[KR 862]   **Sub. Code : 4915**

BACHELOR OF MEDICAL RECORD SCIENCE
DEGREE EXAMINATION.

First Year

(Non-Semester Regulations)

Paper V — BIO-STATISTICS, HOSPITAL STATISTICS

Time : Three hours   Maximum : 100 marks

Descriptive : Two hours and   Descriptive : 80 marks
      forty minutes

Objective : Twenty minutes   Objective : 20 marks

Answer ALL questions.

Essay Questions :   (2 × 15 = 30)

1.   Define Mean, Median and Mode. Calculate Mean, Median and mode from the following data :

Daily protein in

take	:	5-20	20-35	35-50	50-65	65-80	80-95
No. of persons	:	6	20	35	24	10	5

2.   In a population of 1000 cholera inoculation was given to 600 persons. Among the inoculated 40 persons were suffering from cholera and 50 persons among the non-inoculated were also suffering from cholera.

Test whether the cholera inoculation controlled the cholera or not. (Given 5% chi-square value for (d.f. = 3.84)

3.   Write an essay in detail about the collection of Hospital statistics including patient census, bed occupancy rate monthly and annual reports. (1 × 20 = 20)

4.   Write short notes on the following :   (6 × 5 = 30)

   (a)   Collection and Tabulation of data

   (b)   Measures of Variation

   (c)   Correlation and regression

   (d)   Simple random sample

   (e)   Pie diagram

   (f)   Infant morality rate and foetal death rate.

2   **[KR 862]**

FEBRUARY 2008

[KS 862]   **Sub. Code : 4915**

BACHELOR OF MEDICAL RECORD SCIENCE
DEGREE EXAMINATION.

First Year

(Non–Semester Regulations)

Paper V — BIO–STATISTICS, HOSPITAL
STATISTICS

Q.P. Code : 704915

Time : Three hours   Maximum : 100 marks

Descriptive : Two hours and   Descriptive :   80 marks
            forty minutes

Objective : Twenty minutes   Objective :   20 marks

Answer ALL questions.

Essay questions :

1.   (a)   Describe the 'Statistical inference'. Give an
example of each type of statistical inference.

      (b)   Explain the concepts of qualitative and
quantitative observations.   (10 + 10)

2. A pharmaceutical company conducted a pilot study to evaluate the relationship between the doses of a new hypnotic agent and sleeping time. The results of this study are shown below :

Subjects :   1 2 3 4 5 6 7 8 9

Dose :

(ml/kg body wt)   4 6 5 9 8 7 13 11 9

Sleeping time :   5 5 5 9 9 9 12 12 12

(a) What is the regression line relating the dose to sleeping time?

(b) What is the estimated sleeping time for a patient receiving 15 ml/kg body weight of the new drug?

(15)

3. (a) The following data gives age at the time of onset of a disease and result of its treatment in 400 patients :

Age at onset	Frequencies
Up to 24 years recovered	146
Up to 24 years not recovered	90
Above 24 years recovered	54
Above 24 years not recovered	110

Is there any significant association between the age at the time of onset of the disease and the results of treatment?

(b) Explain briefly the various methods of presentation of data in diagrammatic and graphic forms.   (8 + 7)

Short notes :   (6 × 5 = 30)

4. (a) Normal distribution.

(b) Uses of student – t – test.

(c) Coefficient of variation.

(d) Uses of Statistical Average.

(e) Limitations of sampling.

(f) Sources of health statistics.

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[KV 862]   **Sub. Code: 4915**

BACHELOR OF MEDICAL RECORD SCIENCE DEGREE EXAMINATION
(For candidates admitted from 2006-07 onwards)
First Year
Paper V – BIO-STATISTICS, HOSPITAL STATISTICS
Q.P. Code : 704915

Time : Three hours   **Maximum : 100 marks**

Answer ALL questions

I. Essays :

1. Define correlation and regression. Calculate the correlation coefficient and obtain the regression line of X on Y for the following data: **(20)**

X	1	2	3	4	5	6	7
Y	9	8	10	12	11	13	14

   Obtain an estimate of X when Y =20.

2. a) What do you mean by classification of data? Describe any two methods of classification with example.   **(8)**

   b) Write down the parts of a table.   **(7)**

3. Compute mean, median and coefficient of variation from the following data.   **(15)**

Weight in kgs:	40-45	45-50	50-55	55-60	60-65	65-70	70-75
No of students:	4	14	24	32	13	8	5

II. Write Short Notes on :   **(6X 5 = 30)**

1. Sample space and probability.
2. Cumulative frequency curves.
3. Collection of hospital statistics.
4. Properties of normal distribution.
5. Distinguish between small sample test and large sample test.
6. Birth rates and death rates.

III. Short Answer Questions: **(10X2 = 20)**

1. Define Arithmetic mean for ungrouped and grouped data.
2. Two uses of coefficient of variation.
3. Define mean deviation.
4. Correlation with two examples.
5. Two uses of scatter diagram.
6. What is association?
7. What is primary data?
8. What are the sources of collecting secondary data?
9. What is histogram?
10. Mention two types of bar diagrams.

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[KY 862]   **Sub. Code : 4915**

BACHELOR OF MEDICAL RECORD SCIENCE DEGREE EXAMINATION.

