INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR

B. TECH 1st SEM MID-SEMESTER (Group V–VIII) EXAMINATION, FEBRURAY 2021

Chemistry (CH1101)

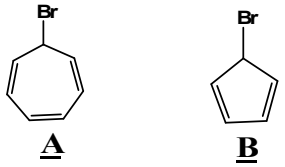
FULL MARKS: 30 TIME: 45 Mins

Answer all questions

1. a) Mention the basic requirements of a chelating ligand to be considered for 'Chelation Therapy'.
   b) Give name and structure of a chelating agent which can remove Cu(II) from the body.
   c) Name two Platinum complexes used in cancer chemotherapy and give their structures.

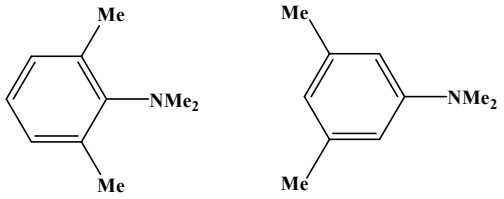
5+2+3

2. a) Why C(2)–C(3) bond in propene is shorter than C–C bond in propane?
   b) Explain why **A** gives immediate precipitation of AgBr on aq. $AgNO_3$ solution, but **B** does not even on boiling.



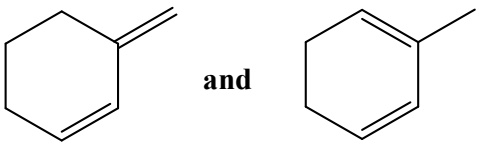
A **B**

c) Among following compounds which one is more basic and why?



d) λ_{max} of aqueous solution of *para*-aminophenol shows blue shift when the solution is acidified with dilute HCl—Explain.

e) How will you distinguish the following pairs using UV spectroscopy?



and

2×5

3. a) Why the reactions of higher molecularity (or order) are rare?
   b) For the parallel first order reactions: $B \overset{k_1}{\leftarrow} A \overset{k_2}{\rightarrow} C$, obtain the expressions for concentrations of different species at any time.
   c) For production of CH_4 through decomposition of CH_3CHO, write down the different reactions sequence and find out the overall order of the reaction.

2+4+4