*) free radical reaction

(*c*) electrophilic addition

(*d*) all of the above

(*vii*) Select the correct option by observing the following reaction :



(*a*) Perkin's condensation

(*b*) Benzoin condensation

(*c*) Aldol condensation

(*d*) Crossed Aldol condensation

(*viii*) Which of the following test can be used to distinguish 1°, 2°, 3° alcohols ?

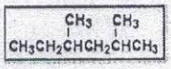
(*a*) Jone's

(*b*) Ritter's

(*c*) Victor Meyer's

(*d*) All (*a*), (*b*) and (*c*)

(*ix*) Select the correct IUPAC name for :



(*a*) 1, 1, 3-trimethylpentane

(*b*) 1-ethyl-1, 3-dimethylbutane

(*c*) 2, 4-dimethylhexane

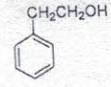
(*d*) 3, 5-dimethylhexane

(x) Choose the correct styructure of Benzyl alcohol :

(a) 

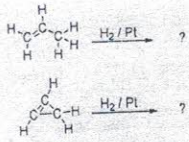
(b) 

(c) 

(d) 

(B) Answer the following : 10

(a) Predict the products of the following reactions :



(b) Write any *two* methods of preparation of alkene.

(c) Write any *two* qualitative test for the aldehydes from ketones.

(d) Draw the structure of N, N-dimethylethanamine and 2-methylbutane-2-ol.

(e) Write the uses of Paraffins.

20

2. Solve any *two* of the following :

(*a*) Define Hybridization and discuss in detail sp^3 and sp^2 hybridization (geometry, bond angle and bond lengths) along with suitable examples.

(*b*) Write a short notes on Benzoin condensation and Perkin reaction with suitable example.

(*c*) Discuss electrophilic addition reactions and free radical reactions of alkenes with suitable examples.

35

3. Solve any *seven* of the following :

(*a*) Explain Saytzeffs orientation with suitable example.

(*b*) Discuss the reactions of dienes with suitable example.

(*c*) Explain Aldol condensation reaction with suitable example.

(*d*) Discuss the effect of substitution on acidity of carboxylic acid with suitable example.

(*e*) Classify and explain structural isomerism in organic molecules.

(*f*) Explain Cannizzaro reaction with example.

(*g*) Discuss the basicity of aliphatic amines with factors affecting it.

(*h*) Write qualitative tests for alcohols.

P.T.O.

(*i*) Draw structures and write uses of the following compounds :

(*i*) Chloroform

(*ii*) Benzyl alcohol

(*iii*) Propylene glycol

(*iv*) Benzaldehyde

(*v*) Acetone.