CHEM ACADEMY

Trend analysis

IIT JAM(CY)(2016-2020)

Physical Chemistry (Section - A) MCQ											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Thermodynamics & Thermochemistry	1					2	1			2	1.2
Solid State	1				2			1		1	1
Chemical Kinetics		1		1		1	1	1			1
Physical Spectroscopy							1	2		2	1
Electrochemistry		1		1		2					0.8
Atomic Structure & Quantum Chemistry		1		2							0.6
Equilibrium		1	2								0.6
Gaseous State		2						1			0.6
Adsorption					1						0.2
Total Questions	**2**	**6**	**2**	**4**	**3**	**5**	**3**	**5**	**-**	**5**	**6**
Total Marks	**2**	**12**	**2**	**8**	**3**	**10**	**3**	**10**	**-**	**10**	**12**

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Physical Chemistry (Section - B) MSQ						
Unit	2016	2017	2018	2019	2020	Avg. Question
	2 M	2 M	2 M	2 M	2 M	
Thermodynamics & Thermochemistry		1	1	1	1	0.8
Physical Spectroscopy		2		1		0.6
Atomic Structure & Quantum Chemistry			1		1	0.4
Solid State	1					0.2
Chemical Kinetics					1	0.2
Electrochemistry			1			0.2
Adsorption	1					0.2
Equilibrium						
Gaseous State						
Total Questions	**2**	**3**	**3**	**2**	**3**	**2.6**
Total Marks	**4**	**6**	**6**	**4**	**6**	**5.2**

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Physical Chemistry (Section - C) NAT											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Thermodynamics & Thermochemistry	1	3	2	1	3	1		1		1	2.6
Solid State	2			2				1	1		1.2
Chemical Kinetics		1	1		1			1		2	1.2
Electrochemistry				1		1				2	0.8
Solution & Colligative Properties				1				2		1	0.8
Atomic Structure & Quantum Chemistry						1		1	1		0.6
Adsorption				1				1	1		0.6
Equilibrium						1	1				0.4
Gaseous State				1						1	0.4
Physical Spectroscopy						1					0.2
Mole Concepts						1					0.2
Total Questions	**3**	**4**	**3**	**7**	**4**	**6**	**1**	**7**	**3**	**7**	**9**
Total Marks	**3**	**8**	**3**	**14**	**4**	**12**	**1**	**14**	**3**	**14**	**15.2**

CHEM ACADEMY

Physical Chemistry (All Section wise Questions)						
Unit	2016	2017	2018	2019	2020	Avg. Question
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Thermodynamics & Thermochemistry	5	4	7	3	3	4.4
Solid State	4	2	2	2	2	2.4
Chemical Kinetics	2	2	2	3	3	2.4
Electrochemistry	1	2	4	1	2	2
Physical Spectroscopy		2	1	4	2	1.8
Atomic Structure & Quantum Chemistry	1	2	2	1	2	1.6
Adsorption	1	1	1	1	1	1
Equilibrium	1	2	1	1		1
Gaseous State	2	1		1	1	1
Solution & Colligative Properties		1		1	1	0.6
Mole Concepts			1			0.2
Total Questions	**17**	**19**	**21**	**18**	**17**	**18.4**

CHEM ACADEMY

Physical Chemistry (Marks Wise)						
Unit	2016	2017	2018	2019	2020	Avg. Marks
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Thermodynamics & Thermochemistry	7	6	11	5	6	7
Chemical Kinetics	4	3	3	5	6	4.2
Electrochemistry	2	4	8	1	4	3.8
Solid State	5	4	2	4	3	3.6
Physical Spectroscopy		4	2	7	4	3.4
Atomic Structure & Quantum Chemistry	2	4	4	2	3	3
Gaseous State	4	2		2	2	2
Adsorption	2	2	1	2	1	1.6
Equilibrium	2	2	2	1		1.4
Solution & Colligative Properties		2		2	2	1.2
Mole Concepts			2			0.4
Total Marks	**28**	**33**	**35**	**31**	**31**	**31.6**

