GUJARAT TECHNOLOGICAL UNIVERSITY MBA (INTEGRATED) – SEMESTER – 02 EXAMINATION – SUMMER 2017									
•		de: 4120503 Date:11-05-2	2017						
Tim		me: Business Statistics O AM TO 01.30 PM Total Marks ons:	s: 70						
	1. 2. 3.	Attempt all questions.  Make suitable assumptions wherever necessary  Figures to the right indicate full marks.							
Q.1	(a)	Explain following terms with example.  1) Range 2) Standard Deviation 3) Coefficient of Variation	07						
Q.1	(b)	A sample of 12 small accounting firms reveals the following numbers of professionals per office.  7 10 9 14 11 8 5 12 8 3 13 6  a. Determines the mean absolute deviation. b. Determines the variance. c. Determines the Interquartile Range.	07						
Q.2 Q.2	(a) (b)	Write a detailed note on Sampling Techniques. Determine the probabilities for the following normal distribution problems a. $\mu = 604$ , $\sigma = 56.8$ , $x \le 635$ b. $\mu = 48$ , $\sigma = 12$ , $x < 20$ c. $\mu = 37$ , $\sigma = 4.35$ , $x > 35$ d. $\mu = 156$ , $\sigma = 11.4$ , $x \ge 170$	07 07						
Q.2	<b>(b)</b>	Write a short note on Uniform distribution and Normal Distribution.	07						
Q.3 Q.3	(a) (b)	Write a detailed note on Measures of Central Tendency.  Determine the mode and median of the following numbers.  2    4    8    4    6    2    7    8   4    3    8    9    4    3    5  OR	07 07						
Q.3 Q.3	(a) (b)	Explain the practical applications of business statistics.  Construct a histogram and frequency polygon for the following data.  Class Interval Frequency  10-under 20 9  20-under 30 7  30-under 40 10  40-under 50 6	07 07						

Enrollment No:

Seat No:

50-under 60	13
60-under 70	18
70-under 80	15

**Q.4** a) Explain detail note on probabilities.

**07** 

- **Q.4 b)** A bag contains 8 red and 5 white balls. Three balls are drawn at random. Find **07** the probability that
  - a. All the three balls are white.
  - b. All the three balls are red.

## OR

**Q.4** a) The following table gives a distribution of wages of 1000 workers.

**07** 

Wages (in Rs.)	No. of Worker
120 - 140	9
140 - 160	118
160 - 180	478
180 - 200	200
200 - 220	142
220 - 240	35
240 - 260	18

An individual is selected at random from above group. What is the probability that his wages are:

- 1) Under Rs. 160 2) Above Rs. 200 3) Between Rs. 160 and Rs. 200
- **Q.4 b**) Explain the following:

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- 1) Addition rule for any two events A and B. What happens if the events A and B are mutually exclusive?
- 2) Multiplication rule for any two events A and B. What happens if the events A and B are independent?
- Q.5 a) A random sample of voters is classified by age group, as shown by the 07 following data.

Age group	Frequency
18- under 24	17
24- under 30	22
30- under 36	26
36- under 42	35
42- under 48	33
48- under 54	30
54- under 60	32
60- under 66	21
66- under 72	15

Calculate the mean, mode and standard deviation of the data.

**Q.5 b**) Explain following terms with example.

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- 1) Inter Quartile Range
- 2) Mean Absolute Deviation
- 3) Variance

Q.5	a)		following e probabil		out	mean	and	standard	deviation	where	P(X)	07
			X			2		3	4			

P(X) .35 .25 .18 .13 .09 **Q.5 b)** What do you mean by regression? Point out the usefulness of regression in business analysis.

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