

# National Testing Agency

<b>Question Paper Name :</b>	87 Computer Science and Applications 07th DEC 2023 Shift 2
<b>Subject Name :</b>	87 Computer Science and Applications
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## Computer Science and Applications and General Paper

<b>Group Number :</b>	1
<b>Group Id :</b>	878270388
<b>Group Maximum Duration :</b>	0
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<b>Show Attended Group? :</b>	No
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<b>Break time :</b>	0
<b>Group Marks :</b>	300
<b>Is this Group for Examiner? :</b>	No
<b>Examiner permission :</b>	Cant View
<b>Show Progress Bar? :</b>	No

## General Paper

<b>Section Id :</b>	878270730
<b>Section Number :</b>	1

<b>Section type :</b>	Online
<b>Mandatory or Optional :</b>	Mandatory
<b>Number of Questions :</b>	42
<b>Number of Questions to be attempted :</b>	42
<b>Section Marks :</b>	100
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	8782701089
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Id : 87827024937 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

#### **Question Numbers : (1 to 5)**

Question Label : Comprehension

The following table shows the number of buildings constructed in six different towns A - F of a state S over the seven years from 2016-2022. Based on the data in the table, answer the questions that follow.

Town-wise Details of Buildings Constructed.

Year Town	2016	2017	2018	2019	2020	2021	2022
A	3000	3160	3220	3272	3300	3320	3400
B	2500	2568	2640	2670	2792	2800	2900
C	2960	3000	3090	3100	3192	3200	3268
D	3448	3500	3600	3640	3664	3760	3792
E	2040	2100	2200	2230	2320	2350	2380
F	2272	2380	2460	2480	2530	2560	2588

## **Sub questions**

**Question Number : 1 Question Id : 87827024938 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Across the state S, the total number of buildings constructed in 2016 is approximately \_\_\_\_\_ % of the total number of buildings constructed in 2018 ?

- (1) 81
- (2) 94
- (3) 84
- (4) 74

**Options :**

87827098441. 1

87827098442. 2

87827098443. 3

87827098444. 4

**Question Number : 2 Question Id : 87827024939 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the total number of buildings constructed in Town B over all the seven years ?

- (1) 17870
- (2) 18780
- (3) 17780
- (4) 18870

**Options :**

87827098445. 1

87827098446. 2

87827098447. 3

87827098448. 4

**Question Number : 3 Question Id : 87827024940 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the percentage increase in the number of buildings constructed in Town D in 2018 with reference to the previous year ?

- (1) 3.85 %
- (2) 2.85 %
- (3) 4.85 %
- (4) 4 %

**Options :**

87827098449. 1

87827098450. 2

87827098451. 3

87827098452. 4

**Question Number : 4 Question Id : 87827024941 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of towns E and F together, what is the difference between the number of buildings constructed in 2021 and that in 2017 ?

- (1) 630
- (2) 830
- (3) 430
- (4) 410

**Options :**

87827098453. 1

87827098454. 2

87827098455. 3

87827098456. 4

**Question Number : 5 Question Id : 87827024942 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Total number of buildings constructed over the years from 2020 to 2022 is more than 8500 in exactly \_\_\_\_\_ towns.

- (1) 2
- (2) 3
- (3) 4
- (4) 5

**Options :**

87827098457. 1

87827098458. 2

87827098459. 3

87827098460. 4

**Question Id : 87827024937 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (1 to 5)**

Question Label : Comprehension

निम्न तालिका में S राज्य में 2016-2022 के सात वर्षों में छह भिन्न-भिन्न नगरों A-F में निर्मित भवनों की संख्या दर्शाई गई है।

तालिका में प्रदत्त डाटा के आधार पर आगे के प्रश्नों के उत्तर दीजिए :

### निर्मित भवनों का नगर-वार विवरण

वर्ष \ नगर	2016	2017	2018	2019	2020	2021	2022
A	3000	3160	3220	3272	3300	3320	3400
B	2500	2568	2640	2670	2792	2800	2900
C	2960	3000	3090	3100	3192	3200	3268
D	3448	3500	3600	3640	3664	3760	3792
E	2040	2100	2200	2230	2320	2350	2380
F	2272	2380	2460	2480	2530	2560	2588

### Sub questions

**Question Number : 1 Question Id : 87827024938 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

S राज्य में, 2016 में निर्मित भवनों की कुल संख्या 2018 में निर्मित भवनों की कुल संख्या का लगभग कितने प्रतिशत (%) है?

- (1) 81
- (2) 94
- (3) 84
- (4) 74

### Options :

87827098441. 1

87827098442. 2

87827098443. 3

87827098444. 4

**Question Number : 2 Question Id : 87827024939 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नगर B में सात वर्षों में निर्मित भवनों की कुल संख्या कितनी है ?

