

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)

CLASS: IMSC
CHEMISTRY
BRANCH:

SEMESTER: IV
SESSION: SP/2020

SUBJECT: CH209 ORGANIC CHEMISTRY-III

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

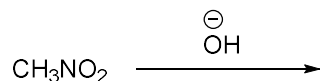
1. The total marks of the questions are 25.
 2. Candidates may attempt for all 25 marks.
 3. Before attempting the question paper, be sure that you have got the correct question paper.
 4. The missing data, if any, may be assumed suitably.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q1 (a) Draw the reaction, product and discuss the mechanistic explanation for the following reaction. [2]



- Q1 (b) Discuss the term "Steric Inhibition of Resonance" (SIR) with an example through structural drawing. [3]

- Q2 (a) Discuss the tautomerism in nitromethane and demonstrate its properties under basic condition as follows [2]



- Q2 (b) Write a short note including reaction mechanism for Gabriel's Phthalimide Reaction. [3]

- Q3 (a) Draw and name the two examples for isolated and condensed polynuclear hydrocarbons each. [2]

- Q3 (b) Draw the synthetic steps for the synthesis of substituted naphthalene starting with toluene using Haworth Synthesis. [3]

- Q4 (a) Write the product formed when a mixture of butane and sulphur is heated at 560°C. [2]

- Q4 (b) Discuss the aromaticity of pyrrole and pyridine. [3]

- Q5 (a) Write the product formed when pentosan is treated with hot dil. H_2SO_4 . [2]

- Q5 (b) Discuss the mechanism involved in Paal-Knorr pyrrole synthesis. [3]