

Academic Year: 2022-23 (ODD)

SET – B

Test: Internal Examination III
Course Code & Title: UDS23103T & Role of Mathematics in AI
Year & Sem: I Year / I Sem

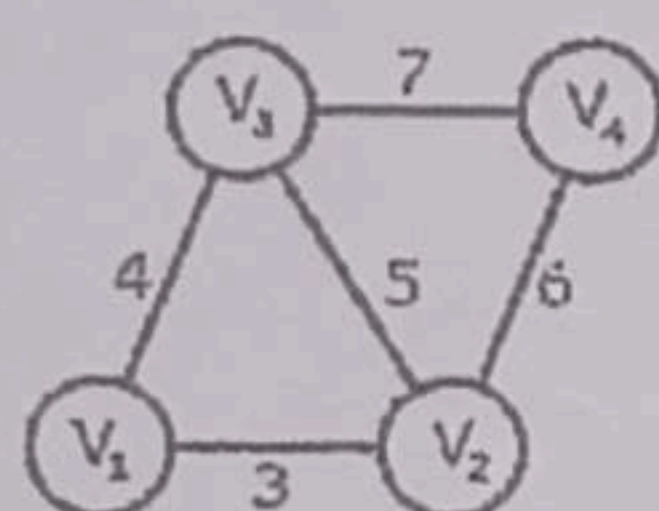
Date & Session: 27/10/2023 & FN
Duration: 3 Hours
Max. Marks: 100

Part - A

(10Qx 2M = 20 Marks)

Answer all questions

Q. No	Question	Marks	BL	CO	PO
1	Define Orthogonal matrix with example.	2	L1	1	1
2	Explain Cramer's rule.	2	L1	1	1
3	Integrate $\int e^{(8-7x)} dx$.	2	L2	2	2
4	Find the critical points of the function, $f(x) = -\frac{3}{4}x^4 - 8x^3 - \frac{45}{2}x^2 + 105$.	2	L2	2	2
5	Define conjunction and disjunction.	2	L1	3	1
6	Construct truth table of $\sim p \wedge (P \rightarrow Q)$.	2	L1	3	1
7	Define Complete graph with example.	2	L1	4	1
8	Define Hamiltonian graph with example.	2	L1	4	1
9	Define minimum spanning tree with example.	2	L1	5	1
10	Find the length of the path from v_1 to v_4 in the minimum spanning tree of graph with $n = 10$.	2	L1	5	1



Part B

Answer all questions

5Qx 16M = 80 Marks

11. (A) (i) Define the following matrix with example.
 1. Skew-symmetric matrix, 2. Hermitian matrix
 3. Unitary matrix, 4. Diagonal matrix
 (ii) Find the eigen values and eigen vector for A , where,

$$A = \begin{bmatrix} 2 & -2 & 3 \\ 1 & 1 & 1 \\ 1 & 3 & -1 \end{bmatrix}$$
- 16 L2 1 1
- (OR)
- (B) (i) State and verify Cayley-Hamilton theorem for $A = \begin{pmatrix} 1 & 0 & 3 \\ 2 & 1 & -1 \\ 1 & -1 & 1 \end{pmatrix}$.
 (ii) Solve the system of equation by using Cramer's rule
 $2x + y - z = 3; x + y + z = 1; x - 2y - 3z = 4$.
- 16 L2 1 2
12. (A) (i) Find the maximum and the minimum values of $f(x) = x^3 - 3x$.
 (ii) Prove that $\frac{d}{dx} \left(\sqrt{\frac{1+\sin x}{1-\sin x}} \right) = \frac{1}{1-\sin x}$.
- 16 L2 2 2
- (OR)
- (B) Integrate
 (i) $\int \frac{x^2+x+1}{(x+2)(x^2+1)} dx$.
 (ii) $\int \frac{1}{x^2-x+1} dx$.
- 16 L2 2 2

