

GOVERNMENT DEGREE COLLEGE (AUTONOMOUS), SIDDIPET
INTERNAL MODEL QUESTION PAPER

II YEAR,
SEMESTER –III
Subject: CHEMISTRY

Time: 30 Minutes

TOTAL MARKS: 20

I. Fill in the blanks **5×1=5**

1. General Oxidation State of f-block elements is
2. No. of phases in water molecule
3. Abbreviation of PCC.....
4. Every molecule have Symmetry element
5. Non-super impossible mirror images are

II. Match the following **5×1=5**

1. Higher oxidation state in F-block elements () A) 2
2. Condensation phase rule equation () B) C_{60}
3. H_2O have () C) Gd
4. No. of components in decomposition of $CaCO_3$ () D) $P+F = C+1$
5. Beckmann fullerene () E) C_2 rotation axis of symmetry

III. Multiple choice questions **5×1=5**

1. Which magnetic property of the molecule contains lone pair of electrons ()
a) Dia b) Para c) Ferro d) Anti Ferro
2. C_3 , $3\sigma_v$, σ_h Elements are present in the given molecule ()
a) H_2O b) C_6H_6 c) NH_3 d) BX_3
3. Lucas Reagent is ()
a) Na/C_2H_5OH b) $HX/ZnCl_2$ c) $LiAlH_4$ d) $NaBH_4$
4. $H_2C=O + CH_3MgBr \longrightarrow$ Alcohols ()
a) 1° b) 2° c) 3° d) 4°
5. Homomers are ()
a) Super impossible b) Non super impossible c) Enantiomers d) Diastereomers

IV. Answer the following **5×1=5**

1. Define lanthanide contraction?
2. Write triple point?
3. Pinacol – Pinacolone reaction?
4. Define diastereomers?
5. Define Resolution?

GOVERNMENT DEGREE COLLEGE (AUTONOMOUS), SIDDIPET
INTERNAL MODEL QUESTION PAPER

II YEAR,
SEMESTER –IV
Subject: CHEMISTRY

Time: 30 Minutes

TOTAL MARKS: 20

I. Fill in the blanks

5×1=5

1. EAN value of Ni (CO)₄ is.....
2. Formula of malonic ester.....
3. EMF value of SHE is.....
4. Transport no. is proposed by.....
5. Concerted reactions are.....

II. Match the following

5×1=5

- | | | |
|----------------------------------|-----|---------------------------------------|
| 1. 1 ⁰ valency | () | A) EAA |
| 2. Ferrocene is | () | B) C $\alpha^2/1-\alpha$ |
| 3. Claisen condensation reaction | () | C) Oxidation no |
| 4. K _a value | () | D) Highest occupied molecular orbital |
| 5. HOMO | () | E) Sandwich structure |

III. Multiple choice questions

5×1=5

1. 2⁰ valency is represents ()
a) Oxidation no b) Co ordination no c) Both d) None
2. Electrophilic substitution reaction on Nitro benzene ()
a) Ortho b) Para c) Meta d) All
3. Reagent of HVZ reaction ()
a) Red P/Cl₂ b) Red P/Br₂ c) Red P/I₂ d) Red P/F₂
4. $K \times 1000 / C =$ ()
a) λ b) μ c) λ_{∞} d) λ_w
5. Racemic mixtures are formed by ()
a) Stereo selective b) Stereo specific c) Enantiomers d) None

IV. Answer the following

5×1=5

1. Define organo metallic compounds
2. Write the preparation of EAA
3. Define Transport number
4. Write cyclo addition reaction
5. Define target molecule

GOVERNMENT DEGREE COLLEGE (AUTONOMOUS), SIDDIPET
DEPARTMENT OF CHEMISTRY
B.Sc. II Year

IV Semester Examination
Semester end theory model paper

Time: 2:30 hrs

Max.Marks:70

I. Answer the following

4×2^{1/2}=10

1. Define EAN?
2. Write HVZ Reaction?
3. Define specific resistance and units?
4. Write about synthon?

II. Answer any four of the following.

4×5=20

1. Prepare carbonyl compounds from Grignard reagent?
2. Write about Mannich and Michael addition reaction with mechanism?
3. Explain calomel electrode with neat diagram?
4. Write Claisen condensation reaction with mechanism?
5. Define and explain Enantiomeric Excess?
6. Write about Target molecule, SE, FGI?

III. Answer the following

4×10=40

1. a) Write about postulates of VBT and its limitations ?

OR

- b) Write about optical isomerism in octahedral complexes?

2. a) Write about Hydrolysis of acids in the presence of H⁺ and OH⁻ with Mechanism?

OR

- b) Write Huns diecker reaction, Schmidt reaction Arundt - Eistert reaction with mechanism?

3. a) Explain kholrausch law and write two applications of it?

OR

- b) Define Transport number and determine by Hittorf method?

4. a) Write Pericyclic reactions and classify it with examples?

OR

- b) Write note on stereo specific reaction and stereo selective reactions with examples?

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Time: 2:30 hrs

Max.Marks:70

I. Answer the following

4×2 ½ =10

1. Define Lanthanide Contraction?
2. Write Clemmensen Reduction Reaction?
3. Define Gold number?
4. Define Racemic Mixture?

II. Answer any four of the following.

4×5=20

1. Write Differences between Lanthanides and Actinide?
2. Write about Rotation axis of Symmetry?
3. How to prepare 1^o, 2^o, 3^o –Alcohols from Grignard Reagent?
4. Write about Acidic nature of Phenols?
5. Write about One Component System?
6. Write D, L- Configuration of Lactic acid & Glyceraldehyde?

III. Answer the following

4×10=40

1. a) Write Separation methods of Lanthanides?

OR

- b) Explain & Classification of Plane of Symmetry?

2. a) Write Reimer-Tiemann, Gattermann-koch reaction & mechanism?

OR

- b) Write Aldol Condensation, Perkin Condensation reaction & mechanism?

3. a) Write Ag-Pb System with neat Diagram?

OR

- b) Write about Adsorption Theory of Langmuir?

4. a) Write about SOL-GEL & Sol-Emulsion-Gel Techniques?

OR

- b) Write about R, S-Configuration.?
