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MBA
(SEM I) THEORY EXAMINATION 2024-25
STATISTICS FOR HEALTH CARE MANAGEMENT

TIME: 3 HRS

M.MARKS: 100

Note: Attempt all Sections. In case of any missing data; choose suitably.**SECTION A****1. Attempt all questions in brief. 2 x 10 = 20**

Q no.	Question	CO	Level
a.	Explain the measures of central tendency.	1	K2
b.	List various measures of dispersions.	1	K1
c.	What is importance of basic data in healthcare?	2	K1
d.	Name four types of clinical trials.	2	K1
e.	Explain the importance of vital statistics.	3	K2
f.	Define sickness data.	3	K1
g.	Name the four main components of a time series.	4	K1
h.	Explain fixed-based method.	4	K2
i.	Define hypothesis.	5	K1
j.	List the types of small sample tests.	5	K1

SECTION B**2. Attempt any three of the following: 10 x 3 = 30**

a.	Explain the concepts of skewness and kurtosis, and their significance in the analysis of healthcare data. Explain how these measures can provide insights into the symmetry and peaked-ness of data distributions	1	K5
b.	Compare and contrast the concepts of incidence rate and prevalence rate in the context of public health statistics. Explain how these measures are calculated	2	K5
c.	Examine the concept of correlation analysis and its application in understanding the relationships between different health-related variables.	3	K4
d.	Appraise the concept of time series analysis and discuss its importance in understanding and forecasting business trends.	4	K5
e.	Discuss the advantages and limitations of the t-test, F-test, and chi-square test in hypothesis testing.	5	K6

SECTION C**3. Attempt any one part of the following: 10 x 1 = 10**

a.	Examine qualitative and quantitative observations in the context of data recording in routine clinical practice. Explain the various scales of measurement.	1	K4
b.	Explain the concept of statistics and discuss its importance in the healthcare industry. Describe the scope and applications of statistics in various areas of healthcare.	1	K5

4. Attempt any one part of the following: 10 x 1 = 10

a.	Explain the importance of sampling in healthcare research and discuss the types of sampling methods with advantages and limitations.	2	K5
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b.	Examine the role and importance of health reports in informing healthcare policies and decision-making. Discuss the key components of a comprehensive health report.	2	K4
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5. Attempt any one part of the following: 10 x 1 = 10

a.	List the various sources of health statistics and analyze the strengths and limitations of each data source.	3	K4
b.	Evaluate the principles of regression analysis and its use in modeling the relationship between dependent variables and independent variables.	3	K5

6. Attempt any one part of the following: 10 x 1 = 10

a.	Explain the concept of an index number and discuss its importance in measuring and comparing economic and business trends.	4	K5
b.	Discuss the Least Squares method for trend analysis, highlighting both the linear and non-linear regression equations.	4	K6

7. Attempt any one part of the following: 10 x 1 = 10

a.	Distinguish between Type I and Type II errors in hypothesis testing. Explain the implications of each type of error and discuss strategies for minimizing the risk of committing these errors.	5	K4
b.	Examine the concepts of null hypothesis (H ₀) and alternative hypothesis (H _a). Explain the rationale behind formulating these hypotheses and discuss the decision-making process involved in accepting or rejecting the null hypothesis.	5	K4