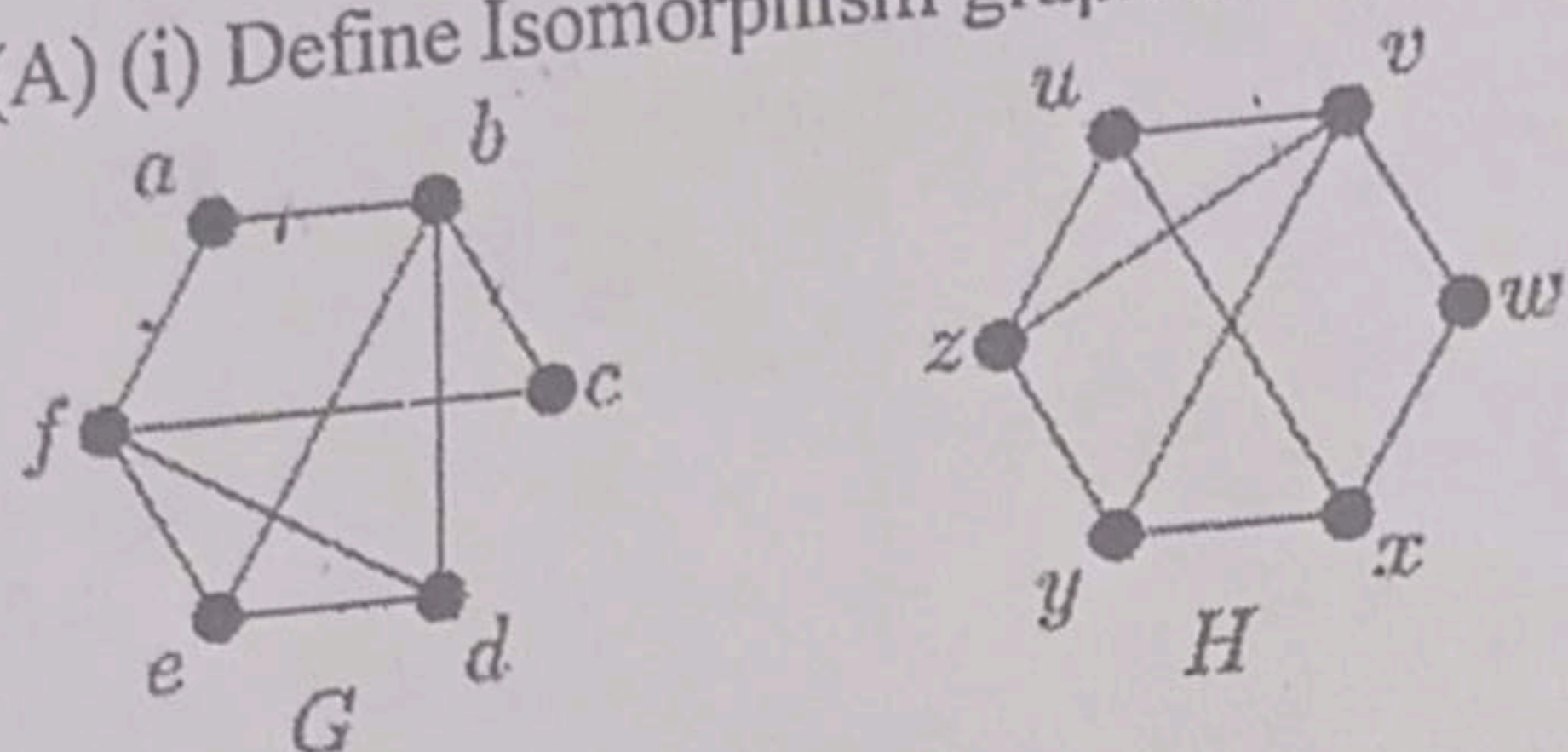
13. (A) (i) Define Tautology and determine whether the following statements are tautology or not.
 (a) $\sim(p \wedge q) \vee p$ (b) $p \wedge \sim q \vee (p \vee q)$ 16 L2 3 2

(ii) Define principal disjunctive normal forms and without constructing the truth tables, find the principal disjunctive normal forms of the following statements:
 (a) $X \rightarrow ((X \rightarrow Y) \wedge \sim(\sim Y \vee \sim X))$ (b) $(X \wedge Y) \vee (\sim X \wedge Z)$
 (OR)

16 L2 3 2

14. (B) Construct the truth table for following
 (i) $(p \rightarrow (q \rightarrow s)) \wedge (\sim r \vee p) \wedge q$. 16 L2 4 2

(A) (i) Define Isomorphism graph and determine whether the graphs G and H are isomorphic.



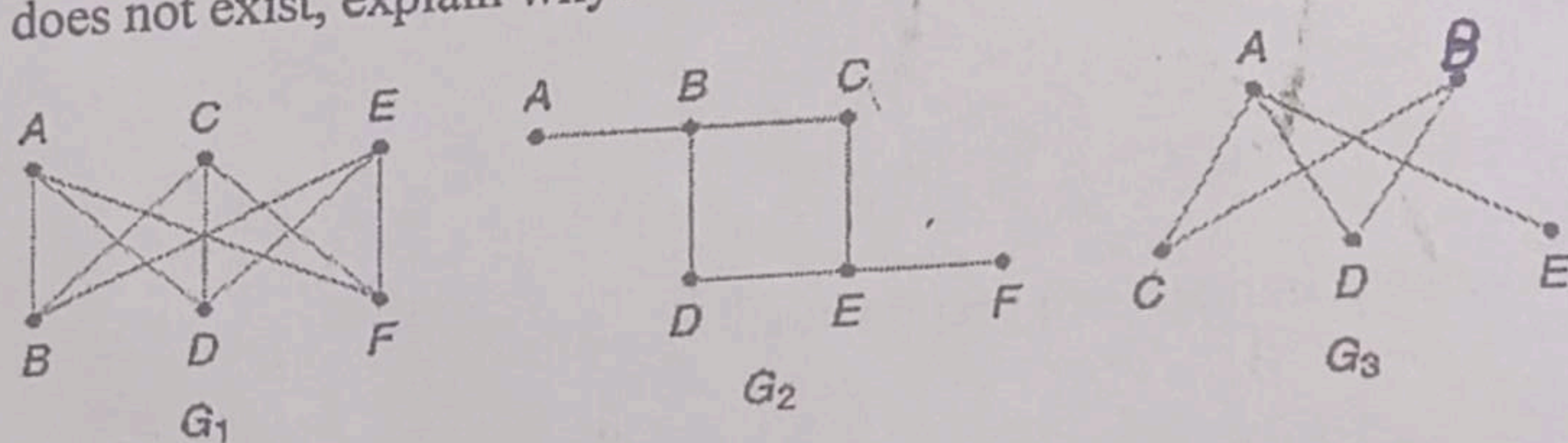
(ii) Prove the following implications by using truth tables:

- (a) $p \rightarrow (p \rightarrow r) \Rightarrow (p \rightarrow q) \rightarrow (p \rightarrow r)$
 (b) $(p \rightarrow (q \rightarrow s)) \wedge (\sim r \vee p) \wedge q \Rightarrow r \rightarrow s$

(OR)

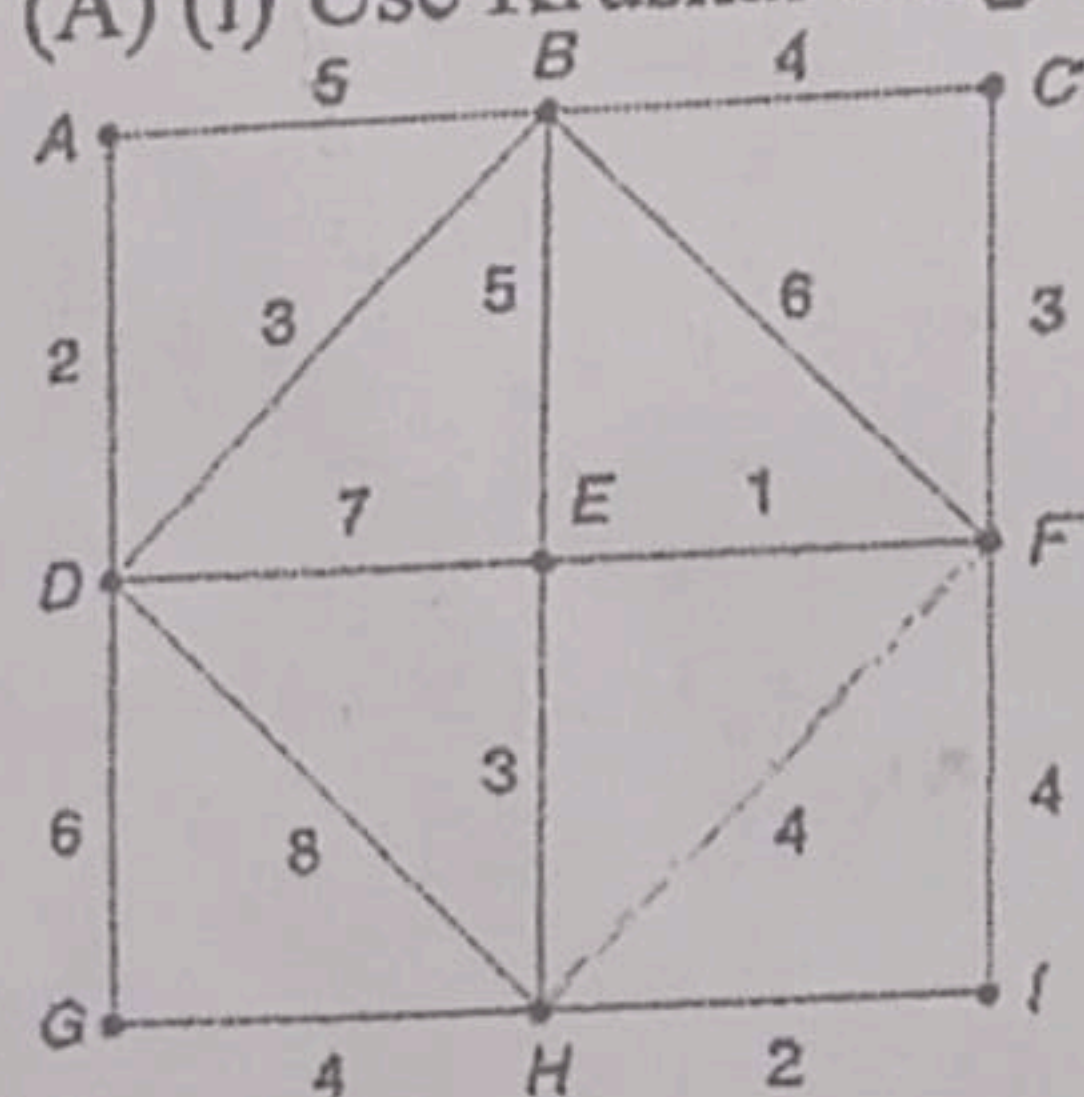
16 L2 4 2

(B) Find a Hamiltonian path or a Hamiltonian circuit, if it exists in each of the three graphs. If it does not exist, explain why?



