JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MBA - I Semester Examinations, January 2011
STATISTICS FOR MANAGEMENT
Time: 3hours
Max. Marks: 60

## Answer any five questions <br> All questions carry equal marks

1. Comment briefly on the following statements
a) "Statistics is the science of human welfare
b) To a very striking degree our culture has become a statistical culture
c) Statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write.
2. Distinguish between Primary data and Secondary data. State the chief sources of Secondary data. What precautions are to be observed when such data are to be used for any investigation ?
3. a) Distinguish clearly between sampling and non-sampling errors. Is it true to say that non-sampling errors do not arise in a sample survey? How will you control these errors?
b) Discuss the various methods of drawing the random sampling from a finite population.
4. From the following data of income distribution, calculate arithmetic mean, median and Mode and draw the inferences.

| Income (Rs.) |  |
| :---: | :---: |
| Below 30 | No. of Persons |
| Below 40 | 16 |
| Below 50 | 36 |
| Below 60 | 61 |
| Below 70 | 76 |
| Below 80 | 87 |
| Below 90 | 95 |

5. Fit a straight line trend by the method of least Squares and estimate the values for the years 2012 and 2014.

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Earning: | 38 | 40 | 65 | 72 | 69 | 60 | 87 | 95 | 98 |

6. Calculate the co-efficient of correlation between ages of husbands and wives and its probable error from the following.

| Ages of <br> Wives <br> (years) | Ages of <br> Husbands <br> (years) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $20-30$ | $30-40$ | $40-50$ | $50-60$ | $60-70$ | Total |
| $15-25$ | 5 | 9 | 3 | - | - | 17 |
| $25-35$ | - | 10 | 25 | 2 | - | 37 |
| $35-45$ | - | 1 | 12 | 2 | - | 15 |
| $45-55$ | - | - | 4 | 16 | 5 | 25 |
| $55-65$ | - | - | - | 4 | 2 | 6 |
| Total | 5 | 20 | 44 | 24 | 7 | 100 |

7. The following Table gives the monthly expenditure of two families A and B.

Compare these figures of a Suitable diagram.

| Item of expenditure | Family A | Family B |
| :--- | :---: | :---: |
|  | Income (Rs) | Income (Rs) |
| Food | 500 | 800 |
| Clothing | 140 | 240 |
| House Rent | 80 | 160 |
| Education | 100 | 120 |
| Fuel and Lighting | 40 | 40 |
| Miscellaneous | 40 | 80 |

8. Three Varieties of wheat A, B and C, were treated with four different fertilizers $1,2,3$ and 4 . The yields of wheat per acre were as under:

| Fertilizers | Varieties of <br> Wheat |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | A | B | C | Total |
| 1 | 55 | 72 | 47 | 174 |
| 2 | 64 | 66 | 53 | 183 |
| 3 | 58 | 57 | 74 | 189 |
| 4 | 59 | 57 | 58 | 174 |
| Total | 236 | 252 | 232 | 720 |

Perform and Analysis of Variance on the above data and interpret the results.

