**Total No. of Questions : 5]**

**SEAT No. :** ____

**P3036**

**[Total No. of Pages : 2**

# [4904]-2006
## M.A. (Part - I) (Semester - II)
## ECONOMICS
## EC-2006 : Statistical Techniques
## (2013 Pattern) (Credit System)

***Time : 3 Hours]*** ***[Max. Marks : 50***

***Instructions to the candidates:-***

1) ***Attempt all questions.***
2) ***All questions carry equal marks.***
3) ***Use of non-programmable calculator is allowed.***
4) ***Symbols have their usual meaning.***

***Q1)*** Present the following data of the scores of 50 applications who were given certain test for purpose of selection to a post by taking class intervals as 0 –9, 10 – 19, etc. **[10]**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 67 | 82 | 33 | 44 | 57 | 49 | 34 | 73 | 54 | 63 |
| 36 | 52 | 32 | 75 | 60 | 33 | 09 | 79 | 28 | 30 |
| 42 | 93 | 43 | 80 | 03 | 32 | 57 | 67 | 84 | 64 |
| 63 | 11 | 35 | 28 | 10 | 23 | 08 | 41 | 60 | 32 |
| 72 | 53 | 92 | 88 | 62 | 55 | 60 | 33 | 40 | 57 |

Plot less than ogive curve and obtain the value of median graphically.

OR

Explain the following with an illustration each.

a) An event

b) Sure event

c) Mutually exclusive events

d) Complement of an event

***P.T.O.***

***Q2)*** Compute the correlation coefficient between sales and profit of ten firms and interpret it. **[10]**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sales : | 50 | 50 | 55 | 60 | 65 | 65 | 65 | 60 | 60 | 50 |
| Profit : | 11 | 13 | 14 | 16 | 16 | 15 | 15 | 14 | 13 | 13 |

OR

Write a note on skewness.

***Q3)*** Following is the probability distribution of a discrete random variable X. Obtain the distribution function and expected value of X. **[10]**

| | | | | | |
|---|---|---|---|---|---|
| X : | 0 | 1 | 2 | 3 | 4 |
| P[X=x] : | 0.15 | 0.20 | 0.25 | 0.30 | 0.10 |

OR

Explain different components of time series.

***Q4)*** For the data given in the following table, test for independence between ability in mathematics and interest in Economics. Use 5% Level of significance. **[10]**

| | | Ability In Mathematics | | |
|---|---|---|---|---|
| Interest | | Low | Average | High |
| In | Low | 63 | 42 | 15 |
| Economics | Average | 58 | 61 | 31 |
| | High | 14 | 47 | 29 |

OR

Explain sampling and non-sampling errors.

***Q5)*** Compare arithmetic mean, median and mode as measures of central tendency. **[10]**

OR

Four cards are drawn at random from a pack of cards. Find the probability that they are

a) of different suits
b) of same suit
c) all diamonds
d) all are face cards

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