16 L2 5 2

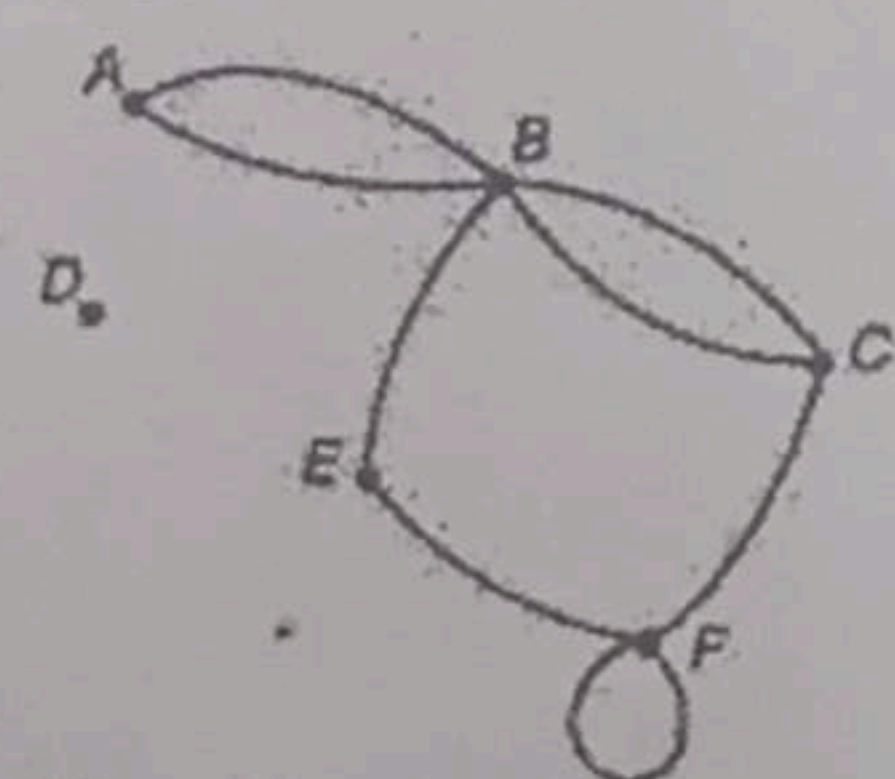
15. (A) (i) Use Kruskal's algorithm to find a minimum spanning tree for the weighted graph



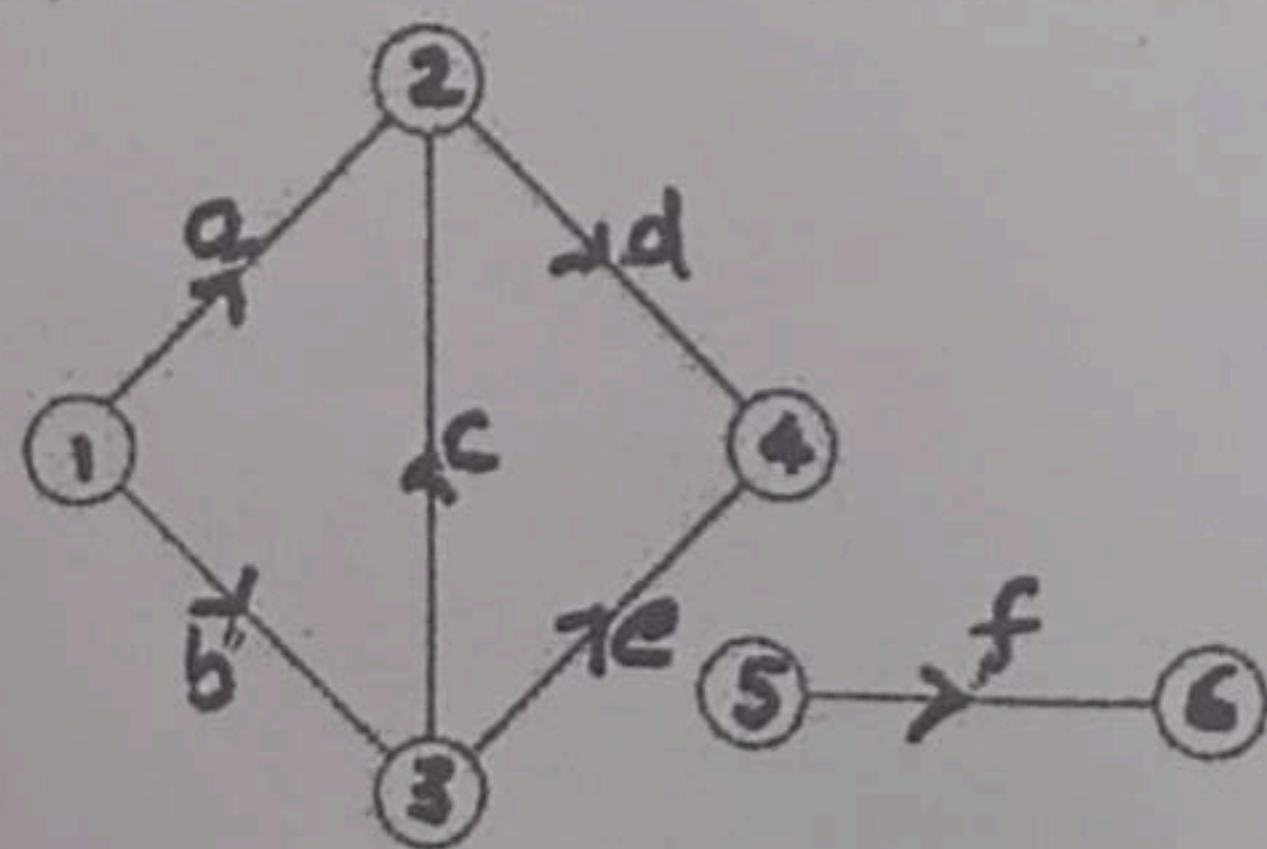
(OR)

