

## SECOND SEMESTER M.A. DEGREE EXAMINATION, JUNE 2016

(CCSS)

Economics

ECO 2C 07—STATISTICS FOR ECONOMICS

(2013 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.*

1. Most suitable probability distribution for continuous variables :
  - (a) Normal.
  - (b) Poisson.
  - (c) Binomial.
  - (d) None of the above.
2. The author of Central Limit Theorem :
  - (a) Gosset.
  - (b) Laplace.
  - (c) Karl Pearson.
  - (d) None of the above.
3. Large sample if N (number of observation) :
  - (a)  $> 30$ .
  - (b)  $< 30$ .
  - (c) 30.
  - (d) None of the above.
4. Parameters of normal distribution :
  - (a)  $m$ .
  - (b)  $n, p$ .
  - (c)  $\mu, \bar{X}, \sigma$ .
  - (d) None of the above.
5. The other name for probability sampling :
  - (a) Judgement sampling.
  - (b) Quota sampling.
  - (c) Random sampling.
  - (d) None of the above.
6. In hypothesis testing ' $\alpha$ ' is the probability of :
  - (a) Type I error.
  - (b) Type II error.
  - (c) Correct decision.
  - (d) None of the above.
7. The author of 'Z' test :
  - (a) Moivre.
  - (b) Laplace.
  - (c) Fisher.
  - (d) None of the above.

Turn over

8. The test which describes the discrepancy between theory and observation :  
 (a) F test.  
 (b) 'Z' test.  
 (c) Chi-square test.  
 (d) None of the above.
9. The other name for Kruskal-Wallis test is :  
 (a) 't' test.  
 (b) 'Z' test.  
 (c) H test.  
 (d) None of the above.
10. ANOVA technique was developed by :  
 (a) Karl Pearson.  
 (b) Spearmann.  
 (c) Fisher.  
 (d) None of the above.

(10 × 1 = 10 marks)

### Part B

Answer any **eight** questions.  
 Each question carries 5 marks.

11. Write and explain Pareto distribution.
12. Briefly explain the law of large numbers.
- ✓ 13. Briefly explain student's 't' distribution.
14. Discuss the large sample properties of Z.
- ✓ 15. Write the Fisher's properties of estimators.
- ✓ 16. What are the small sample properties of 'F' distribution ?
- ✓ 17. What is null hypothesis ? Write its features.
- ✓ 18. What is level of significance ? Explain.
19. How to ascertain the significance of correlation co-efficient ? Explain.
- ✓ 20. Explain sign test with an example.
21. Illustrate Kruskal-Wallis test.
- ✓ 22. Briefly explain two way classification (ANOVA).

(8 × 5 = 40 marks)

### Part C

Answer any **two** questions.  
 Each question carries 15 marks.

- ✓ 23. Write the basic equation of the normal distribution. What are its properties ?
24. Explain and illustrate the estimation of population parameters by constructing confidence intervals.

25. Discuss in detail the procedure for testing hypothesis.
- 26. The scores of a common test given to the students of different schools are given below. Make an ANOVA of the data and find out whether there is any significant difference between the scores :

| A  | Schools |    |    |
|----|---------|----|----|
|    | B       | C  | D  |
| 8  | 12      | 18 | 13 |
| 10 | 11      | 12 | 9  |
| 12 | 9       | 16 | 12 |
| 8  | 14      | 6  | 16 |
| 7  | 6       | 8  | 15 |

(2 × 15 = 30 marks)