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EASTERN UNIVERSITY, SRILANKA
SECOND EXAMINATION IN SCIENCE (FIRST SEMESTER)-2002/2003

(Repeat)

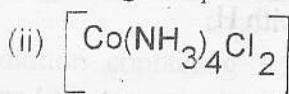
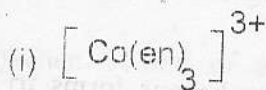
CH 201 CO-ORDINATION CHEMISTRY AND MAIN GROUP CHEMISTRY

Time: 01 Hour

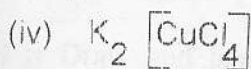
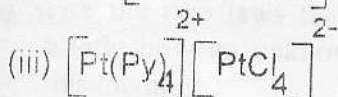
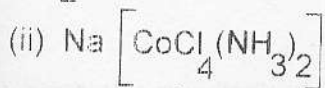
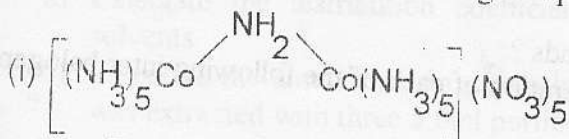
Answer all questions.

1.(a) Briefly describe the crystal field splitting of d orbitals in an octahedral field.

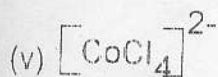
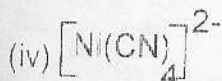
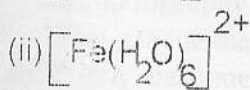
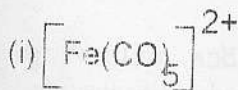
(b)(i) Draw all the possible isomers of the following compounds and mention the isomerism.



(c) Write the IUPAC names of the following compounds.



(d) Predict the geometry and draw all the possible structures of the following co-ordination complexes.



[Fe - 26 , Co - 27 , Ni - 28 , Cu - 29]

contd.....

- (Repeat)
- 2.(a) Explain the terms 'high spin complex' and 'low spin complex', giving one suitable example each type.
- (b) Write balanced equations for the following reactions. Give essential experimental conditions (if necessary).

(i) Reaction of Zn(s) with aqueous KOH.

(ii) Reaction of CaH₂ with water.

(iii) Reaction of Na₂O₂ with H₂O.

(iv) Reaction of N₂ with H₂.

(c) Nitrogen forms trivalent compounds only, whereas phosphorous forms tri and penta compounds. Explain the above observation.

(d) (i) What are interhalogen compounds ?

(ii) Give one method for the preparation of each of the following inter halogen compounds balanced chemical equations.



(iii) Briefly describe the structure of IF₇

(Atomic number of Iodine is - 53)