(For candidates admitted from 2006-07 onwards)

First Year

Paper V — BIO-STATISTICS, HOSPITAL STATISTICS

Q. P. Code : 704915

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

I.   Essays :

1.   Construct Mode and hence find mode   (20)

CI :	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
f :	2	5	8	10	14	12	6	3

2.   What is a Sample Explain different methods of sampling.   (15)

3.   Test the Efficacy of drug against typhoid. (Table value of $\chi^2 = 3.84$)   (15)

	Typhoid	No Typhoid	Total
Drug	200	300	500
No Drug	280	20	300
Total	480	320	800

II.   Write short notes :   (6 × 5 = 30)

1.   Scales of Measurements.

2.   Function of Statistics.

3.   Bayes Theorem.

4.   Types of Errors in testing of hypothesis.

5.   Poisson Distribution.

6.   Regression.

III. Short Answer Questions :   (10 × 2 = 20)

1.   What is meant by Ogive?

2.   Give the formula for median of a continuous data.

3.   What is a frequency polygon?

4.   What are the different measures of dispersion?

5.   How will you interpret coefficient of variation for the given set of data?

6.   Define mutually exclusive events.

7.   State any two merits of systematic sampling.

8.   State the properties of Regression.

9.   Write the empherical relationship of the important measures of central tendency.

10. List the important aspects of Hospital data.

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August 2011

[KZ 0811]   **Sub. Code: 4915**

BACHELOR OF MEDICAL RECORD SCIENCE (B.M.R.SC.,)
FIRST YEAR
PAPER V – BIO STATISTICS, HOSPITAL STATISTICS
Q.P. Code : 704915

Time : Three hours   **Maximum : 100 marks**
Answer All questions.

I. Elaborate on :   **(3 x 10 = 30)**
  1. Discuss the procedure involved in Test of significance for large and small samples.
  2. Which is the best Measure of Location? Why?
  3. Calculate mean and standard deviation for the daily temperature recorded in a city

Temperature in Celsius	-40 to -30	-30 to -20	-20 to -10	-10 to 0	0 to 10	10 to 20	20 to 30
No. of days	10	28	30	42	65	180	10

II. Write notes on :   **(8 x 5 = 40)**
  1. What is meant by frequency distribution and state its characteristics.
  2. Discuss on different types of measures of dispersion.
  3. How we can find correlation graphically? Explain.
  4. Discuss the different types of Probability samples.
  5. State the difference between correlation and Regression.
  6. In an experiment on the immunization of goats from anthrax the following results were obtained. Derive your inference on the vaccine.

	Died of Anthrax	Survived	Total
Inoculated with vaccine	2	10	12
Not inocultated	6	6	12
Total	8	16	24

7. Calculate Median for the following data

Wages (Rs.)	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Persons	1	3	11	21	43	32	9

  8. How will you represent the collected data?

III. Short Answers on :   **(10 x 3 = 30)**
  1. What are the essentials of questionnaire?
  2. What is meant by Regression?
  3. Brief on Type I and Type II errors.
  4. What is meant by Range and Interquartile range?
  5. Define Normal distribution.
  6. When is paired t test is used?
  7. What is the merit of Histogram and Ogives?
  8. How will you determine the basic hospital data?
  9. Two students X and Y work independently on a problem. The probability that X will solve is ¾ and the probability that Y will solve is 2/3. What is the probability that the problem will be solved.
 10. Find Range and its Coefficient for 27,30,35,36,38,40,43

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February 2012

[LA 0212]   **Sub. Code: 4915**
BACHELOR OF MEDICAL RECORD SCIENCE (B.M.R.SC.,)
FIRST YEAR
PAPER V – BIO STATISTICS, HOSPITAL STATISTICS
Q.P. Code : 704915

Time : Three hours   **Maximum : 100 marks**

Answer ALL questions.

I. Elaborate on :   **(3 X 10=30)**

1. Discuss the various methods of sampling techniques.
2. Explain the presentation of Hospital data.
3. Calculate Mean, Median, Mode for the following data:

10-13	13-16	16-19	19-22	22-25	25-28	28-31	31-34	34-37	37-40
8	15	27	51	75	54	36	18	9	7

II. Write notes on :   **(8X 5 = 40)**

1. Explain different scales of measurement with examples.
2. Describe Scatter Diagrams.
3. Discuss the methods involved in Research.
4. State Additive and Multiplicative law of Probability.
5. What is meant by sampling and non-sampling errors?
6. Calculate coefficient of variation for the following data:
   240.12, 240.13, 240.15, 240.12, 240.17, 240.15, 240.17, 240.16, 240.22, 240.21.
7. Calculate Karl Peason's coefficient of correlation for the data given below:

Height of Husbands (in inches)	60	62	64	66	68	40	72
Height of Wives		61	63	63	63	64	65	67

8. Explain the methods of collecting data

III. Short Answers on :   **(10X 3 = 30)**

1. Define Bio Statistics.
2. Mention different types of tabulation.
3. Define Binomial Distribution.
4. Define Probability.
5. State the steps involved in significance testing.
6. List out the merits and demerits of Arithmetic Mean.
7. What is meant by Regression?
8. How can we find mode and median graphically?
9. The probability that X and Y will be alive ten years hence is 0.5 and 0.8 respectively.
   What is the probability that both of them will be alive ten years hence?
10. Calculate quartile deviation of a persons monthly earnings for a year:

Months	1	2	3	4	5	6	7	8	9	10	11	12
Earnings	239	250	251	251	257	258	260	261	262	262	273	275

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