

 $3 \times 10 = 30 \text{ Marks}$

- Explain the principle and procedure involved in the assay of any one official drug each as per IP for the following methods
 - a) Non-aqueous titrations b) potentiometric titrations
- Explain the principle and applications of the following reagents 2.
 - a) Methyl -2 benzthiazolinone hydrazine(MBTH)
 - b) Para-dimethyl –amino benzaldehyde (PDAB)
- Explain the the principle and procedure involved in quantitative estimation of drugs containing 3. following functional groups/Element.
 - a) Carboxyl group b) Halogen group
- Describe in detail the biological assay of Adsorbed Diphtheria vaccine. 4.

SHORT ESSAY (Answer any Nine)

9 X 5 = 45 Marks

- 5. Describe analysis of any one drug by RP-HPLC.
- 6. Explain in brief analysis of any one drug by UV-extinction method.
- 7. Explain the principle and applications of 2, 6 Dichloroquinone chlorimide in drug analysis?
- 8. Write the procedure and applications of 1, 2 - napthaquinone-4-sulfonate in drug analysis?
- 9. Explain a method for determination of calcium.
- 10. Explain the principle and procedure of any one method for the estimation of Sodium.
- 11. Describe in brief biological assay of Oxytocin.
- 12. Write a brief note on biological assay of Heparin sodium IP.
- 13. Classify residual solvents and describe their permissible limits in drug products.
- 14. Write a brief note on potential sources of elemental impurities.

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