CAT – 1 – MODEL QP

Programme	:	**B.Tech**			
Course Title	:	**NoSQL Databases**	Code	:	**CSE3009**
Time	:	**01:30 Hours**	Max. Marks	:	**50**

Part A- Answer all the Questions (5 x 10= 50 marks)

1.	To implement an intranet web search engine by storing a web pages into the local database, identify and explain a simple database that presented with a simple string returns an arbitrary large BLOB of data. Ensure the database should have no query language to add and remove data into/from a database. Ans: Key-value store Pg. 63 – 72 in book "Making Sense of NoSQL" Module-2 – Topic-1 in PPTs	**10**
2.	Assume a software application development with database backend. - when database implementation is costly - when the application data is too large - when the application needs data analytics what is the type of database would you prefer? Explain your answer how the suggested database improves the application development productivity and implements the distributed systems and cloud computing. Ans: NoSQL Databases Pg. 13 – 17 in book "Next_Generation_Databases_NoSQL_NewSQL" Module-1 – Topic-1 in PPTs	**10**
3.	Let's consider an application which uses a NoSQL database at the backend. Assume the required data is available at the cluster A which is far away from the client machine B and the data have to crossover multiple intermediate clusters. How do NoSQL systems use different types of memory to increase system performance? Ans: Speeding performance by strategic use of RAM, SSD, and disk Pg. 21 – 24 in book "Making Sense of NoSQL" Module-1 – Topic-5 in PPTs	**10**

4.	A data architecture pattern is a consistent way of representing data in a regular structure that will be stored in memory. Explain the NoSQL data aggregation models by comparing each other. Ans: Aggregate data models Pg. 38 – 39 in book "Making Sense of NoSQL" Module-2 – Topic-1 in PPTs	**10**
5.	As distributed systems get larger and more spread out, the complications get more challenging. Even in a simple situation with two applications, each connected to a database and all four parts running on a separate machine, the challenges of providing the ACID guarantee is not trivial. Explain the open XA consortium solutions in distributed systems to implement the ACID principles. Ans: ACID properties in distributed acid systems Pg. 173 – 176 in book "Professional NoSQL" Module-1 – Topic-2 in PPTs	**10**