SET – B

Reg. No.....

Code No:SS7398 Sub Code: PESM23

M.A. (CBCS) DEGREE SPECIAL SUPPLEMENTARY EXAMINATION, APRIL 2020

SECONDSEMESTER

ECONOMICS

STATISTICAL METHODS FOR ECONOMICS - II

(For those who joined in July 2017 onwards)

Time: Three hours Maximum : 75 marks

Part A – (10X1=10 marks)

Answer ALL the questions, Choose the correct answer

1. If A and B are mutually exclusive events then P(AB) =

   a) 1 b) 0
   c) 5 d) 10

2. Standard deviation of binomial distribution is

   a) np b) npq
   c) $\sqrt{npq}$ d) pq

3. The difference between the value of a sample statistic and that of corresponding population parameter is called

   a) error b) estimator
   c) deviation d) dispersion

4. Central limit theorem was first introduced by

   a) Fisher b) La place
   c) De Moivre d) Karl Pearson

5. Statistical estimation is divided into _____ main categories

   a) two b) three
   c) four d) five

6. Bias of an estimator can be

   a) negative b) positive
   c) either positive or negative d) always zero

7. When the null hypothesis is rejected at α=0.5, the test result is said to be

   a) highly significant b) significant
   c) not significant d) all of these

8. The probability of 1 - β is known as

   a) level of significance b) power of a statistical test
   c) error d) bias

9. The t-distribution is bell-shaped around mean

a) zero b) five

c) three d) ten

10. The value of chi-square can

a) never be positive b) never be negative

c) never be zero d) never be infinity

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).Each answer should not exceed 250 words.

11. a) A basket contains 30 white roses and 20 red roses. Two flowers are drawn at random one after another without replacement. Find the probability that both flowers drawn are red.

(Or)

b) List the conditions of binomial distribution.

12. a) Write a note on sampling distribution.

(Or)

b) Explain the concept of standard error.

13. a) Explain interval estimation.

(Or)

b) A firm wishes to estimate with a maximum allowable error of 0.05 and a 95% level of confidence, the proportion of consumers who prefer its product. How large a sample will be required in order to make such an estimate if the preliminary sales report sindicate that 25% of all customers prefer the firms' product?

14. a) Differentiate simple and composite hypothesis.

(Or)

b) Write a note on critical region.

15. a) List the properties of t-distribution.

(Or)

b) Explain the procedures followed in analysis of variance.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).Each answer should not exceed 600 words.

16. a) A bag contains 8 white and 4 red balls. Five balls are drawn at random. What is the probability that 2 of them are red and 3 white?

(Or)

b) Explain the properties of normal distribution.

17. a) Explain the significance of standard error.

(Or)

b) In a hospital 620 female and 600 male babies were born. Do these figures confirm the hypothesis that male and females are born in equal number?

18. a) Enumerate the main properties of a good estimator.

(Or)

b) 400 labourers were selected at random from a city. Their mean income was Rs.1700 per month with a standard deviation of Rs.140. Set up 95% confidence limits within which the income of the labour community of the city is expected of lie.

19. a) Explain clearly the procedure of testing hypothesis.

(Or)

b) Differentiate type I and type II error.

20. a) A random sample of 18 pairs of observation from a normal population gives a correlation co-efficient of 0.52. Is it likely that the variables in the population are uncorrelated?

(Or)

b) Explain chi-square test. What are its various applications in research?