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BCA DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UDS21301J – INRODUCTION TO DEEP LEARNING

(For the candidates admitted during the academic year 2020-2021 to 2022-2023)

	10. Diff	9. Exp	8. Wha	7. Diff	6. Wha	5. Defi	4. Wha	3. Mention machine	2. Hov	1. Wh	P	ime: Three Hours
PART – B ($5 \times 16 = 80$ Marks)	10. Differentiate batches, epochs and iteration.	Explain gates with its equation.	8. What is Hypothesis testing?	Differentiate CNN and RNN.	6. What is subsampling?	Define tune hyper parameters.	4. What are the types of Gradient descent?	Mention any four differences between machine learning and deep learning.	How Deep learning works?	1. What is overfitting? How to avoid it?	Answer ALL Questions $PART - A (10 \times 2 = 20 \text{ Marks})$	Hours
	2	2	2	2	2	2	2	2	2	2	Marks	Max. Marks: 100
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15.a.	b.	14.a.	.	13.a.	b.	12.a.
Discuss the application of machine learning	(OR) b. Analyze various data collection techniques.	14.a. Explain the concept of different layers in Neural network, what do you mean by the term of convolution layer, pooling layer, loss layer, dense layer. Describe each one in brief.	(OR) Elaborate on challenges in deep learning fundamentals.	13.a. What do you mean by RNN? Explain with the help of a diagram. In which cases this model is suitable.	(OR) b. Write the steps for implementation in Deep learning.	12.a. Explain the ANN training process with suitable diagram.
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in computer vision.

learning.

Explain the requirements on software and

16

(OR)

hardware for the development of deep

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Explain in detail about the different type of

16

S

Deep learning Algorithms.

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BCA DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UDS21302J - ADVANCED COMPUTING WITH PYTHON AND GCP

Time: Three Hours (For the candidates admitted during the academic year 2020-2021 to 2022-2023) $PART - A (10 \times 2 = 20 Marks)$ Answer ALL Questions Marks Max. Marks: 100 ВІ 0 PO

What are the types of programming?

What is serverless computing? What is scalability and redundancy?

4 What are the advantage of cloud computing?

S end tools? What are differences between Front and back

6 computing? What are the challenges of near-memory

7 What are the roles of In-memory computing in AI applications?

 ∞ Define Real usecases Time event processing

10. What is Google Natural Language API?

What is different between NoSQL and SQL?

9.

 $PART - B (5 \times 16 = 80 Marks)$

11.a. Explain soft computing benefits, challenges and applications of the the soft computing overview, 16

(OR) 18NF3UDS21302J

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12.a. 9 Explain the serverless for micro services benefits of advanced computing. Briefly explain the business challenges and 16 16

Architecture.

6 cluster and cloud computing. Briefly explain Business Drivers for adopting 16

Briefly explain

architecture In memory computing framework and

Business benefits and challenges of In-memory computing

10

(OR)

б framework and Architecture. Write short notes on serverless computing 16

Briefly overview and framework. explain Real-Time computing 16

16

b. Write short notes on:

overview Near-Real time event processing

Batch processing overview

15.a. Explain the working role of SQL database.

16

(OR)

Write a python program to check if the number is an Armstrong number (or) not

of the number. Write a Python program to print the reverse

10

10

equation. Write a python program to solve quadratic 10

Ξ:

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BCA DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UDS21303J - INTRODUCTION TO NATURAL LANGUAGE PROCESSING (For the candidates admitted during the academic year 2020-2021 to 2022-2023)

Time: Three Hours 6 5. 3. Differentiate hypernyms and hyponyms with Give an example for index based encoding How to generate a list of bigrams using List any four popular NLP frameworks. technique What do you mean by test data? Define NLP NLTK. example. $PART - A (10 \times 2 = 20 Marks)$ Answer ALL Questions Marks Max. Marks: 100 В CO PO

$PART - B (5 \times 16 = 80 Marks)$

11.a. Summarize the application areas of NLP in 6

(OR)

16

- 5 Compare stemming and discourse. Distinguish between semantic, pragmatics and lemmatization.
- detail. Explain the text pre-processing steps Ħ. 16

(OR)

- Explain word sense disambiguation with example.
- =: analysis. Write short notes on exploratory data 00
- 13.a. Analyse the feature engineering pipeline by taking twitter dataset 16

- Explain task orchestration
- Write short notes on NLP models
- 14.a. Illustrate data structures in NLP

16

(OR)

- Ь How to extract topics from any text of your choice factorization. using non-negative matrix 16
- Compare and discuss about GPU, CPU and TPU in detail 16

15.a.

(OR)

Summarize the requirements for building NLP hardware and software system. 6

5.

* * * *

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10.

Define target system

9.

Differentiate BERT and XLNET

 ∞

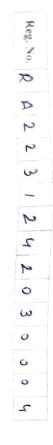
What is corpus?

What do you mean by validiation data?

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BCA DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UDS21S03J – DATA ENGINEERING FOR ENTERPRISE

(For the candidates admitted during the academic year 2020-2021 to 2022-2023)

Time: Three Hours 10. Define static data system. <u></u> 7. List out any four features of Apache spark. 6. Define the purpose of KAA 1. Why data engineering is important? What are the business challenges of data What is No SQL? Differentiate master data and reference data. Define MDM List out different formats of data. integrations? What is source and target system? $PART - A (10 \times 2 = 20 Marks)$ Answer ALL Questions Marks Max. Marks: 100 Ξ 0.0 P.O.

b. Explain various types of data systems.

16

15.a	ь	14.a.	ь.	b. 13.a.	12.a.
15.a. Discuss the following: i. Data modelling ii. Data Access path	(OR) b. Discuss your understanding about different data formats.	14.a. Describe the following:i. Data profilingii. Data cleansingiii. Data Transformation	(OR) Discuss the essential tasks involved in data identification.	b. Describe snowflake schema in detail. 13.a. Describe Hadoop architecture in detail.	12.a. Explain ETL data pipeline architecture.
00 00	16	0 0 4	15	16	0

Articulate the role of Data engineering in Data analytics and Data analysis. data engineering and data (OR)

16

11.a.i. Discuss about data analytics key challenges.

 $PART - B (5 \times 16 = 80 Marks)$

Differentiate

warehouse

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