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Inorganic Chemistry (Section - A) MCQ											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Transition Metals / Coordination Chemistry	1	3	1	3		1	1	2	1	1	2.8
Main Group Elements	1	1	2		3	1		2	2	2	2.8
Organometallics		2		2		1		1		3	1.8
Chemical Bonding		1				1	1	1		2	1.2
Analytical Chemistry & Titrations	1		1	1				1			0.8
Bioinorganic Chemistry					1		1			1	0.6
Nuclear Chemistry						1					0.2
Total Questions	**3**	**7**	**4**	**6**	**4**	**5**	**3**	**7**	**3**	**9**	**10.2**
Total Marks	**3**	**14**	**4**	**12**	**4**	**10**	**3**	**14**	**3**	**18**	**17**

CHEM ACADEMY

Inorganic Chemistry (Section - B) MSQ						
Unit	2016	2017	2018	2019	2020	Avg. Question
	2 M	2 M	2 M	2 M	2 M	
Chemical Bonding	2	1		1		0.8
Transition Metals / Coordination Chemistry	1	1			2	0.8
Analytical Chemistry & Titrations		1	1	1		0.6
Main Group Elements	1		1		1	0.6
Bioinorganic Chemistry		1		1		0.4
Organometallics					1	0.2
Metallurgy			1			0.2
Nuclear Chemistry						
Total Questions	**4**	**4**	**3**	**3**	**4**	**3.6**
Total Marks	**8**	**8**	**6**	**6**	**8**	**7.2**

CHEM ACADEMY

Inorganic Chemistry (Section - C) NAT											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Main Group Elements	1		2			1	1		2		1.4
Transition Metals / Coordination Chemistry		2	1		1	1			1		1.2
Nuclear Chemistry	1			1		1		1			0.8
Chemical Bonding	1	1					1				0.6
Analytical Chemistry & Titrations	1				1						0.4
Organometallics							1				0.2
Bioinorganic Chemistry								1			0.2
Total Questions	**4**	**3**	**3**	**1**	**2**	**3**	**3**	**2**	**3**	**-**	**4.8**
Total Marks	**4**	**6**	**3**	**2**	**2**	**6**	**3**	**4**	**3**	**-**	**6.6**

CHEM ACADEMY

Inorganic Chemistry (All Section wise Questions)						
Unit	2016	2017	2018	2019	2020	Avg. Question
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Main Group Elements	4	4	6	3	8	5
Transition Metals / Coordination Chemistry	6	6	3	3	5	4.6
Chemical Bonding	5	1	1	5	3	3
Organometallics	2	2	1	2	3	2
Analytical Chemistry & Titrations	2	3	2	2		1.8
Nuclear Chemistry	1	1	2	1		1
Bioinorganic Chemistry		1	1	2	1	1
Metallurgy			1			0.2
Total Questions	**20**	**18**	**17**	**18**	**20**	**18.6**

CHEM ACADEMY

Inorganic Chemistry (Marks Wise)						
Unit	2016	2017	2018	2019	2020	Avg. Marks
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Transition Metals / Coordination Chemistry	11	10	5	5	8	7.8
Main Group Elements	6	4	9	5	10	6.8
Chemical Bonding	9	2	2	6	4	4.6
Organometallics	4	4	2	4	8	4.4
Analytical Chemistry & Titrations	2	5	3	4		2.8
Nuclear Chemistry	1	2	4	2		1.8
Bioinorganic Chemistry		2	1	3	2	1.6
Metallurgy			2			0.4
Total Marks	**33**	**29**	**28**	**29**	**32**	**30.2**

