

**B.Sc. RESPIRATORY THERAPY
FIRST YEAR
PAPER III – BIOCHEMISTRY AND PHARMACOLOGY**

Q.P. Code: 802603

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Why is it important to maintain plasma glucose within a range? Explain the hormonal regulation of blood glucose.
2. Name the hormones produced by adrenal gland. Explain the actions of adrenocortical hormone in body. Add a note on their therapeutic applications.
3. Write a note on insulin and its therapeutic effects. Explain the differences between type 1 and type 2 Diabetes Mellitus.

II. Write notes on:

(8 x 5 = 40)

1. List the dietary sources of vitamin A. Explain its functions.
2. List the plasma lipoproteins and indicate their function.
3. What is creatinine? Explain its clinical significance.
4. Explain the process of digestion and absorption of dietary lipids.
5. Name different classes of antibiotics. Give an example for each.
6. Write a note on aerosol therapy.
7. Write a note on local anesthetics.
8. List the different bronchodilator drugs used in clinical practice and indicate their mechanism of action.

III. Short answers on:

(10 x 3 = 30)

1. What are dietary fibers? What are their beneficial effects?
2. Explain the mechanism of action of heparin.
3. What are mucolytics? Give examples.
4. Write a note on functions and deficiency of vitamin K.
5. What are cytochrome P450s? What is their significance?
6. What is anion gap? How is it calculated?
7. What is rifampicin? What is its mechanism of action?
8. Write a note on dietary sources and functions of vitamin B1.
9. What are antihypertensives? Give two examples.
10. Explain thermic effect of food (specific dynamic action).