

**Q.P. Code :01667**

**[Time: 2 $\frac{1}{2}$  Hours]**

**[ Marks:75]**

Please check whether you have got the right question paper.

**N.B: 1. All questions are compulsory**

**2. Figures to the right indicate full marks**

**3. Draw neat labeled diagrams wherever necessary**

- Q.1. a. Give the function of the following (any three) 03**
- i. Oxytocin
  - ii. Thyroxine binding prealbumin
  - iii. TSH
  - iv. G-proteins
  - v. Nor epinephrine
  - vi. Hormone responsive element
- b. Give an account of the following (any two) 12**
- i. Mechanism of action of group I hormones
  - ii. Effect of Thyroid hormones on metabolism
  - iii. Biochemical functions of Adrenaline
  - iv. Disorders associated with abnormal insulin function
- Q.2. a. State the role/ significance of the following (any one) 02**
- i. *Zona glomerulosa*
  - ii. Estrone
- b. Name the following (any one) 01**
- i. Cells of the testes that produce androgens
  - ii. Disease associated with impairment of adrenocortical function
- c. Answer the following (any two) 12**
- i. Discuss release and any three biochemical functions of ovarian hormones
  - ii. Describe the physiological and biochemical functions of androgens
  - iii. Give an account of any three metabolic functions of glucocorticoids
  - iv. Menstrual cycle is under the control of four hormones- Justify
- Q.3. a. Name the analytical technique to which the following are associated with (any three) 03**
- i. rpm
  - ii. Sedimentation Coefficient
  - iii. Gradient maker
  - iv. Mobile phase
  - v. FID
  - vi. Microporous support

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- b. Describe the principle and two applications of the following (any two) 12**
- i. Differential centrifugation
  - ii. Rate Zonal centrifugation
  - iii. Gel permeation chromatography
  - iv. Ion exchange chromatography
- Q.4. a. Explain the following term (any one) 02**
- i. Molar absorptivity
  - ii. Primary fluor
- b. Give an example of the following (any one) 01**
- i. Source of UV light in spectrophotometer
  - ii. Gas present in GM tube
- c. Discuss the following (any two) 12**
- i. Working of UV spectrophotometer
  - ii. Applications of spectrophotometer
  - iii. Principle and working of Geiger Muller counter
  - iv. Autoradiography
- Q.5. Write short notes on the following (any three) 15**
- i. Functions and disorder of vasopressin
  - ii. Effect of insulin on metabolism
  - iii. Biochemical functions of progesterone
  - iv. Types of rotors
  - v. Stationary phase used in GC
  - vi. Double beam spectrophotometer
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