Enrolment ID _____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Engineering and Technology
Program: BSc – Data Science
Year: 3rd **Semester:** 5th
Examination: End Semester Examination
Examination year: December - 2021

Course Code: DS301 **Course Name:** Internet of Things for Data Analytics

Date: 02/12/2021 **Marks:** 40

Time: 11:30 AM to 1:30 PM **Total Pages:** 2

Instructions for students:
1. This question paper consists of five main questions with their related sub-questions
2. Write answers for questions belonging to same question/sub-question together. Do not answer questions haphazardly
3. Make assumptions wherever required
4. Manage time effectively during examination so that paper is completed in specified duration

Q. No.	Details	CO	BTL	Marks
Q1 [A]	**Attempt the following questions: [1 mark each]**			**(5)**
1.	The features of IoT network are _____ (select all that apply). a. Dynamic b. Self-configuring c. Static d. Intelligent	2	1	1
2.	Big data has to be processed before generating insight. a. True b. False	1	2,3	1
3.	How can IoT data be fed to platforms? Select all that apply. a. Large portion b. Bulk Ingestion c. Data bits d. Data streams	1,4	2	1
4.	Foundation of SNA is applied by using _____. a. Flyod's Theory b. Game Theory c. Graph Theory d. None of the above	1,5	3	1
5.	Spreadsheet is an example of _____. a. Mathematical data b. Sample population c. Structured data d. Unstructured data	5,6	3,4	1
Q 1. [B]	**Define (Any 5): [1 mark each]**			**(5)**
1.	Social Network Analysis	1,5	1,2	1
2.	Internet of Things	2	1,2	1
3.	Big data	1	1	1
4.	Sustainability	1,5	1,2	1
5.	Cyber Physical systems	2	1,2	1
6.	Analytics	1,6	1,2	1
Q 2.	**Short answer questions [Any 5]: [2 marks each]**			**(10)**
1.	Explain the concept of interoperability in IoT context and how it impacts data collection process.	2	1,2,3	2
2.	Explain MQTT data messaging protocol.	2	1,2	2
3.	What are the challenges in IoT analytics? Explain in brief.	1,5,6	1,2,3	2
4.	What is Linked Analytical data set? Explain with example.	1,5	1,2,3	2
5.	What is NFC? Explain.	2	1,2	2
6.	Explain the concept of data lakes.	1	1,2	2

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Q 3.	Answer in detail [Any 4]: [5 marks each]	CO	BTL	(20)
1.	Explain how big data is gathered from different sources in a smart city and how the data can be analysed to obtain valuable information.	3,4	4	5
2.	Compare IoT and Big data from a technological perspective. Are they the same? Comment.	1,2,5	4	5
3.	How does having sustainable analytics techniques impact businesses? Explain.	1,6	4	5
4.	Explain the different application areas of Internet of Things.	2,3	3	5
5.	What is citizen sensing and citizen actuation? How can it be useful in data analytics? Explain.	1,4, 5,6	4	5

----------***End of Question Paper*** ----------

----------***All the Best***----------