SHREE H. N. SHUKLA GROUP OF COLLEGES

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2-Vaishali nagar, Near amrapali railway crossing, Raiya road, Rajkot- 360 001. Ph.No.-(0281) 2440478, 2472590	3-Vaishali nagar, Near amrapali railway crossing, Raiya road, Rajkot- 360 001. Ph.No.-(0281) 2224362	Behind marketing yard, Near Lalpari lake, Between Amargadh-Bhichri, Rajkot- 360 002. Ph.No. 90990 63150

M.Sc. Chemistry Semester I (CBSE)

C-101 Inorganic chemistry

Question bank

Prepared by,

Jay Majithiya

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Q. Give the answer of all given question (Each questions has two marks)

Q 1. Define Ruckel re - electron theory.

Q 2. Discuss J-J coupling.

Q 3. Write short note on Sol-Gel synthesis.

Q 4. What do you mean by Hybridization ? Explain. (e) Explain spin-orbit interaction.

Q 5. Give the limitation of Valence Bond Theory. (g) Write a note on Quantum dots.

Q 6.   Define Isomer shift.

Q 7. Draw the structure of Fe3(CO)i2 and predict the MB spectrum of it.

Q 8. Who nanotechnology is useful ? Explain.

Q. Give the answer of all given question (Each questions has three marks)

Q 1. Explain the importance of EDTA in analysis.

Q 2. Explain delocalization energy in conjugated system with suitable example.

Q 3. Discuss the Mossbauer spectrum of K3[Fe(CN)6]

Q 4. Derive Van Vleck formula for magnetic Susceptibility.

Q 5. Explain Ruckel pi-electron theory and its application to Butadiene.

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Q. Give the answer of all given question (Each questions has five marks)

Q 1. Discuss the stereo chemical applications and magnetic properties of Lanthanide and Actinide series.

Q 2. Evaluate the Magnetic Moment for Multiple width small compare to kT.

Q 3. Evaluate the coefficient of wave function for sp2 hybridmorbitals and show that the bond angle is of 120°

Q 4. Compare the Mossbauer spectrum of the following
   i. $FeCl_3$
   ii. $FeSO_4$

Q 5. Discuss different methods for determination of magnetic susceptibility.

Q 6. Discuss the use of the following reagents in Inorganic analysis
   i. Cerric Sulphate
   ii. Pottassium Iodate

Q 7. How Nano catalyst property can be tailored ?

Q 8. Write note on spin multiplicity and find out the spectral term of the following
   i. Mn^{++}

   Cr^{++}