CHEM ACADEMY

Organic Chemistry (Section - A) MCQ											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Name Reaction	2			2		2	2			2	2
Reagents		2		3		1		2		2	2
General Organic Chemistry	1		1			1		1	2	1	1.4
Stereochemistry		1	2	1		1			1	1	1.4
Biochemistry	1				1		1	1	1		1
Organic Spectroscopy		1		1		1	1	1			1
Reaction Mechanism		2		1	1						0.8
Pericyclic Reaction						1				1	0.4
Reaction Intermediate						1		1			0.4
Hetrocyclic											
Total Questions	**4**	**6**	**3**	**8**	**2**	**8**	**4**	**6**	**4**	**7**	**10.4**
Total Marks	**4**	**12**	**3**	**16**	**2**	**16**	**4**	**12**	**4**	**14**	**17.4**

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Organic Chemistry (Section - B) MSQ						
Unit	2016	2017	2018	2019	2020	Avg. Question
	2 M	2 M	2 M	2 M	2 M	
Biochemistry	1	1	1	1		0.8
Reagents	2				1	0.6
Stereochemistry	1			1	1	0.6
Organic Spectroscopy		1			2	0.6
Reaction Intermediate			1	1		0.4
Name Reaction			1			0.2
General Organic Chemistry				1		0.2
Reaction Mechanism			1			0.2
Pericyclic Reaction		1				0.2
Hetrocyclic						
Total Questions	**4**	**3**	**4**	**4**	**4**	**3.8**
Total Marks	**8**	**6**	**8**	**8**	**8**	**7.6**

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Organic Chemistry (Section - C) NAT											
Unit	2016		2017		2018		2019		2020		Avg. Question
	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	1 M	2 M	
Stereochemistry	1	2		1	1	1	2		2	1	2.4
Biochemistry			1		1		1			1	0.8
General Organic Chemistry	1							2	1		0.8
Organic Spectroscopy			1		1		1				0.6
Pericyclic Reaction		1									0.2
Reagents											
Reaction Intermediate											
Name Reaction											
Reaction Mechanism											
Hetrocyclic											
Total Questions	**2**	**3**	**2**	**1**	**3**	**1**	**4**	**2**	**3**	**2**	**4.6**
Total Marks	**2**	**6**	**2**	**2**	**3**	**2**	**4**	**4**	**3**	**4**	**6.4**

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Organic Chemistry (All Section wise Questions)						
Unit	2016	2017	2018	2019	2020	Avg. Question
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Stereochemistry	5	4	3	3	6	4.2
Biochemistry	2	2	3	4	2	2.6
Reagents	4	3	1	2	3	2.6
General Organic Chemistry	2	1	1	4	4	2.4
Name Reaction	2	2	3	2	2	2.2
Organic Spectroscopy	1	3	2	3	2	2.2
Reaction Mechanism	2	1	2			1
Pericyclic Reaction	1	1	1		1	0.8
Reaction Intermediate			2	2		0.8
Hetrocyclic						
Total Questions	**19**	**17**	**18**	**20**	**20**	**18.8**

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Organic Chemistry (Marks Wise)						
Unit	2016	2017	2018	2019	2020	Avg. Marks
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Stereochemistry	9	6	5	4	9	6.6
Reagents	8	6	2	4	6	5.2
Biochemistry	3	3	4	6	3	3.8
General Organic Chemistry	2	1	2	8	5	3.6
Name Reaction	2	4	6	2	4	3.6
Organic Spectroscopy	2	5	3	4	4	3.6
Reaction Mechanism	4	2	3			1.8
Pericyclic Reaction	2	2	2		2	1.6
Reaction Intermediate			4	4		1.6
Hetrocyclic						
Total Marks	32	29	31	32	33	31.4

CHEM ACADEMY

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(Top 10 Units Marks Wise)

Unit	2016	2017	2018	2019	2020	Avg. Marks
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Transition Metals / Coordination Chemistry	11	10	5	5	8	7.8
Thermodynamics & Thermochemistry	7	6	11	5	6	7
Main Group Elements	6	4	9	5	10	6.8
Stereochemistry	9	6	5	4	9	6.6
Reagents	8	6	2	4	6	5.2
Chemical Bonding	9	2	2	6	4	4.6
Organometallics	4	4	2	4	8	4.4
Chemical Kinetics	4	3	3	5	6	4.2
Biochemistry	3	3	4	6	3	3.8
Electrochemistry	2	4	8	1	4	3.8
Total Marks	**63**	**48**	**51**	**45**	**64**	**54.2**