16 L2 5 2

(B) (i) Find Adjacency matrix for the graph



(ii) Find incidence matrix for the graph



SRM Institute of Science and Technology

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Academic Year: 2023-24 (ODD)

SET – B

Test : Internal Examination III
Course Code & Title : UDS23101J/Programming using JAVA
Year & Sem : 1st / 1st
Date & Session: 30/10/23&FN
Duration: 3 Hours
Max. Marks: 100

Answer all questions

Part - A

(10Q x 2M = 20 Marks)

Q. No	Question	Marks	BL	CO	PO
1	Why Java is known for Platform neutral language?	2	1	1	1
2	Define multithreading? How does It Improve the performance of Java?	2	1	4	5
3	Differentiate between JDK, JRE and JVM.	2	2	1	1
4	Determining the purpose of the main method in a Java program?	2	2	1	5
5	Describe the concept of garbage collection in Java.	2	2	3	4
6	Explain the concept of method overriding in Java, and why it is used in inheritance.	2	1	2	4
7	What is abstraction in Java, and how does it contribute to building robust software systems?	2	1	2	5
8	Distinguish between Throw & Throws keyword.	2	2	3	5
9	Name three access modifiers in Java and briefly explain their visibility scope.	2	2	2	4
10	Provide an example of an AWT control in Java and mention its purpose in graphical user interface (GUI) development.	2	2	5	5

Part B

Answer all questions

5Q x 16M = 80 Marks

Q. No	Question	Marks	BL	CO	PO
11.	(A) Describe the purpose of arrays in Java and provide examples of array declarations, initialization, and manipulation. Discuss the advantages of using arrays to store and process data. Write a Java program that employs arrays to solve a problem.	16	2	1	5
(OR)					
	(B)(i) Discuss the primitive data and Non- primitive Data types in Java? Write about type casting in Java. (ii) Define constructor. Why it is required in programming? Explain with Program.	16	2	2	5
12.	(A) Express the principles of inheritance and polymorphism in Java. Demonstrate types of polymorphism as Static & Dynamic polymorphism with proper executing examples.	16	1	3	5

(OR)

	(B)(i) Differentiate between the concept of Data Hiding and Data Encapsulation. (ii) Differentiate between Abstract class and Data Abstraction.	16	2	2	2
13.	(A) Describe the Java exception handling mechanism. Explain checked and unchecked exceptions, and demonstrate how to create custom exceptions. Provide a code example that includes try-catch blocks and throws clauses.	16	2	3	3
(OR)					
	(B) Explain the concept of interfaces in Java. Describe how interfaces differ from classes and abstract classes, and discuss the benefits of using interfaces. Create a Java program with multiple interfaces, classes, and their implementations to illustrate the concept of interfaces.	16	2	2	4
14.	(A) Differentiate Between Final, Finally {} and Finalize () in java. Provide use case with proper executing examples.	16	2	3	3
(OR)					
	(B) Describe the different types of collections in Java, including Vector and Stack in Legacy classes. Write a Java program that utilizes these collections for data storage and retrieval.	16	2	4	2
15.	(A) Discuss the concept of multithreading in Java. Explain the difference between threads and processes, and illustrate the use of the Thread class and the Runnable interface. Provide a code example to demonstrate the synchronization of threads.	16	2	4	4
(OR)					
	(B) Explanation of essential AWT components (e.g., Frame, Button, Label, TextField) and their purposes.	16	1	5	4

Academic Year: 2023-24 (ODD) SET – A

Test : Internal Examination- III
 Course Code & Title : UDS23102J&Fundamental of Data Science
 Year & Sem : I Year / I Sem

Date & Session : 31/10/2023 & FN
 Duration: 3 Hours
 Max. Marks: 100

Part - A

(10Qx 2M = 20 Marks)

Answer all questions					
Q. No	Question	Marks	BL	CO	PO
1	List out the applications of data science in various fields.	2	L2	1	1
2	Define the term "Machine Learning".	2	L1	1	1
3	What is regression?	2	L1	1	1
4	What is "Standard Score"?	2	L1	1	1
5	What is "String"?	2	L1	1	1
6	What is an "Expression" in python?	2	L1	1	1
7	Explain structural array?	2	L1	1	1
8	What is Hierarchical Indexing?	2	L1	1	1
9	What is contour graph?	2	L1	1	1
10	Define three-dimensional plotting.	2	L1	1	1

Part B

5Q x 16M = 80 Marks

Answer all questions					
11.	(A) What is Data Science? Explain its benefits and challenges.	16	L2	1	2
(OR)					
	(B) Explain the two terms "Data Mining" and "Data warehousing" in detail.	16	L2	2	2
12.	(A) Explain the various Data science methodologies in detail.	16	L2	2	4
(OR)					
	(B) What are the types of Data? What are the ways used to describe data.	16	L2	4	2
13.	(A) What is "List" and "Tuple"? Explain in detail with help of programs.	16	L3	2	2
(OR)					
	(B) Explain the two terms "Constructors" and "Class" in python with example.	16	L2	2	2

