

Reg No RA2231242030004

SRM Institute of Science and Technology

NCR Campus, Modinagar

Department of Computer Applications

Model Examination, November-2022

Subject Name: Role of Mathematics in AI
Course Name: BCA
Duration: 3:00 Hrs.

Subject Code: UDS21G01T
Semester: I
Max Marks: 100

PART - A (Marks: 10*2=20)

Answer ALL Questions

	Marks	BL	CO	PO
1. Define Equally likely events.	2	1	2	1
2. What is L'Hospital's rule for calculating limits?	2	1	3	2
3. Differentiate between Scalar matrix and Identity matrix.	2	1	5	2
4. Let $u = (2, 4, -5)$ and $v = (1, -6, 9)$. Calculate $ 3u - 5v $.	2	4	2	2
5. If $y = e^{\log x}$, then find the values of $\frac{d^2y}{dx^2}$.	2	2	3	4
6. Evaluate $\lim_{x \rightarrow 0} \frac{x - \sin x}{x - \sin x (1 - \cos x)}$.	2	1	4	2
7. Differentiate between Scalar and Vector.	2	4	3	2
8. Discuss the Histogram representation of numerical data.	2	3	4	2
9. Define a Regular graph with an example.	2	3	4	2
10. Find the Laplace transform of $f(t) = 1$.	2	3	4	2

PART - B (Marks: 5*16=80)

Answer ALL Questions

	Marks	BL	CO	PO
11. (a) Determine the eigenvalues and eigenvectors of the matrix $A = \begin{bmatrix} 1 & 2 & -3 \\ 0 & 3 & 2 \\ 0 & 0 & -2 \end{bmatrix}$	16	4	2	4

OR

(b) Why mathematics is required for an AI implementation? Discuss.	16	3	2	4
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12. (a) Discuss various types of Data analysis methods.	16	4	2	1
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OR

(b) What is the chance that a leap year selected at random will contain 53 Sundays?	16	2	3	1
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13. (a) Use LU decomposition method to solve the system of equations $x_1 + 5x_2 + x_3 = 14, 2x_1 + x_2 + 3x_3 = 13, 3x_1 + x_2 + 4x_3 = 17.$	16	4	3	3
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OR

(b) Test for the convergence of the series $1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots \infty$	16	1	3	4
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14. (a) Find the maximum value of $z = 3x_1 + 4x_2$ subject to $4x_1 + 2x_2 \leq 80, 2x_1 + 5x_2 \leq 180$ and $x_1, x_2 \geq 0$.	8	3	4	1
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OR

(b) Find the Fourier series representation of $f(x) = x $ in the interval $-L \leq x \leq L$.	16	2	2	1
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15. (a) Define Discrete and Continuous Probability Distribution. Also, write their mean and variance.	16	6	2	4
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OR

(b) What is adjacency matrix of a graph? Explain it by taking any example of a complete graph.	16	3	2	8
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RA2231242030004

Institute of Science and Technology
NCR Campus, Modinagar
Department of Computer Applications

Model Examination, November-2022

Subject Name: Introduction to Data Engineering
Course Name: BCA
Duration: 3:00 Hrs

Subject Code: UDS21S01T
Semester: I
Max Marks: 100

PART - A (Marks: 10*2=20)

Answer All Questions

	Marks	BL	CO	PO
1. What is SQL?	2	1	2	1
2. What do you mean by MQTT?	2	1	3	2
3. Define YARN.	2	1	5	2
4. Differentiate between Data Engineering & Data Science	2	4	2	2
5. What is Apache PIG?	2	2	3	4
6. What is a HDFS?	2	1	4	2
7. What is Apache Spark?	2	4	3	2
8. Explain IIoT business challenges.	2	3	4	2
9. What is Self Driving Tractor?	2	3	4	2
10. Explain wearable IIoT for Human.	2	3	4	2