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(Next 10 Units Marks wise)

Unit	2016	2017	2018	2019	2020	Avg. Marks
	A + B+ C	A + B+ C	A + B+ C	A + B+ C	A + B+ C	
Solid State	5	4	2	4	3	3.6
General Organic Chemistry	2	1	2	8	5	3.6
Name Reaction	2	4	6	2	4	3.6
Organic Spectroscopy	2	5	3	4	4	3.6
Physical Spectroscopy		4	2	7	4	3.4
Atomic Structure & Quantum Chemistry	2	4	4	2	3	3
Analytical Chemistry & Titrations	2	5	3	4		2.8
Gaseous State	4	2		2	2	2
Nuclear Chemistry	1	2	4	2		1.8
Reaction Mechanism	4	2	3			1.8
Total Marks	**24**	**33**	**29**	**35**	**25**	**29.2**

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Physical Chemistry (Important Books)		
Topic	Books	
	Theory	Questions
Thermodynamics	Angel & Reid	K.L. Kapoor Solved Examples
Thermochemistry	K.L. Kapoor	K.L. Kapoor Solved Examples
Chemical Kinetics	PSP & Atkins	PSP, Atkins & RCM Solved Examples
Electrochemistry	PSP & Castellan	PSP, Castellan & K.L. Kapoor Solved Examples
Solid State	Atkins	Atkins & RCM Solved Examples
Physical Spectroscopy	Benwell	Previous Year Questions
Atomic Structure & Quantum Chemistry	Levine	Hydrogen Atom of K.L. Kapoor Solved Examples
Gaseous State	K.L. Kapoor	K.L. Kapoor Solved Examples
Adsorption	K.L. Kapoor & PSP	PSP & K.L. Kapoor Solved Examples
Equilibrium	K.L. Kapoor	RCM Solved Examples
Solution & Colligative Properties	-	RCM Solved Examples
Mole Concepts	-	RCM Solved Examples

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Inorganic Chemistry (Important Books)		
Topic	Books	
	Theory	Questions
Transition Metals / Coordination Chemistry	Chem Academy YouTube Lecture Series	YouTube Chem Academy Assignments
Chemical Bonding	Chem Academy YouTube Lecture Series	YouTube Chem Academy Assignments
Organometallics	Some Chapters of Illias	Some Chapters of Illias
Main Group Elements	Shriver Atkins & Huheey	Shriver Atkins, Huheey Solved Examples
Analytical Chemistry	Chem Academy YouTube Lecture Series	Few Lectures of Chem Academy YouTube
Nuclear Chemistry	Notes	Assignments
Bioinorganic Chemistry	Notes	Assignments
Metallurgy	Notes	Assignments

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Organic Chemistry (Important Books)		
Topic	Books	
	Theory	Questions
General Organic Chemistry	Jerry March & Peter Sykes	A.C. Practice Books
Name Reaction	Clayden & Chem Academy YouTube Lecture Series	Clayden Solved Examples & Assignments
Biochemistry	Notes	Assignments
Organic Spectroscopy	Chem Academy YouTube Lecture Series	YouTube Assignments Chem Academy
Stereochemistry	Few Chapters of Nasipuri & Clayden	Few Chapters of Nasipuri & Clayden
Hetrocyclic	Clayden	Clayden Hetrocyclic – 1
Reagents	Clayden & Carruthers	Clayden & Carruthers
Reaction Mechanism	P. Bruice & Clayden	P. Bruice & Clayden
Pericyclic Reaction	Clayden & Carruthers	Clayden & Carruthers
Reaction Intermediate	Jerry March	Jerry March

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Important Chapters of Clayden (2nd Edition) for IIT-JAM

Chapter: 6, 8, 9, 10, 12, 14, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 35, 36, 37, 39, 40, 43