14.	(A) What is Numpy? Explain "Array transposing" and "Swapping" in NumPy.	16	L2	2	2
(OR)					
	(B) What is "Dataframe" in Pandas? How you can apply arithmetic operations in dataframe.	16	L2	4	6
15.	(A) What is Scipy? Explain about "Scipy Constants" and "Scipy Optimizers" with help of examples.	16	L1	2	3
(OR)					
	(B) What is "Matplotlib"? How "Bar Graph" and "Pie graph" can be created using it.	16	L2	4	6

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Academic Year: 2022-23 (Odd) SET – B

Test : Internal/Model Examination - III Course Code & Title: ULE23AE2T Business English Year & Sem : I Year / I Sem	Date & Session : 26/10/2023 & FN Duration: 3 Hours Max. Marks: 100
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Part - A **(10Q x 2M = 20 Marks)**
Answer all questions

Q. No	Question	Marks	BL	CO	PO
1	What is listening?	2	1	1	1
2	What are the types of reading?	2	1	1	1
3	What are the stake holders?	2	1	2	1
4	What are the types of communication?	2	1	2	1
5	What is the purpose of notice?	2	1	3	1
6	What is MoM?	2	1	3	1
7	Write types of business letters?	2	2	3	1
8	Write types of report.	2	2	4	1
9	What is group discussion?	2	1	5	1
10	What is the purpose of report writing?	2	1	4	1

Part - B

Answer all questions

5Q x 16M = 80 Marks

11	(A) What are the barriers of listening? Explain with the methods of overcome?	16	2	1	2
(OR)					
	(B) Write a cover letter for the post of Data Science Observer in High Tech Solutions, Noida. The advertisement was given the Hope News Paper on 15 October, 2023.	16	3	5	3
12	(A) Write your Resume with proper format.	16	3	5	3
(OR)					
	(B) Write the structure of circular with proper rules.	16	3	3	2
1	(A) As the chairman of D. D. M. Technology, Raipur. Conduct a meeting with board of directors with proper methods.	16	2	5	2
(OR)					
	(B) What are the rules of email writing?	16	3	3	2
14	(A) Write an email to your HOD regarding the leave of 3 days as you are going to participate in the cultural fest in IIT Delhi on 25 November, 2023.	16	2	3	3

(OR)					
	(B) C. C. Foundations Ltd. Ghaziabad is launching a new product face-cleaner in Patna Bihar. Submit a proper report as a team of two members.	16	2	4	3
15	(A) What is the structure of notice? Explain with proper example.	16	3	3	2
(OR)					
	(B) What is the role of stake-holders in a company? Elaborate in detail.	16	2	2	3

ULF23G01J

SRM Institute of Science and Technology
Department of Computer Application
Delhi-NCR Campus, Modinagar, Ghaziabad
Academic Year: 2023-24

Test : Internal Examination-III
 Course Code & Title: ULF23G01J/FRENCH. I
 Year & Sem. : 1st Year 1st Sem.

Date & Session : 25/10/23 & FN
 Duration : 3 Hours
 Max. Marks : 100

PART-A*Toutes les questions sont obligatoires***(8Q x 5M= 40 Marks)**

Q.No.	Question	Marks	BL	CO	PO
1.	Écrivez les nombres en chiffres: (a) quatre-vingts (b) soixante-onze (c) cinq cents (d) trente et un (e) quatre-vingt-dix-neuf	5	2	3	3
2.	Mettez l'article indéfini: (a) ___ livre, (b) ___ fille, (c) ___ table, (d) ___ écoles, (e) ___ cahier (f) ___ mains (g) ___ chat, (h) ___ maison, (i) ___ acteur, (j) ___ vélo	5	2	3	3
3.	Mettez les phrases au négatif. (a) Vous êtes Italienne ? (b) Vous parlez français ? (c) Il est pilote ? (d) Vous allez à la piscine ? (e) Est-ce qu'elle aime le chocolat ?	5	2	4	3
4.	Complétez avec l'adjectif possessif: Ce n'est qu'une C'est (a) père ; c'est (b) mère. Nous habitons dans (c) petite maison à Mumbai. (d) ami s'appelle Paul et (e) père s'appelle Nicolas Legrand.	5	2	2	2
5.	Écrivez l'heure en français : (a) 00 h10 (b) 14 h52 (c) 12h00 (d) 17h59 (e) 21h42 (f) 6h12 p.m. (g) 2h10 p.m. (h) 7h00 a.m. (i) 11h59 p.m. (j) 9h47 a.m.	5	2	2	3
6.	Complétez avec Il est ou C'est : (a) ___ midi, (b) ___ mon ami, (c) ___ minuit, (d) ___ Philippe, (e) ___ Madame Vincent.	5	2	2	2
7.	Mettez les pronoms sujets. (a) ___ parles italien. (b) ___ habitent à Marseille. (c) ___ visitez Paris ? (d) ___ aime la pizza. (e) ___ sommes indiens.	5	2	4	3
8.	Complétez avec les nationalités. (a) France, Il est ___, (b) Italie, Elles sont ___, (c) Japon, Elle est ___, (d) Inde, Je suis ___, (e) Angleterre, Vous êtes ___.	5	2	4	2