13 (a) Differentiate between relational and non relational database.	16	4	3	3
(b) Explain the types of Data model and data warehouse model.	16	1	3	4
14. (a) Explain the following : (i) IIoT Driving Factors (ii) IIoT Framework	8 8	3 3	4 4	1 1
(b) Explain the role of IIoT in Data engineering.	16	2	2	1
15. (a) What is IIoT? Explain its benefits. (b) Explain IIoT sensors in detail with its classification.	16 16	6 3	2 2	4 8

Reg No RA2231242035504

SRM Institute of Science and Technology

NCR Campus, Modinagar

Department of Computer Applications

Model Examination, November-2022

Subject Name: Business English

Course Name: BCA

Duration: 3:00 Hrs.

Subject Code: ULE21AE1T

Semester: I

Max Marks: 100

PART - A (Marks: 10*2=20)

Answer ALL Questions

	Marks	BL	CO	PO
1. Define Communication-	2	1	2	1
2. What do you mean by Critical Listening?	2	1	3	2
3. Differentiate between Circular and Memo.	2	1	5	2
4. What do you understand by Nonverbal communication?	2	4	2	2
5. What are Various Types of Reading?	2	2	3	4
6. What is a report?	2	1	4	2
7. Elaborate E-mail Etiquettes-	2	4	3	2
8. Elaborate any two business Meetings-	2	3	4	2
9. Discuss any two Dos and Don'ts of GD-	2	3	4	2
10. Define Emotional Intelligence.	2	3	4	2

PART - B (Marks: 5*16=80)

Answer ALL Questions

	Marks	BL	CO	PO
11. (a) Discuss Barriers to effective listening-	16	4	2	4
(b) Differentiate between Business letter & Personal letter	16	1	2	6
OR				
12. (a) Write a credit letter to the Manager, State Bank of India regarding a Personal Loan for your Startup.	16	4	2	1
(b) Define Resume and Discuss its Types-	16	2	3	1
OR				
13. (a) Elaborate Purpose, audience and Locale in Presentation-	16	4	3	3
(b) Discuss the Principles of a Business Meeting-	16	1	3	4
OR				
14. (a) Define Precis and discuss the steps of Precis writing	16	3	4	1
(b) Explain the Channels of Communication with the help of a diagram.	16	2	2	1
OR				
15. (a) Write a Cover letter for the position of a software engineer in a multinational Company.	16	6	2	4
(b) Discuss Zohari Window Model.	16	3	2	8

Reg. No.	R	A	2	2	3	1	2	4	2	0	3	0	0	0	4	
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BCA-DATA SCIENCE MODEL EXAMINATION, NOVEMBER 2022
First Semester

UDS21101T-INTRODUCTION TO ARTIFICIAL INTELLIGENCE

Time: Three Hours

Max. Marks: 100

PART – A (2 × 10 = 20 Marks)

Answer ALL Questions		Marks	BL	CO	PO
1.	Give the difference between human and machine intelligence.	2	3	1	1
2.	Give one positive and negative impact of AI on human behavior.	2	3	2	1
3.	What is Digital Transformation?	2	2	2	1
4.	What is sampling? Define different types of sampling methods.	2	2	2	1
5.	Define the term data scientist, data analyst, and data engineer.	2	3	1	1
6..	What is business analytics?	2	2	1	2
7.	Define instruction driven automaton.	2	3	2	2
8.	Define AI readiness framework.	2	3	2	2
9.	Explain about AI return of investment ?	2	3	2	2
10.	Describe about model engineering	2	2	2	2

PART – B (5 × 16 = 80 Marks)
Answer ALL Questions

11.a. What is Artificial Intelligence? Give the real world applications of AI. 16 3 2 2

b. Define the role of AI in health care system. 16 3 4 3
 Compare AI based healthcare system with traditional healthcare system.

