Sardar Patel University, Vallabh Vadhyanagar
External Examination 2019
F.Y.B.B.A. (IB) - SEM – II
UM02CBBB06 - Business Statistics

Date : 30-03-2019 Day : Saturday Time: 02:00 PM TO 04:00 PM   Total Marks: 60

Q-1 (a) Define statistics and Explain the scope and limitations of it.   [07]

(b) If Median of the following frequency distribution is 44 and the total frequency   [08]
is 100.Then find the missing frequency and also find mean and mode.

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	5	12	?	30	?	10	4

OR

Q-1 (a) Find mean, median and mode of first ten even natural numbers.   [07]

(b) Calculate coefficient of variation for the following :   [08]

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

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

(b) Solve the following LPP by graphical method :   [08]
Max Z= 3x + 5y
Such That 3x + 2y ≤ 18
            x ≤ 4, y ≤ 6
            x, y ≥ 0

OR

Q-2 (a) Write the applications, assumptions and limitations of Linear Programming   [07]
Problem.

(b) Solve the following linear programming problem by using graphical method :   [08]
Max Z= 6x + 7y
Such That   2x + 4y ≤ 48
             4x + 2y ≤ 60
             x, y ≥ 0

Q-3 (a) Solve the following transportation problem by using (1) NWCM (2)MM method   [10]

	D1	D2	D3	D4	Demand
O1	6	4	1	5	14
O2	8	9	2	7	16
O3	4	3	6	2	05
Supply	6	10	15	4	

① (P.T.O)

(b) Solve the following Assignment problem by Hungarian method. [05]

	A	B	C	D
P	35	30	41	57
Q	47	32	53	45
R	39	42	38	54
S	31	35	50	45

OR

Q-3 **(a)** Solve the following Assignment problem to maximize 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

(b) Solve the following transportation problem by (1) NWCM (2) VAM. [08]

	D1	D2	D3	D4	Demand
O1	1	2	1	4	30
O2	3	3	2	1	50
O3	4	2	5	9	20
Supply	20	40	30	10	

Q-4 **(a)** Define time series and write it uses and state its components. [07]

(b) Find trend by using 3 & 5 yearly cycle for the following data. [08]

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sale	112	104	108	121	116	111	133	125	129	139	131

OR

Q-4 **(a)** Compute seasonal indices for the following data by simple average method. [07]

Year	I	II	III	IV
1999	75	60	54	59
2000	86	65	63	80
2001	90	72	66	85
2002	100	78	72	93

(b) Find trend by using 3 & 4 yearly cycle for the following data. [08]

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Profit	70	55	50	55	60	65	65	70	80	96	65	55