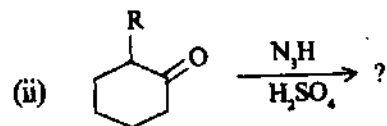
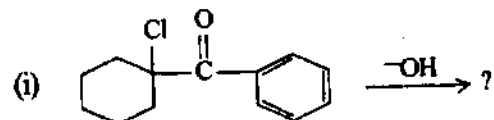


(p) Predict the product with mechanism :



6

(q) Explain Pinacol-Panacolone rearrangement with plausible mechanism. 6

(r) Whether Hoffmann rearrangement in intramolecular or intermolecular ? Explain with example. 4

UNIT—V

5. (a) What are the steps involved in designing green synthesis ? 6

(b) Explain green chemistry involved in the synthesis of urethanes. 4

(c) Explain in detail, what do you mean by maximum incorporation of reactants in to the final product ? 6

OR

(p) Which reactions will give you 100% atom economy ? Explain with suitable examples. 6

(q) How will you minimize or reduce the use of Hazardous chemicals ? 4

(r) What are the differences in the synthesis of Ibuprofen by green chemistry and classical chemistry methods ? 6

M.Sc. Part-I (Semester-II) (CBCS Scheme)

Examination

CHEMISTRY

(Organic Chemistry—II)

Paper—VI

Time—Three Hours]

[Maximum Marks—80

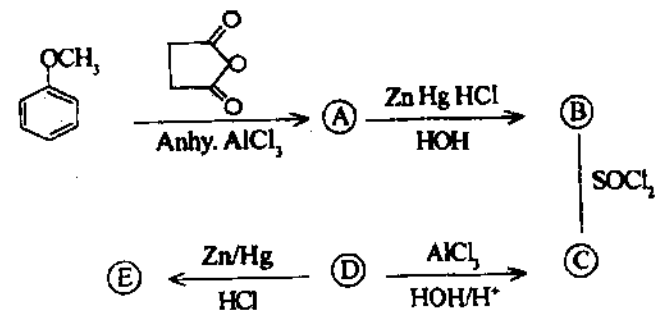
N.B. :— All questions are compulsory and carry equal marks.

UNIT—I

1. (a) Explain the mechanism of formation Arenium ion in ArSE. 5

(b) Explain the orientation and reactivity of electron donating and electron withdrawing group in the substituted benzene with example. 6

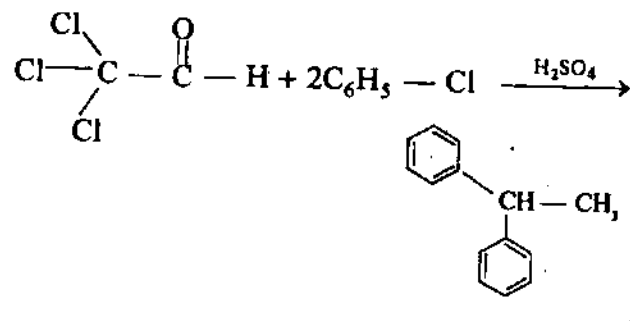
(c) Complete the following reaction :



5

OR

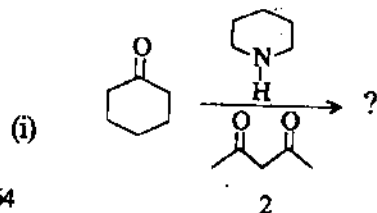
- (p) Give an account on :
 (i) Diazonium coupling
 (ii) Pechmann Reaction. 6
- (q) Why is aniline more reactive than chlorobenzene and acetanilide in electrophilic substitution reaction? Explain with mechanism. 4
- (r) Explain the mechanism of the following reaction :



- (s) Why halides act as a 'o-p' directing but ring deactivating in ArSE? Explain with example. 3

UNIT—II

2. (a) Explain chemo and regio-stereoselectivity in brief. 6
- (b) What happened when penta-2-dione treated with Butane-zone in presence of piperidine? 6
- (c) Predict the product :



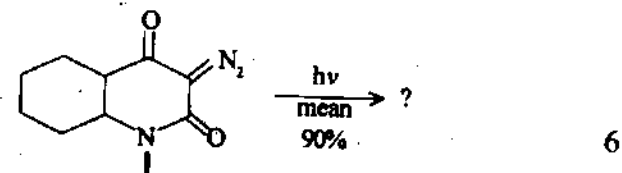
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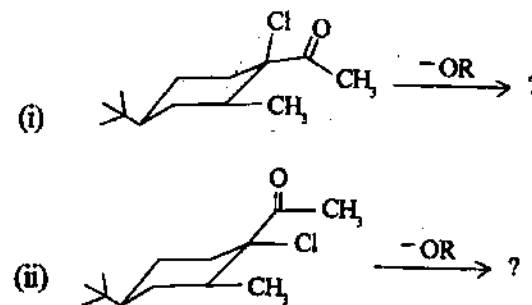
- (q) Explain in brief :
 (i) Coupling of alkynes
 (ii) Chlorosulphonation. 6
- (r) Explain the process of arylation of aromatic compounds by diazonium salt. 4

UNIT—IV

4. (a) Predict the product with mechanism :



- (b) Explain the mechanistic pathway of Beckmann rearrangement. 6
- (c) Predict the product with mechanism :



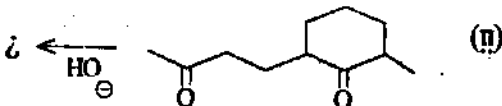
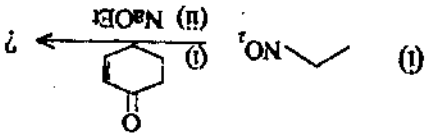
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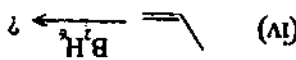
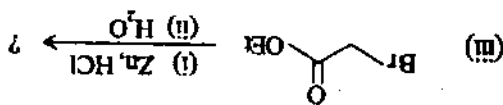
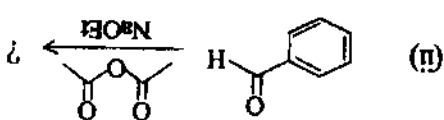
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- (s) Explain the mechanism of acid and base catalysed hydrolysis of ester. 4
- (r) What happened when methyl vinyl ketone is reacted with nitro ethane in presence of sodium ethoxide. 3

- (ii)  6
- (i)  6
- (q) Predict Product with mechanism : 3

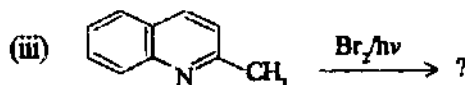
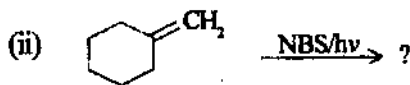
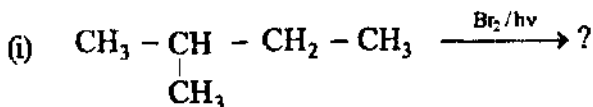
- (p) Explain the mechanism of Perkin Reaction with suitable example. 3

OR

- (iv)  4
- (iii)  4
- (ii)  4

UNIT—III

3. (a) Predict the product :



(b) Write in brief :

(i) Reed Reaction

(ii) Hunsdiecker Reaction. 6

(c) What are the effects of solvent on reactivity ? 3

(d) Explain the hydroxylation at an aromatic carbon by means of Fenton's reagent. 3

OR

(p) Predict the product with mechanism :

