

SARDAR PATEL UNIVERSITY

MARCH - APRIL : 2018 EXAMINATION, BBA (I.B.) SEMESTER : II

WEDNESDAY, 04/04/2018

EVENING SESSION TIME : 2.00 PM. TO 4.00 P.M.

SUBJECT CODE : UM02CBBB06

BUSINESS STATISTICS

TOTAL MARKS : 60

Q-1 (A) Define statistics and write the scope and limitations of statistics. [07]

Q-1 (B) Find the missing frequencies f_1 and f_2 in the following distribution. It is given that $Z=74$ [08]
and $\sum fi = 162$, also find median for the data.

Class	40-50	50-60	60-70	70-80	80-90	90-100	100-110	110-120
F	4	12	f_1	30	f_2	12	9	4

OR

Q-1 (A) From the prices of shares X and Y given below, state which share is stable. Why? [07]

X	55	54	52	53	56	58	52	50	51	49
Y	108	107	105	105	106	107	104	103	104	101

Q-1 (B) Compute mean, range and quartile derivation for the following data. [08]

Class	4-8	8-12	12-16	16-20	20-24	24-28	28-32	32-36	36-40
F	5	8	18	25	15	12	10	5	2

Q-2 (A) Write the meaning, scope and limitations of operation research. [07]

Q-2 (B) Solve the following LPP by graphical method. [08]

Maximize $Z = 3x_1 + 5x_2$

s.t.

$3x_1 + 2x_2 \leq 18$

$x_1 \leq 4 \quad x_2 \leq 6$

$x_1, x_2 > 0$

OR

Q-2 (A) Write the Applications, Assumption and limitations of LPP. [07]

Q-2 (B) Solve the following linear programming problem by graphical method. [08]

Maximize $Z = 13x + 15y$

s.t.

$2x + 7y \leq 110$

$x + 3y \leq 50$

$x + y \leq 25$

$x \geq 0, y \geq 0$

Q-3 (A) Solve the following problem by Hungarian's method.

[07]

	P	Q	R	S
X	8	7	0	2
Y	6	4	3	2
Z	6	5	5	4
W	7	5	3	3

Q-3 (B) Solve the following transportation problem by (1) Matrix Minima method (2) North west corner method. [08]

	A	B	C	D	Supply
D	11	13	17	14	250
E	16	18	14	10	300
F	21	24	13	10	400
Demand	200	225	275	250	

OR

Q-3 (A) Solve the following Assignment problem to maximize the total profit.

[07]

	A	B	C	D
P	3	4	11	9
Q	5	7	8	9
R	5	6	6	7
S	4	6	8	8

Q-3 (B) Solve the following transportation problem by (1) NWCM (2) VAM

[08]

	I	II	III	IV	Supply
A	15	10	17	18	2
B	16	13	12	13	6
C	12	17	20	11	7
Demand	3	3	4	5	

Q-4 (A) Write the meaning, uses and components of time series.

[07]

Q-4 (B) Find trend using 3 yearly and 5 yearly moving average method for the following data. [08]

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Sale	112	104	108	121	116	111	133	125	129	139	131

OR

Q-4 (A) Compute trend using 4 yearly moving average method for the following data. [07]

Year	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Profit	70	55	50	55	60	65	65	70	80	95	65	55

Q-4 (B) For the following data compute seasonal indices by simple average method.

[08]

Year	Season			
	I	II	III	IV
2012	75	60	54	59
2013	86	65	63	80
2014	90	72	66	85
2015	100	78	72	93

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