Roll No........................

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Odd Semester Examination - January 2023 – February 2023
MBA-III Semester
MBA-GE-OM-04
Business Analytics

Duration: 3 Hours **Max Marks: 75**

Note: Attempt any Five Questions, all questions carry equal marks. [15*5=75]

Q1. a) Discuss application of Business Analytics in various domain of management with example. (10)

b) Compare and contrast the Data Sets and Databases (5)

Q2. "Business analytics is the scientific process of transferring data into insight for better decisions." Comment. (15)

Q3. a) A survey of beneficiaries of government schemes has been done in six states of India. From each state, five districts are chosen. From each selected district, 2 blocks are chosen, and from each block, 2 villages are taken. In the end, responses were collected from eight government scheme beneficiaries from each village. Which sampling method is used in this survey and why? (5)

b) Write a short note on stratified and snowball sampling. (5)

c) What is the use of a secondary axis graph? (5)

Q4. a) The table given below shows the data obtained from SMEs regarding access to credit and having quality certification.

Quality Certification	Access to Credit	Not Having Access to Credit	Total
Yes	469	31	500
No	1315	185	1500
Total	1784	216	2000

Test the effectiveness of quality certification on access to credit. Test your results with the help of $\chi 2$ at the 5 percent level of significance. The table value of $\chi 2$ for 1 degree of freedom at the 5 percent level of significance is 3.841. (10)

b) Discuss various types of data. (5)

Q5. a) Discuss the benefits and steps of the predictive analytics process. (10)

b) Explain parametric and nonparametric tests with an example. (5)

Q6. Develop a conceptual research framework for consumers' purchase behaviour for any product of your choice and develop the hypotheses. (15)

Q7. a) Discuss linear regression, its use, importance, and key assumptions. (12)

b) Explain the use of the Durbin-Watson statistic and its range. (3)

Q8. In the below table, parameter estimates of a regression model are given for factors affecting the adoption of digital operations by small and medium enterprises. Where 1 shows the adoption of digital business operations and 0 indicates non-adoption of digital business operations. Firm and owner characteristics, digital resource capabilities, business model, and networking and partnership are the four groups of independent variables.

(a) Which regression model used to examine factors affecting adoption of digital business operations? Justifies your answer. (3)

(b) Interpret the table with probable cause. (12)

	Adoption of Digital Operation in Business (Yes=1, No=0)		
Explanatory variables	**β**	**Sig.**	**Exp(B)**
Firms and owners' Characteristics			
Firms Age (In years)	-0.013	0.261	0.987
Education Level (Primary school or less=0 Above Primary school =1)	1.107***	0.000	3.024
Household Size (In Numbers)	-0.018	0.702	0.982
Gender of Top Manager (Female=1 Male=0)	-0.551	0.159	0.576
Managers Experience (In years)	0.046***	0.000	1.047
Digital Resource capabilities			
Firms have Internet (Yes=1 No=0)	1.183***	0.000	3.265
Business Model			
Customer centric business model (Yes=1 No=0)	0.838***	0.000	2.312
Networking and Partnership			
Partnership with other firms (Yes=1 No=0)	0.241***	0.003	1.272
Use of Social Media (Yes=1 No=0)	1.345***	0.000	3.838
Constant	-2.206	0.000	0.11
Chi-square (10)	208.868***		
Sig.	0.000		
Percentage Correct	74.5		
-2 Log likelihood	752.818		
Cox & Snell R Square	0.239		
Nagelkerke R Square	0.334		

***Indicate 1 percent level of significant