PART-B*Toutes les questions sont obligatoires***(6Q x 5M= 30 Marks)**

9.	Conjuguez les verbes au présent : (a) Faire (b) Lire (c) Aller (d) s'appeler (e) Aimer	5	2	2	3
10.	Répondez en utilisant « Si, Oui, ou Non » (a) Vous avez le livre de français ? (b) Tu n'es pas indien ? (c) Vous parlez hindi ? (d) Vous êtes professeur ? (e) Tu as un stylo ?	5	2	4	3
11.	Présentez votre ami(e) en cinq lignes.	5	2	3	3
12.	Écrivez cinq noms d'animaux domestiques.	5	2	4	2
13.	Faites une liste des genres masculin et féminin à partir des mots suivants. (a) église, (b) café, (c) musée, (d) table, (e) stylo (f) poste (g) banque (h) restaurant (i) université (j) jus de fruits	5	2	2	2
14.	Chassez l'intrus : (a) Mardi / Vendredi / Lundi / Mars (b) Deux / Onze / Trente / Tente (c) Thé / Café / Lait / Pomme (d) Je / Il / Tu / Nous (e) Rouge / Rose / Jaune / Blanc	5	2	2	2

PART-C

Toutes les questions sont obligatoires

(3Q x 10M= 30 Marks)

10 2 3 3

15. Conjuguez les verbes au présent :

- | | |
|----------------------------------------------|-------------|
| (a) Nous _____ à danser. | (Commencer) |
| (b) J' _____ des livres. | (Avoir) |
| (c) Est-ce que vous _____ chaque matin ? | (Lire) |
| (d) Paris _____ la capitale de la France. | (Être) |
| (e) Tu _____ de la musique classique ? | (Écouter) |
| (f) Ils _____ à Marseille. | (Habiter) |
| (g) Je _____ le devoir. | (Finir) |
| (h) Elle _____ du ski. | (Faire) |
| (i) Je _____ à l'université à 7h30 du matin. | (Aller) |
| (j) Il _____ Kishor Kumar. | (S'appeler) |

16. (a) Réécrivez les phrases en utilisant « Est-ce que..... »

- (a) Il aime le français.
 (b) Vous mangez du pain.
 (c) Ils parlent anglais.
 (d) Vous vous appelez Dubois.
 (e) Elle nage à la piscine.
 (f) Tu joues avec le chien.
 (g) Il lit le livre de français.
 (h) Elle va au cinéma.
 (i) Tu fais tes devoirs le soir.
 (j) Il s'appelle Ashoka.

(b) Complétez les phrases avec les prépositions.

(en, avec, chez, de, à)

- (a) Je suis né(e) en 2004.
 (b) Vous allez à Lyon en juin.
 (c) Il vient de Paris.
 (d) Je vais au cinéma, tu viens _____ moi.
 (e) Je vais chez moi.

17. Associez les mots de chaque colonne :

Liste-A

- (a) Je / tu / il / elle
 (b) le 25 octobre
 (c) le drapeau
 (d) J'ai
 (e) La Tour Eiffel
 (f) Mon, Vos, tes...
 (g) Je ne suis pas écrivain.
 (h) Il est douze heure quinze
 (i) à / avec / chez/dans
 (j) un / une/ des

Liste-B

- (i) Bleu, blanc, rouge
 (ii) l'heure
 (iii) les pronoms sujets
 (iv) la négation
 (v) les prépositions
 (vi) les articles indéfinis
 (vii) dix-sept ans
 (viii) la date
 (ix) les adjectifs possessifs
 (x) Paris

10 2 3 3

*****Bonne Chance*****

Academic Year: 2022-23 SET – A

Test : Internal Examination III		Date & Session : 1/11/2023 & MN			
Course Code & Title : UCD23V01T / Universal Human Values		Duration: 2 Hours			
Year & Sem : I Year & I Sem		Max. Marks: 100			
Part - A					
Answer all questions		(10Q x 2M = 20 Marks)			
Q. No	Question	Marks	BL	CO	PO
1	"Honesty prospers in every condition of life", justify this statement.	2	2	4	1
2	How would you distinguish sincerity from integrity?	2	2	3	3
3	Who is one of the compassionate people you know and why do you think so?	2	1	1	1
4	How priority clashes the path of righteousness?	2	3	4	1
5	Differentiate between empathy and sympathy.	2	2	3	1
6	Enumerate the concept of external peace.	2	2	4	1
7	Explicate Gandhi's philosophy of non-violence?	2	1	4	1
8	Why are relationship considered important for human beings?	2	2	1	1
9	Is world peace possible? Explain your views.	2	2	2	1
10	How would you distinguish between respect and gratitude?	2	2	3	3
Part B					
Answer all questions		5Q x 16M = 80 Marks			
11.	(A) What is righteousness and why is it necessary in our life? Validate your arguments by outlining the traits of a well-known person.	16	2	3	3
(OR)					
	(B) When there is freedom, equality, and justice, peace can be best achieved. Do you agree?	16	2	4	1
12.	(A) What are the pillars of non-violence; explain Martin Luther King's concept of non-violence.	16	2	4	2
(OR)					
	(B) Define the concept of value education? Do you think there is a need of value education?	16	2	1	2
13.	(A) Describe some characteristics of righteousness by highlighting notable individuals from history and literature.	16	2	1	2
(OR)					

