

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**BSc DEGREE EXAMINATION MAY 2026
(Sixth Semester)**

Branch – COMPUTER SCIENCE

MAJOR ELECTIVE COURSE – II – HEALTHCARE DATA ANALYTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The primary use of healthcare analytics is to (i) Increase hospital paperwork (ii) Improve patient outcomes (iii) Reduce medical staff (iv) Eliminate electronic systems	K1	CO1
	2	The foundation of healthcare analytics begins with (i) Marketing strategies (ii) Data collection (iii) Advertising campaigns (iv) Patient complaints	K2	CO1
2	3	A tree-like reasoning model in healthcare is commonly known as (i) Neural Network (ii) Decision Tree (iii) Linear Regression (iv) K-Means	K1	CO2
	4	Naïve Bayes classifier is based on (i) Bayes' Theorem (ii) Distance calculation (iii) Linear equations (iv) Decision trees	K2	CO2
3	5	Neural networks are inspired by (i) Computer hardware (ii) Database systems (iii) Human brain structure (iv) Decision trees	K1	CO3
	6	Which method replaces missing values with the average of available values? (i) Deletion (ii) Normalization (iii) Clustering (iv) Mean Imputation	K2	CO3
4	7	A database is used to (i) Delete all data (ii) Print documents (iii) Organize and store data (iv) Design hardware	K1	CO4
	8	SQLite is mainly classified as a (i) File-based relational database (ii) Distributed cloud system (iii) Graph database (iv) Hardware tool	K2	CO4
5	9	Outcome measures in healthcare include (i) Hospital building size (ii) Number of chairs (iii) Mortality rate (iv) Parking space	K1	CO5
	10	A major source of healthcare data is (i) Electronic Health Records (ii) Social media ads (iii) Newspaper articles (iv) TV programs	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	How Healthcare analytics acts on the healthcare industry (DUH!)? Explain	K1	CO1
		(OR)		
	11.b.	Enumerate the history of Healthcare analytics		
2	12.a.	Demonstrate the Naïve Bayes Classifier for clinical data.	K2	CO2
		(OR)		
	12.b.	Explain in detail about the linear and logistic regression.		
3	13.a.	Illustrate on Neural network and deep learning.	K3	CO3
		(OR)		
	13.b.	Show different methods in dealing with missing data.		
4	14.a.	Examine Data engineering with SQL with an example.	K4	CO4
		(OR)		
	14.b.	Explain the steps to start SQLite Session.		
5	15.a.	Compare hospitals using datasets and explain it in detail.	K3	CO5
		(OR)		
	15.b.	Build the ways for predicting discharge status for patients and Obtaining the dataset.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Describe the Foundation of Healthcare Analytics.	K1	CO1
2	17	Discuss clinical management algorithm for weight and obesity management using Decision tree and Random forest.	K2	CO2
3	18	Model the Machine learning pipeline and discuss it in detail.	K3	CO3
4	19	Demonstrate the model for Predicting the mortality for a cardiology practice	K3	CO4
5	20	Using Python, classify dialysis facilities and explain it in detail.	K3	CO5

Z-Z-Z

END