Next Generation Technologies

N.B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same questions** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt the following (any **THREE**)   **[15]**
   (a) Write a note on 3 V's in Big Data?
   (b) Explain the structure of Big data?
   (c) Write a note on CAP Theorem?
   (d) Compare advantages and disadvantages of NoSQL?
   (e) Compare performance and features of MongoDB?
   (f) Write a note on speed, scalability and agility of MongoDB?

2. Attempt the following (any **THREE**)   **[15]**
   (a) Explain Indentifier(_id) in detail?
   (b) Explain core processes of MongoDB?
   (c) Write a note Master/Slave replication of MongoDB?
   (d) Explain Sharding in detail?
   (e) Explain conditional operators in detail? Fow to add records by explicitly using _id?
   (f) Explain collection distribution in detail?

3. Attempt the following (any **THREE**)   **[15]**
   (a) Write a note on MMAPv1 in detail?
   (b) What is .ns and data file?
   (c) Explain how data is written using journaling?
   (d) Explain memory issues in MongoDB?
   (e) Compare 32 bit and 64 bit versions of MongoDB?
   (f) Write a note on:
       (i) Namespaces Limits   (ii) Indexes Limit
       (iii) Capped Collections Limit   (iv) Sharding Limitations

4. Attempt the following (any **THREE**)   **[15]**
   (a) Is it the end of SSD's, Justify?
   (b) What is In-Memory Databases?
   (c) Write a note on Oracle - 12c In Memory database?
   (d) Write a note on Berkeley Analytics Data Stack and Spark?
   (e) Explain DOM manipulation using jQuery?
   (f) Explain jQuery with AJAX with example?

5. Attempt the following (any **THREE**)   **[15]**
   (a) Compare JSON and XML?
   (b) Write a note on JSON object?
   (c) Write a note on datatypes in JSON?
   (d) Write a note on Arrays in JSON?
   (e) What are JSON Tokens?
   (f) Explain JSON Grammer in detail?

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Paper Discussion Schedule for all Subjects

Date	Day	Timing	Centre
12 Nov. 2018	Monday	9.00 a.m. to 11.00 a.m.	Nerul
12 Nov. 2018	Monday	12.00 p.m. to 2.00 p.m.	Thane
12 Nov. 2018	Monday	3.00 p.m. to 5.00 p.m.	Dombivli
13 Nov. 2018	Tuesday	9.00 a.m. to 11.00 a.m.	Ghatkopar
13 Nov. 2018	Tuesday	12.00 p.m. to 2.00 p.m.	Andheri
13 Nov. 2018	Tuesday	3.00 p.m. to 5.00 p.m.	Borivali
14 Nov. 2018	Wednesday	9.00 a.m. to 11.00 a.m.	Dadar