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Total No. of Questions: 11

[Total No. of Printed Pages : 3

BPF-2197

M.Sc. (Final) Examination, 2022 CHEMISTRY

Paper - V (CH-501)

(Spectroscopy, Photochemistry and Computer in Chemistry)

Time: 3 Hours [Maximum Marks: 75

Section-A (Marks: $2 \times 10 = 20$)

Note: Answer all ten questions (Answer limit 50 words). Each question carries2 marks.

Section-B (Marks: $5 \times 5 = 25$)

Note: Answer all five questions. Each question has internal choice (Answer limit200 words). Each question carries 5 marks.

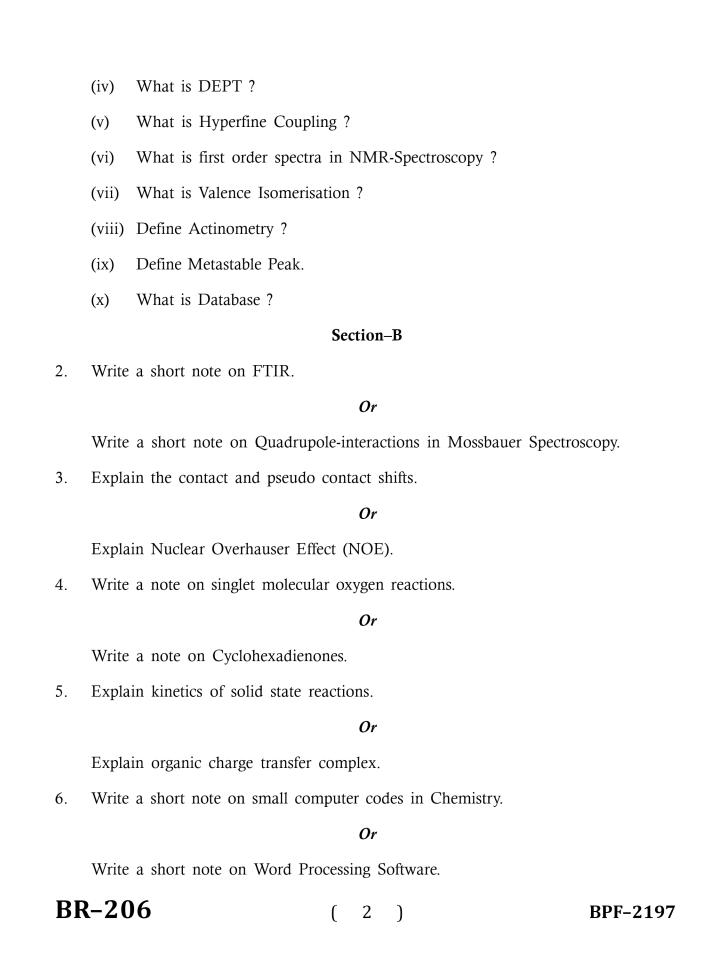
Section–C (Marks: $10 \times 3 = 30$)

Note: Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section-A

- 1. (i) Define Molar Absorptivity.
 - (ii) What are Combination Bands?
 - (iii) Define Cotton effect.

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Section-C

- 7. Write basic principle of Mossbauer Spectroscopy. How Mossbauer spectroscopy is helpful in structure determination?
- 8. Explain electron spin resonance spectroscopy application to transition metal complexes.
- 9. Write a note on photochemistry of alkenes.
- 10. Write basic principle of Mass Spectrometry and explain mass spectral fragmentation of organic compounds.
- 11. Write a note on linear simultaneous equations to solve secular equations within the Huckel theory.