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MASTER OF BUSINESS ADMINISTRATION (M.B.A.)
EXAMINATION : DECEMBER -2023
SEMESTER - I
Sub: Statistical & Quantitative Methods (MBA104)

Date: 15/12/2023   Total marks: 60   Time: Time: 2.00pm to 4.30pm

SECTION – I

Q. 1.   **Fill in the blanks.**   **(5)**

1.   Statistics gives idea of ……………in Business.
   a)Loss   b) percentage
   c) Loss & Profit   d) relation

2.   Mathematical Model are useful to calculate …………….
   a) Mean   b) Correlation
   c)Probability   d) Mode

3.   With the …………..graph we can estimate value of Median Graphically.
   a) Histogram   b) Ogive curve
   c) Pie chart   d) Bar chart

4.   In Modern days Statistical tools are useful to take ………….decisions.
   a) Appropriate   b) Feasible
   c) Actual   d) Perfect

5.   55% of 200 = …………..
   a) 110   b) 200
   c)55   d) 100

Q. 2.   **Answer the following. (Any Two)**   **(20)**

1.   Solve the following linear programming problem using the graphical method.

   Minimize: $Z = 5x + 4y$
   $4x + y \geq 40,$
   $2x + 3y \geq 90,$

   $x, y \geq 0$

2.   MBA students collected certain amounts for the Covid fund. The amount is in Rs. prepare a grouped frequency distribution table. Estimate means, mode & median.

57	89	62	115	200	150	130	140	167	212
117	69	84	189	207	187	108	95	142	182
202	101	88	123	132	205	195	66	74	190
210	183	174	165	156	217	59	94	118	181
127	172	169	207	135	145	190	250	235	159

3. The ratio of the two friends monthly salary is 3:5.The new ratio would be 13:21 if each person's monthly salary increased by 200 rupees. Determine their starting salary.

4. Draw Histogram and calculate Mode with formula & Graph -

Size of Farms (in hectors)	No. of Farms
1 – 20	13
20-40	38
40-60	16
60 – 80	5
80 -100	3

Q. 3. **Solve (Any Two)** **(10)**

1. It is known that at the university 60% of professors play Tennis, 50% play Cricket, 70% play Hockey, 20% play Tennis and Cricket. 30% play Tennis and Hockey, 40% play Cricket and Hockey. Assuming that each professor play at least one of the games, determiner *%* of professors playing all the three games.

2. The ranking of 10 students in Statistics and Accountancy are follows,

Statistics	3	5	8	4	7	10	2	1	6	9
Accountancy	6	4	9	8	1	2	3	10	5	7

What's the coefficient of correlation?

3. Find the missing frequency x & y in the given distribution if total number of frequencies 60 and the Median is 40.

Marks	Frequency
0 - 10	5
10 – 30	x
30 – 60	y
60 – 80	8
80 - 90	2

SECTION – II

Q. 4. Find the 4 yearly moving averages – **(15)**

Electric bill year	Bill Amount
2000	2354.34
2001	2379.71
2002	2318.52
2003	2468.99
2004	2386.09
2005	2569.47
2006	2575.72
2007	2762.72
2008	2844.50
2009	3000.70
2010	3108.10
2011	3357.50
2012	3075.70
2013	3180.60
2014	3221.60
2015	3176.20
2016	3430.60
2017	3527.48
2018	3637.89

Q. 5. **Answer the following** **(10)**

a) Find the variance of the following distribution of percentage dividend paid by 50 company.

Dividend	No. of Companies
0–6	8
6–12	10
12–18	15
18 –24	12
24 –30	5
30-35	6

OR

b) Among 100 students, 32 studies Mathematics, 20 study Physics, 45 studies Biology. 15 study Mathematics and Biology. 7 study Mathematics and Physics. 10 study Physics and Biology. 30 do not study any of the three subjects. Then find,
    a) Number of students who study all the three subjects.
    b) Number of students who study Mathematics only.