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No. of Printed Pages : 03

SARDAR PATEL UNIVERSITY

B.Sc. (Semester : V) Examination

USO5CCHE02

ORGANIC CHEMISTRY

Date : 15/11/2013

Time : 10.30 a.m. to 01.30 p.m.

Day : Friday

Total Marks : 70

Note : (1) All questions are to be attempted.
(2) Figures to the right indicate marks.

Q.1 Choose the correct option from the following :

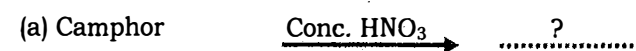
[10]

- 1 The formula of hydrazoic acid is
[a] HN_3 [b] NH_3 [c] HN_2 [d] NH_2
- 2 reagent is known as witting reagent ?
[a] $(\text{ph})_3\text{PCH}_3$ [b] $(\text{ph})_2\text{P}=\text{CH}_2$
[c] $(\text{ph})_3\text{P}=\text{CH}_2$ [d] $(\text{ph})\text{P}=\text{CH}_2$
- 3 Deprotonation is also known as.....
[a] addition of H^+ [b] loss of H^+
[c] addition of H_2 [d] loss of H_2
- 4 Heparin is produced by
[a] Brain [b] Liver [c] Kidney [d] Heart
- 5 is a CNS depressants but produces sleep.
[a] Hypnotics [b] Sedative
[c] Anticonvulsants [d] None of these.
- 6agents are applied directly of the skin wound.
[a] Antilepral [b] Antibacterial
[c] Antitubercular [d] Antiseptic.
- 7 How many isoprene units are present in limonene ?
[a] 3 [b] 4 [c] 2 [d] 5
- 8 (-) form of linalool is occurs in
[a] Rose Oil [b] Lemongrass Oil
[c] Orange Oil [d] Camphor Oil
- 9 In α, β - unsaturated carbonyl compounds, the $>\text{C}=\text{C}<$ and $>\text{C}=\text{O}$ are separated by only one.....
[a] C C triple bond [b] C-C doublebond
[c] C-C single bond [d] All of these
- 10 The production of corticoids has been controlled by
[a] ACTH [b] RNA [c] DNA [d] GH

Q.2 Answer the following : [Attempt any ten]

[20]

- 1 Explain, Hoffmann – Loeffler reaction fails to proceed in the dark.
- 2 Explain. p-N, N – Dimethylamino benzaldehyde does not undergo Benzoin condensation.
- 3 Explain. Birch reduction of toluene gives 2, 5 – dihydrotoluene.
- 4 Write the structure and uses for the following drugs.
[a] Caprokol [b] Benadryl
- 5 Discuss the mode of action of antipyretic drugs.
- 6 Write the synthesis and uses of PAS.
- 7 Complete and re-write the following reactions.



- 8 List the methods for isolation and separation of terpenoids from the plants.
- 9 What are the chemical properties of terpenoids ?
- 10 How will you determine the presence of keto group in oestrone ?
- 11 Give the physiological actions of testosterone.
- 12 Give the classification of Hormones.

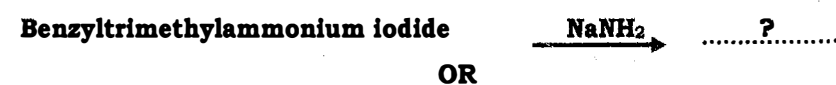
Q.3(a) Answer the following :

[06]

- i) Discuss Crigee – Kasper mechanism of Baeyer – Villiger oxidation reaction.
- ii) Write reaction mechanism for the conversion of Benzil to Benzylic acid.

(b) Complete and re-write the following reaction and give appropriate mechanism involved in it.

[04]



OR

Q.3(a) Answer the following :

[06]

- i) Write the reaction mechanism for the conversion of Aldehyde into Nitrile and N-Formyl derivative.
- ii) Discuss the Favorski rearrangement of gem and vicinal dihaloketones.

(b) Complete and re-write the following reaction and give appropriate mechanism involved in it.

[04]



Q.4(a) Write the synthesis, class and uses of the following drugs.

[06]

- (i) Chloroquine
- (ii) Warfarin

(b) Explain. Sulphadruugs are bacterostatic but not bactericide.

[04]

OR

Q.4(a) Write the synthesis for the following :

[06]

- i) Drug is used in the treatment of urticaria.
- ii) Drug is used as antischistosomiasis drug.
- iii) Drug is known as German penicillin.

(b) What are drugs ? Classified the drugs on the basis of their therapeutic actions.

[04]

Q.5(a) Answer the following :

[06]

- i) Discuss in detail special isoprene rule. Why special isoprene rule is a guiding principal and not a fixed rule ?
- ii) Prove that Nerol and Geraniol are geometrical isomer of each other.

(b) Write the synthesis of citral using 3-methyl-1-butanol via Arens –Van – Dorp's synthesis.

[04]

OR

Q.5(a) Write the synthesis for the following :

[06]

- i) α – Terpineol using p- Toluic acid.
- ii) Brack – Schinz synthesis of Geraniol.

(b) Discuss Wallach's oxidative degradation of α – terpineol.

[04]

Q.6 Discuss the electrophilic addition on α, β – unsaturated carbonyl compounds with mechanism. Also write a short – note on : The Micheal addition.

[10]

OR

Q.6 How will you determine the position of phenolic (-OH) group in oestrone ? Also discuss the constitution of testosterone and write the synthesis of testosterone using Mamoli synthesis.

[10]

