

**Lesson Plan Format**  
**18 weeks (From January 2018 to April 2018)**

Name of Assistant / Associate Professor : Ms. Renu Tushir.....  
 Class and Section : M. Sc. Chemistry (final) - Inorganic special  
 Subject : Inorganic special IV, (organometallic chemistry) special  
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<b>Week 1 (January 1-6)</b>	
<b>Chapter 1</b>	
01/01/2018	Introduction of Organometallic compounds.
02/01/2018	classification of organometallic compounds.
03/01/2018	Alkyl and Aryls of Transition metals.
04/01/2018	Routes of synthesis, stability.
05/01/2018	✓ National Holiday Revision of the topics
06/01/2018	Organocopper in Organic synthesis.
<b>Week 2 (January 8-13)</b>	
<b>Chapter</b>	
08/01/2018	Transition Metal $\pi$ -complexes
09/01/2018	Test conducted based on above topics
10/01/2018	properties and nature of bonding.
11/01/2018	Nucleophilic and electrophilic attack on ligands.
12/01/2018	And Organic Synthesis
13/01/2018	Group Discussion on these topics.
<b>Week 3 (January 15-20)</b>	
<b>Chapter</b>	
15/01/2018	Compounds of Transition Metal-Carbon multiple bonds.
16/01/2018	Carbene complexes
17/01/2018	Fischer type and Schrock type carbene.
18/01/2018	Synthesis
19/01/2018	Test will be conducted.
19/01/2018	Discussion of the test.
20/01/2018	Synthesis of carbene complexes.
<b>Week 4 (January 22-27)</b>	
<b>Chapter</b>	
22/01/2018	✓ National Holiday
23/01/2018	Reactions
24/01/2018	Structures & bonding
25/01/2018	Test will be conducted
26/01/2018	Discussion of the test National Holiday

27/01/2018	Transition metal- carbyne complexes.
Week 5 (January 29- Feb 3)	
Chapter	
29/01/2018	Synthesis
30/01/2018	Synthesis, reactions
31/01/2018	test will be conducted
01/02/2018	Discussion of the test
02/02/2018	Group Discussion
03/02/2018	Again Revision
Week 6 (Feb 5-10)	
Chapter	
05/02/2018	Structural features
06/02/2018	Introduction of fluxional OMC
07/02/2018	Fluxionality
08/02/2018	Dynamic Equilibria in compounds - Such
09/02/2018	as acyclic alkenes.
10/02/2018	National Holiday
Week 7 (Feb 12-17)	
Chapter	
12/02/2017	Revision of the above topics
13/02/2017	National Holiday
14/02/2017	test will be conducted
15/02/2017	Discussion of the test
16/02/2017	Dynamic equilibrium in $\pi$ -bonded and $\sigma$ -bonded
17/02/2017	Problems will be taking in the class
Week 8 (Feb 19-24)	
Chapter	
19/02/2018	Rotation of the ligands on metals
20/02/2018	ligand scrambling on metals.
21/02/2018	Revision of all topics will be going on.
22/02/2018	problems will be taking in the class.
23/02/2018	test will be conducted
24/02/2018	Discussion of the test
Week 9 (Feb 26-March 03)	
Chapter	
26/02/2018	Group Discussion
27/02/2018	Assignment Work
28/02/2018	Holi Break
01/03/2018	National Holiday

02/03/2018	Holi Break
03/03/2018	Holi Break
<b>Week 10 (March 5-10)</b>	
<b>Chapter</b>	
05/03/2018	Applications of transition metal OMS. as Catalysts.
06/03/2018	Introduction of polymerization
07/03/2018	Ziegler-Natta polymerization
08/03/2018	Homogeneous catalytic Hydrogenation
09/03/2018	Test will be conducted
10/03/2018	Discussion of the test
<b>Week 11 (March 12-17)</b>	
<b>Chapter</b>	
12/03/2018	Group Discussion
13/03/2018	problems will be taking in the class.
14/03/2018	Alkene Hydrogenation
15/03/2018	Wilkinson catalyst introduction
16/03/2018	function and work of Wilkinson catalyst
17/03/2018	test will be conducted
<b>Week 12 (March 19-24)</b>	
<b>Chapter</b>	
19/03/2018	Discussion of the test
20/03/2018	Introduction of Mechanisms involved
21/03/2018	Oxidative Addition
22/03/2018	Reductive Elimination
23/03/2018	✓ National Holiday
24/03/2018	Migratory insertion.
<b>Week 13 (March 26-31)</b>	
<b>Chapter</b>	
26/03/2018	$\beta$ -Hydride elimination
27/03/2018	$\beta$ -H- abstraction or elimination problems.
28/03/2018	Revision of all these mechanisms
29/03/2018	✓ National Holiday
30/03/2018	test will be conducted
31/03/2018	Discussion of the test
<b>Week 14 (April 02-07)</b>	
<b>Chapter</b>	
02/04/2018	Group Discussion
03/04/2018	problems will be taking in the class
04/04/2018	Implementation of all these Mechanisms

05/04/2018 Wilkinson's Catalyst

06/04/2018 Oxidation of Olefins

07/04/2018 Wacker's process

**Week 15(April 09-14)**

**Chapter**

09/04/2018 test will be conducted

10/04/2018 Discussion of the test

11/04/2018 Again revision

12/04/2018 Assignment Work

13/04/2018 ✓ National Holiday

14/04/2018 ✓ National Holiday

**Week 16(April 16-21)**

**Chapter**

16/04/2018 Assignment Work

17/04/2018 Revision

18/04/2018 ✓ National Holiday

19/04/2018 Introduction of Hydroformylation

20/04/2018 Discussion of Hydroformylation of olefins

21/04/2018 Cycle involved in this process will discuss

**Week 17(April 23-28)**

**Chapter**

23/04/2017 Revision

24/04/2017 test will be conducted

25/04/2017 Discussion of the test

26/04/2017 The oxo- process

27/04/2017 Again Revision

28/04/2018 problems based on these topics

**Week 18(April 29-30)**

**Chapter**

30/04/2018 Test and Group Discussion will be conducted.