12.a. Define the following terms and write down their applications 16 3 4 2

- Vectors
- Matrices

(OR)
 b. What is statistical Analysis? Define the various types of statistical analysis. 16 3 2 3

13.a. What is machine learning? Explain the important components of machine learning. 16 3 2 3

(OR)
 b. Define the following terms: 16 3 2 3

- NLP
- Computer Vision

14.a. Describe the various Intelligent automation platforms. 16 3 4 3

(OR)

b. Describe the following machine learning in detail. 16 3 5 3

- Supervised
- Unsupervised
- Reinforcement

15.a. Define AI business case development in detail. 16 3 2 3

(OR)
 b. Describe AI implementation framework for an enterprise. 16 3 4 3

Reg.	R	A	2	2	3	1	2	4	2	0	3	0	0	0	4
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SRM Institute of Science & Technology
Delhi-NCR Campus, Modinagar, Ghaziabad

Department Of Computer Application
B.C.A 1st year 1st semester Model Test Paper, November 2022

Subject - French Language I
Course Code- ULF20G01J

Time: 3 Hours
MaxMarks-100

PART- A

1. Complétez avec les pronoms sujets. (Nous, vous , ils, tu, elles)

5

- a) _____ finissent son devoir.
- b) _____ aimes nager.
- c) _____ vont au cinéma
- d) _____ êtes sympathique.
- e) _____ allons au cinéma.

2. Complétez avec les articles définis : (le, la les , l')

5

- a) _____ étudiants sont dans la classe
- (b) C'est _____ robe de Caroline.
- (c) C'est _____ livre de Paul.
- (d) _____ oncle de Laurent est très sportif.
- (e) C'est _____ robe de Caroline.

3. Remplissez les tirets avec les adjectifs possessifs (mon, ton ses, son, ta, tes)

5

- (a) J'aime _____ père. (sa/ mon)
- (b) Il va chez _____ parents. (ses/ leur)
- (c) Tu invites _____ amis. (vos/ tes)
- (d) Tu aimes _____ fille. (ta / son)
- (e) Rahul oublie _____ clés.. (son/ses)

4. Trouvez les questions:

5

- (a) C'est une fleur
- (b) C'est Monalisa .
- (c) Ce sont des livres.
- (d) C'est Robin.
- (e) C'est une tortue.

5. Associez les mots de chaque colonne:

5

- | A | B |
|--------------|--|
| a) Un lapin | i) Elle donne des œufs. |
| b) Une vache | ii) On utilise sa laine pour faire des pulls. |
| c) Un mouton | iii) Elle mange de l'herbe et donne du lait. |
| d) Une poule | iv) Il adore nager et a de belles plumes. |
| e) Un canard | v) Il aime les carottes et bouge tout le temps son nez |

6. Complétez avec les nationalités:

5

- a) Jean habite en Inde. Il est _____.
- b) Priya habite à Paris. Elle est _____.
- c) Elle habite au Canada. Elle est _____.
- d) Jack habite en Chine . Il est _____.
- e) Riya habite en Allemagne. Elle est _____.

7. Ecrivez les jours de la semaine:

5

8. Complétez avec les mots interrogatifs.

5

- a) _____ de livres avez - vous (Où/ combien)
- j' ai deux livres.
- b) _____ habites - tu? Comment/ Où)
- J' habite à Delhi.
- c) _____ tu manges maintenant.? Combien/ Pourquoi)
- Parce que j' ai faim.
- d) _____ tu t' appelles? Comment/ Parce que)
- Je m' appelle Julien.
- e) _____ est votre nationalité? Quelle/ Où)
- Je suis française.

