

(6 pages)

Reg. No. :

Code No. : 6683

Sub. Code : HESM 23

M.A. (CBCS) DEGREE EXAMINATION, APRIL 2013.

Second Semester

Economics – Main

STATISTICAL METHODS

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

1. Statistical data are collected for,
 - (a) collecting data without any purpose
 - (b) any purpose
 - (c) a given purpose
 - (d) none of the above.
2. A study based on complete enumeration is known as
 - (a) sample survey
 - (b) pilot survey
 - (c) census survey
 - (d) none of the above

3. The term regression was introduced by
 - (a) R.A. Fisher
 - (b) Sir Francis Galton
 - (c) Karl Pearson
 - (d) None of the above.
4. In the regression line $Y = \alpha + \beta X$, β is called the :
 - (a) slope of the line
 - (b) intercept of the line
 - (c) neither (a) or (b)
 - (d) both (a) and (b)
5. The outcoming of tossing a coin is a
 - (a) simple event
 - (b) mutually
 - (c) complementary event
 - (d) compound event.
6. Probability is expressed as
 - (a) ratio
 - (b) proportion
 - (c) percentage
 - (d) all of the above
7. A sample consists of
 - (a) all units of the population
 - (b) 50% units of the population
 - (c) 5% units of the population
 - (d) any fraction of the population

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8. An unordered sample of size n can occur in

- (a) n ways (b) $n!$ ways
(c) one way (d) n^2 ways

9. A wrong decision about H_0 leads to

- (a) one kind of error
(b) two kinds of error
(c) three kinds of error
(d) four kinds of error

10. Student's t - test is applicable in case of

- (a) small samples
(b) large samples
(c) for samples of size between 5 and 30
(d) None of the above

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Explain the methods of collecting primary data.

Or

(b) From the following data construct an index for 2008 taking 2007 as base :

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Commodity	Price in 2007 (Rs.)	Price in 2008 (Rs.)
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A	50	70
B	40	60
C	80	90
D	110	120
E	20	20

12. (a) The ranks of the same 15 students in two subjects A and B are given below; the number within the brackets denoting the ranks of the same students in A and B respectively. (1, 10), (2, 7), (3, 2), (4, 6), (5, 4), (6, 8), (7, 3), (8, 1), (9, 11), (10, 15), (11, 9), (12, 5), (13, 14), (14, 12), (15, 13). Use Spearman's formula to find the rank correlation coefficient.

Or

(b) What do you understand by correlation between two variables?

13. (a) Narrate the addition theorem of probability.

Or

(b) A man rolls a fair die again and again until he obtain a 5 or 6. Calculate the probability that he will require 5 throws.

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14. (a) Explain the law of statistical regularity.

Or

- (b) Bring out the advantages of Random sampling.

15. (a) Explain the types of errors in testing hypothesis.

Or

- (b) Write the concept of standard error.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Elucidate the merits of primary and secondary data.

Or

- (b) Calculate median and mode of the data given below. Using them find arithmetic mean

Marks : 10 20 30 40 50 60

No. of students : 8 23 45 65 75 80

17. (a) Describe the types of correlation.

Or

- (b) By using simultaneous equation method, find the regress equations from the following data :

X: 1 2 3 4 5

Y: 2 5 3 8 7

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18. (a) A bag contains 8 white and 5 red balls. Five balls are drawn at random. What is the probability that 3 of them are red and 2 white?

Or

- (b) Elucidate characteristics of binomial distribution.

19. (a) Describe the methods of sampling.

Or

- (b) Enunciate the merits and demerits of non – random sampling.

20. (a) Describe the procedure of testing hypothesis.

Or

- (b) What is the least value of r in a random sample of 38 pairs that is significant

(i) at the 0.05 level,

(ii) at the 0.01 level.

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