

GUJARAT TECHNOLOGICAL UNIVERSITY
BPLAN – SEMESTER - I • EXAMINATION – WINTER-2017

Subject Code: 1015504**Date: 01/01/2018****Subject Name: Statistical and Quantitative Methods in Planning - I****Time: 02:30 PM TO 04:30 PM****Total Marks: 50****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** (1) Prices of movie tickets increase during the weekend, what kind of variation is that? **06**
- (a) Irregular (b) Cyclic
(c) Seasonal (d) Secular
- (2) In a bar chart, what does y axis represent?
- (a) Frequency (b) Mean
(c) Distribution (d) All of the above
- (3) Find out median and mode in the given data series – 5,4,5,5,6,7,2,4
- (a) 5 & 5 (b) 4 & 5
(c) 5.5 & 5 (d) 4.5 & 5
- (4) Data derived from focused group discussion is
- (a) Primary data (b) Secondary data
(c) Both (d) None
- (5) With increase in value of standard deviation
- (a) Bell curve will be stiffer (b) It will be unaffected
(c) Bell curve will have more bulge (d) None of the above
- (6) If we roll a dice for 12 times, the probability of getting 3 & 6 will be
- (a) 1 & 0.5 (b) 0.5 & 0.17
(c) 0.17 & 0.25 (d) 0.17 & 0.17
- (b)** Define following terms: (Any Two) **04**
- (1) Union probability
(2) Multimodal data
(3) Pie chart

Q.2 (a) Prepare an illustrative sample questionnaire for conducting a primary survey in a school to evaluate its transport facilities **05**

(b) Explain with example - Bar chart, Histogram **05**

OR

(b) Explain with example – Irregular variation, Cyclic variation **05**

Q.3 Below given is the data of employees of a corporate firm in Ahmedabad and their mode of commuting

Mode of commuting / Type of employees	Class 1	Class 2	Class 3	Class 4
Car	22	12	2	0
Two Wheeler	0	12	12	14
Shared car	3	18	12	4
Public transport	1	6	21	26

For the given data set

(a) Draw a pie chart showing mode of commuting wise distribution of class 3 employees **05**

(b) Draw a histogram showing class wise distribution of employees coming by public transport **05**

OR

Q.3 (a) Draw a bar chart showing class wise distribution of employees coming by two wheeler **05**

(b) Draw a multiple bar chart showing class wise distribution of employees coming by various vehicles **05**

Q.4 Below given is the data of employees of a corporate firm in Ahmedabad and their mode of commuting

Mode of commuting / Type of employees	Class 1	Class 2	Class 3	Class 4
Car	22	12	2	0
Two Wheeler	0	12	12	14
Shared car	3	18	12	4
Public transport	1	6	21	26

- (a) 1. What is the probability that any randomly picked employee is coming by public transport **05**
2. What is the probability that any randomly picked employee is class 2 employee?
- (b) 1. What is the probability that any randomly picked employee is from class 4 or coming by shared car? **05**
2. What is the probability that any randomly picked employee is from class 3 and coming by two wheeler?

OR

- Q.4** (a) 1. What is the probability that any randomly picked employee is coming by car **05**
2. What is the probability that any randomly picked employee is class 1 employee?
- (b) 1. What is the probability that any randomly picked employee is from class2 or coming by two wheeler? **05**
2. What is the probability that any randomly picked employee is from class 4 and coming by public transport?

Q.5

1.5	1.25	3.33	3.75	4.2
2.1	2.7	1.8	1.2	2.1
4.9	3.7	2.4	3.2	1.9
4.3	4.1	4.8	2.9	2.5
2.7	2.1	1.4	1.9	5.1

For the above given data

- (a) Find out mean, variance and standard deviation **05**
- (b) Find mode, median and coefficient of variation **05**

OR

Q.5

- (a) Explain in detail with example – primary data, secondary data and methods of their collection and sources **05**
- (b) What is a sample? Explain various methods of sampling. **05**