9. Chassez l' intrus:

- a). Mars, Mai, Mardi, Septembre
- b). Avons, as, allez ,a
- c). Décembre, Dimanche,, Novembre, Octobre
- d). Regarder, Écouter, Visiter, Finir
- e). Du, de la, une, des

5

10. Retrouvez les bon ordre des phrases:

- a) Habitez/ vous/ à / Paris
- b) Suis/ je/ étudiant
- c) avons/ des/ nous/ fleurs
- d) ne/ mange/ pas / elle / de/ glace
- e) aimons/ notre/ nous / pays

5

11. Mettez à la forme Négative

- a) Nous trouvons le bâtiment.
- b) Vous parlez français?
- c) Neil et Rémi jouent aux jeux vidéo
- d) Elle boit du café
- e) Rahul habite à Delhi

5

12. Mettez les phrases au féminin:

- a) Il est beau et elle est _____
- b) Paul est sportif et Julien est _____
- c) Un garçon gentil et une fille _____
- d) Il est canadien et elle est _____
- e) Un garçon grand une fille _____

5

13. Complétez les phrases avec une préposition de lieu.

- a) La boulangerie est _____ la poste (in front of)
- b) L'ordinateur est _____ la table. (on)
- c) les livres sont _____ le sac. (in)
- d) Le tableau est _____ l' étudiant. (facing opposite)
- e) La maison est _____ le parc. (behind)

5

14. a)Ecrivez les mois de l'année.

Or

- b) Présentez votre ami (e)

Section C**15. Ecrivez les nombres**

- a) 2000 b) 32 c) 520 d) 75 e) 8000

5

16. Ecrivez l'heure

- a) 7h20 b) 5h15 c) 6h30 d) 7h45 e) 00h00

5

17 Conjuguez les verbes:

- a) aller b) venir c) finir d) visiter e) parler

10

18 Conjuguez les verbes au présent:

10

- a) je _____ (regarder) la télévision après le dîner.
- b) Nous _____ (aller) au bureau.
- c) Vous _____ (avoir) de la chance.
- d) Elles _____ (chanter) des chansons françaises.
- e) Je _____ (préférer) boire du thé au citron.
- f) Marie _____ français (parler)
- g) Nous _____ (faire) notre projet ce soir.
- h) Je _____ (être) toujours en retard en classe.
- i) Vous _____ (venir) des États - Unis.
- j) Nous _____ (aller) au restaurant.

SRM Institute of Science and Technology
NCR Campus, Modinagar
 Department of Computer Applications

Model Examination, November-2022

Subject Name: I.A.C
 Course Name: BCA
 Duration: 3:00 Hrs

Subject Code: UDS11102J
 Semester: I
 Max Marks: 100

PART - A (Marks: 10*2=20)
Answer ALL Questions

	Marks BL CO PO			
1. What are load balancing clusters?	2	1	2	1
2. Define Beowulf cluster?	2	1	3	2
3. What is API Gateway?	2	1	5	2
4. What is Baas and FaaS?	2	4	2	2
5. Explain In-Memory Computing?	2	2	3	4
6. What is real time event processing?	2	1	4	2
7. Elaborate Comments in python?	2	4	3	2
8. What is GPU?	2	3	4	2
Define TPU?	2	3	4	2
9. Write two benefits of SRE?	2	3	4	2

PART - B (Marks: 5*16=80)
Answer ALL Questions

	Marks BL CO PO			
11. (a) Discuss briefly about HPC?	16	4	2	4
OR				
(b) Differentiate between following (i) Multilingual and heritage computing (ii) IaaS and PaaS (iii) Open cluster and Close cluster	8 4 4 4	1 1 1 1	2 2 2 2	6 6 6 6
12. (a) Give a brief overview of Server less computing?	16	4	2	1
OR				
(b) Explain distributed computing with all its aspects?	16	2	3	1
13. (a) what is in-memory computing. Explain its features benefits and applications?	16	4	3	3
OR				
(b) Give an overview of real time event processing along with its role in AI applications	16	1	3	4
14. (a) Explain the following terms (i) Micro services architecture (ii) GPU hardware requirements	8 8 8	3 3 3	4 4 4	1 1 1
OR				
(b) Explain python with its syntax, datatype and Variables.	16	2	2	1
15. (a) Elucidate the term site reliability engineering?	16	6	2	4
OR				
(b) Write the brief overview of TPU?	16	3	2	8