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MBD-003-1011018 Seat No. _____

B. Sc. (Sem. I) (CBCS) Examination

November / December – 2016

Statistics - S - 101

(New Course)

Faculty Code : 003
Subject Code : 1011018

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

1A **Give the answer of following question** (4)
1. Define : Raw data
2. Define : Secondary data
3. Define: Discrete and Continuous variable.
4. Write any two limitations of Statistics.

1B **Write any one** (2)
1. Write meaning of Statistics.
2. Define: Population inquiry, Sample inquiry

1C **Write any one** (3)
1. Explain concept of Population and Sample.
2. Explain method of questionnaire by enumerators.

1D **Write any one** (5)
1. Write the difference between primary and secondary data.
2. State the sources of secondary data.

2A **Give the answer of following question** (4)
1. Find the mid-value of the class 125-149.
2. If the class of frequency distribution are 25-29.9, 30-34.9, ..., then what is the upper boundary point of the class 25-29.9.
3. The class length of a class is 25 and the mid-value is 52.5, find the upper limit of the class.
4. The students obtaining the marks less than 15 are 12 and students obtaining marks less than 30 are 31. Find the number of students obtaining marks in the class 15-30.

2B **Write any one** (2)
1. Define : Inclusive class
2. Define : Class length

2C **Write any one** (3)
1. Explain Cumulative frequency
2. On the basis of the study of different branches of company, the following information is obtained. In this company, out of 20 employees working as security persons, 6 are females, out of 30 peons, 10 are females, out of 40 clerks, 25 are females and out of 8 managers, 3 are females. Express this information in a table.

2D **Write any one** (5)
1. Explain bivariate frequency distribution
2. Out of 300 persons residing in a region, a sample of 30 persons is selected at random and the heights (in cm.) of these selected persons are as under:
   163, 148, 151, 162, 145, 152, 149, 158, 153, 149, 150, 152, 145, 141, 162, 168, 148, 158, 149, 141, 146, 155, 159, 150, 161, 153, 162, 160, 154, 165.
   (i) Distribute these data into 6 classes and also find mid value of each class.
   (ii) How many persons have height between 145 to 155 cm?
   (iii) What is the percentage of persons having height less than 155 cm.

3A **Give the answer of following question** (4)

1. Which is two dimensional diagrams?
2. How many degrees do we take equal to the total data in a pie diagram?
3. Which value is obtained by the point of intersection of "less than" and "more than" cumulative frequency curves, drawn on the same graph paper?
4. With the help of Histogram which measure central of tendency find?

3B **Write any one** (2)

1. Define: Histogram.
2. Define: Bar Diagram

3C **Write any one** (3)

1. Explain : Frequency curve
2. The frequency distribution of daily demand of rooms at international hotel during 90 days is as under. Draw less than type and more than type cumulative frequency curve.

Demands of rooms	1-50	51-100	101-150	151-200	201-250
Number of days	10	20	30	18	12

3D **Write any one** (5)

1. Write importance of diagram and graph in statistics.
2. The information regarding the number of boys and girls studying in a university in different faculties in a year is given below. Represent it by a suitable diagram.

Faculty	Science	Commerce	Arts	Engineering	Medical	Law
Number of Boys	500	700	200	300	100	100
Number of Girls	400	600	300	100	100	200

4A **Give the answer of following question** (4)

1. Explain : Supply function
2. Explain : Cost function
3. When price of sugar was Rs. 3.40, per kg. its demand was 1200 kg. When price increased to Rs. 4.20. Its demand decreased to 800 kg. Calculate elasticity of demand for sugar.
4. Distinguish demand and supply function from the followings:

$$(i) p = 20 + 7x \quad (ii)\ p = 24 - \frac{2}{3}x$$

4B **Write any one** (2)

1. Explain relatively elastic demand $(e > 1)$ and relatively inelastic demand $(e < 1)$.
2. If the cost function of an item is $C = \frac{x^2}{20} + 10x + 100$, find marginal cost when 20 units are produced.

4C **Write any one** (3)

1. Define elasticity of supply and explain its types.
2. The demand and supply functions of a commodity are as follows:

$$D = 25 - 2p$$
$$S = 2p^2 - 10p + 2$$

Find equilibrium price and equilibrium quantity.

4D **Write any one** (5)

1. Prove that $\eta = \frac{AR}{AR-MR}$
2. The supply function of a commodity is $S = ap^2 + bp + c$. When $p = 2, S = 12$, when $p = 3, S = 38$ and when $p = 4, S = 74$. Find the constants a, b and c and determine exact form of supply function. Also find S when $p = 5$.

5A **Give the answer of following question** (4)

1. When you enter a text label general alignment is _____.
2. In Microsoft Excel, the symbol we use to make absolute reference is ____.
3. Pressing enter key cell moves to _____.
4. By default there are _____ worksheets in a workbook.

5B **Write any one** (2)

1. What is Computer?
2. What are the difference between hardware and software?

5C **Write any one** (3)

1. Write require steps to create Line chart in MS-Excel
2. What is network topology? State its name.

5D **Write any one** (5)

1. Explain function units: ALU, CU and CPU.
2. Explain Star network topology.
