M.Sc. (I)

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Printed Pages

Chem/Fin(R-I)-IV

M.Sc. (Final) Examination, 2020

CHEMISTRY

Paper - IV GR-I(CH-504)

(Organotransition Metal Chemistry)

Time : 2 Hours

Maximum Marks : 50

Note: (i) Attempt any three questions Candidate has to solve 60 % of the maximum marks i e solve for 30 marks out of 50 marks The unit system in the question paper is abolished Candidate can solve any question from either/or and can also solve both either/or of the same question Candidate has to answer for 60 % marks in case of small questions and the questions of less marks

(ii) Boundations of compulsory question and sections are abolished If there are parts in any question then attempt all the parts

(iii) No supplementary answer-book will be given to any candidate Hence the candidates should write their answers precisely in the main answer-book only

(iv) All the parts of one question should be answered at one place in the answer-book One complete question should not be answered at different places in the answer-book

1 Discuss

(a) β elimination 5

(b) Hydrogenolysis 3

(c) Intra-molecular reducible elimination 2

OR

2 (a) Discuss the structure and nature of bonding in transition metal alkyls and aryls 5

(b) Write down short note on Corey-House synthesis How will you synthesise pentangle by this method? 5

3 (a) What is Tebbe's reagent and in what respect it is superior to wittig reagent? 5

(b) Why triplet carbene (CH_2) is more stable than singlet carbene (CH_2) whereas singlet dichloro carbene (CCl_2) is more stable than triplet dichloro carbene (CCl_2) ? 5

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Write short notes on the following

(a) Catalase and peroxidase

(b) Superoxide dismutase

4 Discuss about the metal deficiency acid disease and the toxic effects of metals in biological system

Or

Explain the following

(a) Metal used for diagnosis and chemotherapy

(b) Metal-nucleic acid complexes

5 Write short notes on the following

(a) Supramolecular photochemistry

(b) Transport processes

Or

What do you mean by molecular recognition? Explain different types of molecular recognition processes.

—x—

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