JAQ-003-0011012   Seat No. _____

B. Sc. (Sem. I) (CBCS) (W.E.F. 2016) Examination

November - 2019

Statistics - 101

(New Course)

Faculty Code : 003
Subject Code : 0011012

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

Instructions : (1) All questions are compulsory.
             (2) Each question carries equal marks.
             (3) Student can use their own scientific calculators.
             (4) Graph paper provided on request.

1 (a) Give the answer of following questions :   **4**
       (1) The data collected from published reports is
            known _____ data.
       (2) Population figures published by the Census
            Commissioner are _____ data.
       (3) Statistical data are collected for _____.
       (4) Numerical data presented in descriptive form are
            called _____.

    (b) Write any one :   **2**
       (1) Write limitation of statistics.
       (2) Define : Population, Sample

    (c) Write any one :   **3**
       (1) Write the method of questionnaire by post.
       (2) Write the difference between primary and secondary
            data.

    (d) Write any one :   **5**
       (1) Explain the different sources of secondary data.
       (2) Write the characteristics of an ideal questionnaire.

2 (a) Give the answer of following questions :   **4**
       (1) State Sterg's rule _____.
       (2) If classes 10-19, 20-29, 30-39 .... are _____
            classes.

(3) On dividing the class frequency by the total frequency, one gets _____.

(4) When the population is shown for each of the states in India, we have data which are classified _____.

(b) Write any one : **2**
(1) Define : Exclusive class
(2) Define : Class boundary point

(c) Write any one : **3**
(1) State the advantages of classification.
(2) Following are the ages (in years) of employees working in a college.

24	46	32	36	40	29	42	32	57	41
58	45	39	27	58	35	33	38	27	31
33	44	50	40	43	47	31	32	45	47
33	44	30	29	41	59	43	29	54	28
56	24	42	29	43	27	52	28	27	40

Prepare a frequency distribution using the above raw data such that the class length of classes is 5 and one of the classes is 25-29.

(d) Write any one : **5**
(1) Explain different parts of Tabulation in brief.
(2) 200 students of Science college cast their votes in an election. Out of 200 students 40% were girls. The number of students of First year and Second year are equal. 10% of the votes were declared invalid. The proportion of valid votes cast in First year and Second year was 7 : 8, which 40 girls were of First year and 38 girls of Second year. The number of invalid votes in the case of boys and girls of Second year were equal. Represent the data in a tabular form.

3 (a) Give the answer of following questions : **4**
(1) _____ degrees we take equal to the total data in a pie diagram.
(2) Frequency polygon can be drawn with the help of _____.
(3) The ogives for more than type and less than type distribution intersect at the _____ point.
(4) With the help of histogram _____ measure central of tendency find.

(b) Write any one :   2
(1) Explain a histogram in brief.
(2) Explain a bar diagram in brief.

(c) Write any one :   3
(1) Explain : Frequency polygon
(2) Draw the histogram of the following frequency distribution :

Class	0-5	5-15	15-30	30-50	50-60
Frequency	8	24	42	32	8

(d) Write any one :   5
(1) Write note on cumulative frequency curve.
(2) 1440 bags of grains were sold by a wholesale grain merchant in a month. The following data give the number of bags sold against the type of grain. Represent the data by a pie diagram.

Type of grain	Wheat	Rice	Turdal	Gramdal	Bajra	Corn
No. of bags sold	740	450	100	50	50	50

4   (a) Give the answer of following questions :   4

(1) If $x = 15 - \dfrac{1}{2}p$ then it is a function of _____.

(2) If $x = (6 + 5p)^2$ then it is a function of _____.

(3) If the price of sugar increases from Rs. 4.40 per kilogram to Rs. 5.20 per kg. and its demand decreases from 1200 kg to 800 kg., then elasticity of demand is _____.

(4) If the price of Jaggery increases from Rs. 2 per kilogram to Rs. 3 per kg. and its supply increases from 2000 kg to 2500 kg., then elasticity of supply is _____.

(b) Write any one :   2
(1) Explain demand function.
(2) If the cost function of an item is $C = x^3 + 7x^2 + 5x + 200$, find marginal cost and average cost function.

(c) Write any one : 3

    (1) Define elasticity of supply and explain its types.

    (2) The demand function of a commodity is $x = 30 - \sqrt{p}$ find elasticity of demand when price of commodity is 100.

(d) Write any **one** : 5

    (1) Obtain relation between Average revenue, Marginal revenue and elasticity of demand.

    (2) The demand and supply functions of a commodity are as follows :

$$D : x = 2p^2 - 3p - 2$$

$$S : x = 2p + 5$$

Find equilibrium price and equilibrium quantity.

5 (a) Give the answer of following questions : 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) The past icon will not be active unless and until _____.

    (4) Last column of the sheet in Microsoft Office Excel 2007 is _____.

(b) Write any one : 2

    (1) Explain fully connected mesh network topology.

    (2) What are the difference between hardware and software ?

(c) Write any one : 3

    (1) Write require steps to create Column chart (Bar diagram) in MS-Excel

    (2) What is network topology? State its name.

(d) Write any one : 5

    (1) Explain function units: ALU, CU and CPU.

    (2) Explain Star network topology.