

**MANIPAL UNIVERSITY****FIRST SEMESTER B.P.T. (BRIDGE PROGRAM) EXAMINATION – JULY 2012****SUBJECT: BIOCHEMISTRY  
(OLD REGULATION)**

Monday, July 09, 2012

Time: 10:00-11:30 Hrs.

Max. Marks: 40

**✍ Answer ALL questions.****✍ Draw diagrams and flow charts wherever appropriate.**

1. Write the reactions of  $\beta$ -oxidation of palmitic acid and calculate the energetics. (8 marks)

2. Give a detailed account on the factors affecting enzyme activity with suitable graph. (6 marks)

3. **Write short notes on the following:**

3A. Reactions of ketolysis

3B. Limiting amino acid and mutual supplementation of proteins

3C. Absorption of lipids

3D. Source, RDA and functions of vitamin C

(4×4 = 16 marks)

4. **Answer the following:**

4A. Write the reaction and co-enzymes of Pyruvate Dehydrogenase complex.

4B. Calculate the calorific value of diet containing 5g of fat and 200g of carbohydrate.

4C. Mention four functions of calcium.

4D. Classify amino acids based on nutritional requirement with examples.

4E. Give the normal value of serum cholesterol and two conditions in which it is increased.

(2×5 = 10 marks)



**MANIPAL UNIVERSITY****FIRST SEMESTER B.P.T. (BRIDGE PROGRAM) EXAMINATION – JULY 2012****SUBJECT: RESEARCH FOR PHYSIOTHERAPISTS  
(OLD REGULATION)**

Wednesday, July 11, 2012

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**1. **Define:**

- 1A. Crude death rate
- 1B. Infant mortality rate
- 1C. Neonatal mortality rate
- 1D. Perinatal mortality rate
- 1E. Maternal mortality rate

(2×5 = 10 marks)

2A. What do you mean by dispersion? Define quartile deviation and standard deviation.

2B. Following still birth rates per 1000 live births were reported by 15 towns in Karnataka in the year 2007.

27, 28, 40, 32, 30, 36, 25, 29, 30, 29, 26, 30, 20, 35, 32

Calculate mean, median and mode for the above data.

((1+4)+5 = 10 marks)

3A. Briefly explain correlation using scatter diagrams.

3B. Suppose a random sample of 100 twelve year old boys were chosen and their heights were recorded. The observed sample mean height is 64 inches, and the sample standard deviation is 5 inches. Assume heights of 12-year-old boys are normally distributed, what percentage of boys height is

- i) Between 54 and 69 inches?
- ii) Less than 74 inches?

(5+5 = 10 marks)

4. Define descriptive epidemiology and enumerate its uses. Briefly explain cross sectional study design.

(5+5 = 10 marks)

5A. What do you mean by health information system and what are its components?

5B. With help of an example, explain multiple bar diagram.

(5+5 = 10 marks)

6A. Discuss sampling and non-sampling errors.

6B. Explain systematic random sampling.

(5+5 = 10 marks)

7. **Write short notes on:**

7A. Hypothesis and characteristics of a good hypothesis

7B. Research process

7C. Interval and ratio measurement scales

7D. Quantitative and qualitative variables

(5×4 = 20 marks)

