

SEAT No. _____

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[117]

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SARDAR PATEL UNIVERSITY

B.SC. VITH SEMESTER EXAMINATION - 2022

SUBJECT CODE : US06CCHE21

SUBJECT : ORGANIC CHEMISTRY



Date : 04/04/2022

Time : 03:00 pm to 05:00 pm

Day : Monday

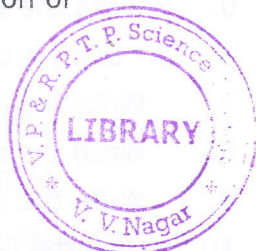
Total Marks : 70

Q.1 Choose the correct option for the following : [10]

- How many water molecules are eliminated during the formation of penta peptide ?
(a) 3 (b) 6 (c) 4 (d) 5
- Secondary butyl group is present in.....
(a) Leucine (b) Serine (c) Valine (d) Isoleucine
-amino acid having imidazole heterocyclic ring.
(a) Tryptophane (b) Histidine (c) Proline (d) Hydroxy proline
- alkaloid used in Ophthalmology.
(a) Coniine (b) Nicotine (c) Papaverine (d) Atropine
- Nicotine is a pyridine..... alkaloid.
(a) pyrrolidine (b) pyrrole (c) piperidine (d) pyrimidine
- The hydroxyl group in alkaloid is determined by method.
(a) Zeisel (b) Herzig - Meyer (c) Zerewitinoff (d) Von Braun
- dye is a azo dyes.
(a) Indigo (b) Eosin (c) Malachite Green (d) Congo Red.
- is used in Rifle bullet.
(a) RDX (b) PETN (c) NG (d) None of these
- reaction is a photo induced reaction.
(a) Barton (b) Norrish Type-I (c) Paterno - Buchi (d) Photo Fries
- excited state has a long life.
(a) So (b) S₁ (c) Su (d) T₁

Q.2 State whether the following statements are True or False: [08]

- Tetra peptide contain four peptide linkage.
- Tryptophane is not heterocyclic amino acid.
- Atropine is a tropane alkaloid.
- Nicotine is isolated from datura plant.
- Organic pigments are water soluble.
- Dynamite is a industrial explosive.
- Ketone into oxetanes is a photo reduction reaction.
- Naphthalene is act as quencher during the photo chemical reaction of benzophenone.



Q.3 Answer the following : [ANY TEN]

[20]

1. Explain the term : Peptide
2. Define isoelectric point and give the characteristics of amino acid at its isoelectric point.
3. Write the Gabriel synthesis of pyrimidine.
4. How will you determine the presence of methoxy group in alkaloid ?
5. Describe the functions of alkaloids.
6. Write the structure, name and use of alkaloid which contain four - OCH₃ groups.
7. Write the synthesis and uses of RDX.
8. Write the structure and uses of Malachite Green.
9. Write the synthesis of insecticide which is used as general insecticide.
10. Give the list of principles of photo chemistry.
11. Write the synthesis of Lactone from Ethylacetoacetate.
12. Define :
(i) Fluorescence
(ii) Quenching

Q.4 Answer the following : [ANY FOUR]

[32]

1. Write the synthesis for the following :
(i) Gly-Ala-Phe using benzyloxy carbonyl method.
(ii) Lysine using phthalimido malonic ester synthesis.
2. Discuss P-Edman method for N-terminal residue analysis. Also give the advantages and limitation of this method.
3. Write the synthesis for the following :
i) Diel's Alder synthesis of Coniine.
ii) Spath and Bretschneider synthesis of Nicotine.
4. Discuss the isolation method of alkaloid by using water immiscible solvents and give the disadvantages of this method.
5. Write the synthesis and uses for the following :
(i) Aldrin (ii) Congo Red.
6. Define "Insecticides"; Discuss the classification of insecticides on the basis of mode of action.
7. Discuss Norrish Type-I reaction and Norrish Type-II reaction.
8. What is Paterno - Buchi reaction ? Discuss mechanism using ketone with symmetrical olefin and unsymmetrical olefin.