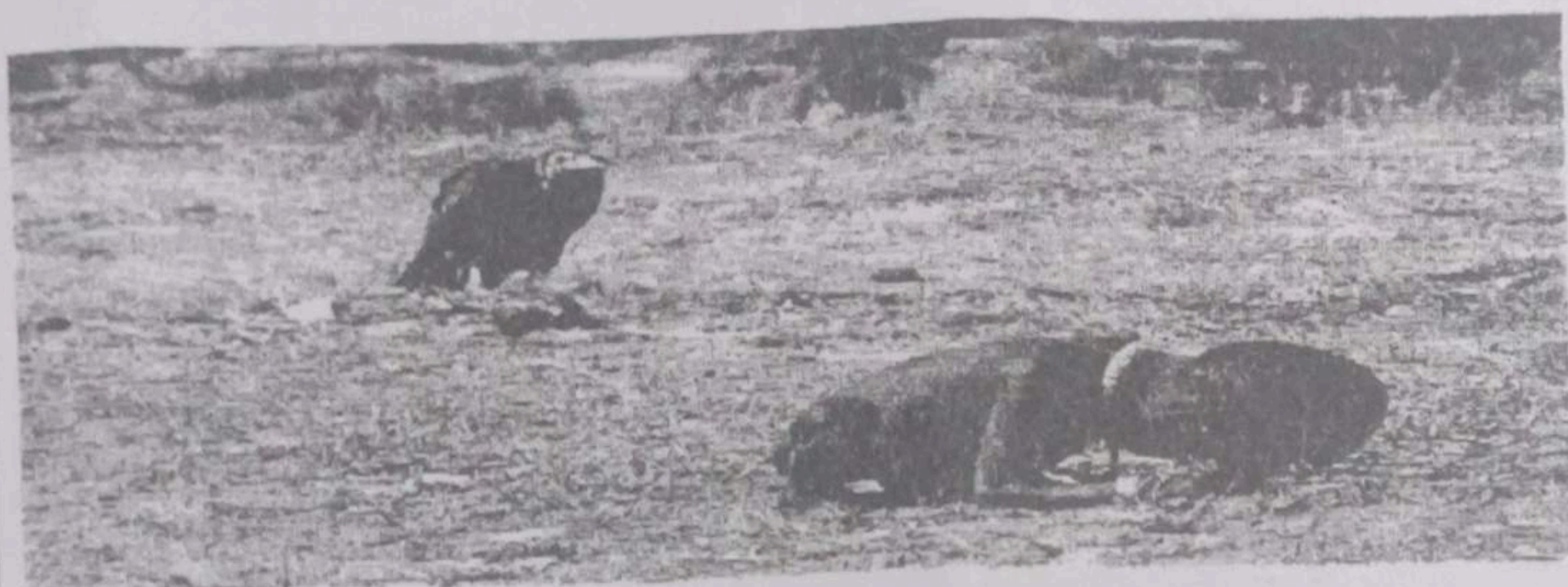
	(B) May peace prevail on earth", justify this statement by showing how we can promote peace?	16	2	4	3
14.	(A) What will happen if people don't practice love and compassion? Explain it.	16	3	3	1

(OR)

	(B) Enumerate some of the important values which lie at the base of good relationship.	16	2	1	2
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15.
(A)

Did you know?



This photo was taken by Kevin Carter. He won Pulitzer Prize for this picture of a vulture waiting for a starving girl to die. The photographer committed suicide out of depression after taking this picture.

Ideas for Discussion

1. Discuss the caption.
2. Can we end world hunger?
3. The gap between developed & under-developed nations.
4. Can depression kill somebody?

(OR)

(B)	<p>Roshan and Kareena are coming out of the classroom talking about the FIFA world cup happening in Qatar. Roshan is excitedly cheering USA, but Kareena is sarcastic of him for the constant under performance of USA men's team in the previous world cups. Still, Roshan is optimistic this time that USA men's team will at least go the semi-finals as they get world class training and privileges. Upon hearing the privileges that men's team get, Kareena further teases Roshan comparing it to the USA women's team for their sheer success despite the lower pay and less privileges. Roshan becomes critical of her statement and says that men's team earn more revenue so that they get more money and more privileges. Kareena also gets serious and insists on equal gender pay because women's team put on same playing hours and efforts as the men's team, and even have far greater successful feats. But Roshan resolutely argues his standpoint stating the income and pay model. According to him, men's team pull more fans, and effectively, sells more tickets, so that they should be paid more.</p> <p>Ideas for Discussion</p> <ol style="list-style-type: none"> 1. Is gender pay-gap real or imagined? 2. Reasons behind gender pay-gap. 3. Ways to deal with gender pay-gap. 4. What are the other instances that you can discuss regarding it in Indian context? 	16	2	5	2
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