- (1) 17870
- (2) 18780
- (3) 17780
- (4) 18870

**Options :**

87827098445. 1

87827098446. 2

87827098447. 3

87827098448. 4

**Question Number : 3 Question Id : 87827024940 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नगर D में 2018 में निर्मित भवनों की संख्या में गत वर्ष की तुलना में कितने प्रतिशत वृद्धि हुई है ?

- (1) 3.85 %
- (2) 2.85 %
- (3) 4.85 %
- (4) 4 %

**Options :**

87827098449. 1

87827098450. 2

87827098451. 3

87827098452. 4

**Question Number : 4 Question Id : 87827024941 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नगर E व F के संदर्भ में कुल मिलाकर 2021 में निर्मित भवनों की संख्या व 2017 में निर्मित भवनों की संख्या का अंतर कितना है?

- (1) 630
- (2) 830
- (3) 430
- (4) 410

**Options :**

87827098453. 1

87827098454. 2

87827098455. 3

87827098456. 4

**Question Number : 5 Question Id : 87827024942 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

2020 से 2022 तक निर्मित भवनों की कुल संख्या सटीक रूप से निम्न में से कितने शहरों में 8500 से अधिक है?

- (1) 2
- (2) 3
- (3) 4
- (4) 5

**Options :**

87827098457. 1

87827098458. 2

87827098459. 3

87827098460. 4

**Sub-Section Number :** 2

**Sub-Section Id :** 8782701090

**Question Shuffling Allowed :** Yes

**Is Section Default? :**

null

**Question Number : 6 Question Id : 87827024943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which collaborative ICT tool allows user to create digital bulletin boards to share and gather information ?

- (1) X-mind
- (2) Padlet
- (3) Book creator
- (4) Plotagon

**Options :**

87827098461. 1

87827098462. 2

87827098463. 3

87827098464. 4

**Question Number : 6 Question Id : 87827024943 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न में से कौन सा सहयोगात्मक आईसीटी उपकरण प्रयोक्ताओं को सूचना एकत्र करने व साझा करने हेतु अंकीय बुलेटिन बोर्ड बनाने की अनुमति देता है?

- (1) एक्स-माइड
- (2) पेडलेट
- (3) बुक क्रिएटर
- (4) प्लोटागन

**Options :**

87827098461. 1

87827098462. 2

87827098463. 3

87827098464. 4

**Question Number : 7 Question Id : 87827024944 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** In Round-Robin cooperative learning strategy, students work together to achieve a common goal or complete a task.

**Statement (II) :** In group investigation cooperative learning strategy, students take turns sharing their ideas, thoughts or solutions within their group.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098465. 1

87827098466. 2

87827098467. 3

87827098468. 4

**Question Number : 7 Question Id : 87827024944 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** चक्र-प्रतियोगिता (राउंड-रॉबिन) सहकारी अधिगम रणनीति में, विद्यार्थी एक साझा लक्ष्य को प्राप्त करने अथवा कार्य को पूरा करने के लिए मिलकर कार्य करते हैं।

**कथन (II) :** समूह अन्वेषण सहकारी अधिगम रणनीति में विद्यार्थी अपने विचारों, चिंतन अथवा समाधान को समूह के भीतर बारी-बारी से साझा करते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही हैं
- (2) कथन I और कथन II दोनों गलत हैं
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098465. 1

87827098466. 2

87827098467. 3

87827098468. 4

**Question Number : 8 Question Id : 87827024945 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Swayam Prabha channel 07 - Kautilya is related to which of the following subjects ?

- (A) Economics
- (B) Library Science
- (C) Commerce
- (D) Finance
- (E) Mathematics

Choose the **correct** answer from the options given below :

- (1) (B), (D) and (E) Only
- (2) (C) and (E) Only
- (3) (A), (C) and (D) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098469. 1

87827098470. 2

87827098471. 3

87827098472. 4

**Question Number : 8 Question Id : 87827024945 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

स्वयं प्रभा चैनल 07 - कौटिल्य निम्न में से किन विषयों से संबंधित हैं ?

- (A) अर्थशास्त्र
- (B) पुस्तकालय विज्ञान
- (C) वाणिज्य
- (D) वित्त
- (E) गणित

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (B), (D) और (E)
- (2) केवल (C) और (E)
- (3) केवल (A), (C) और (D)
- (4) केवल (B), (C) और (D)

**Options :**

87827098469. 1

87827098470. 2

87827098471. 3

87827098472. 4

**Question Number : 9 Question Id : 87827024946 Question Type : MCQ Option Shuffling : No Is**

**Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum**

**Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In which strategy of cooperative learning, students are separated into an inner and outer circle (In the inner circle, students have a discussion and students in the outer circle listen to the discussion) ?

- (1) Snow ball
- (2) Fishbowl
- (3) Jigsaw
- (4) Think-pair-share

**Options :**

87827098473. 1

87827098474. 2

87827098475. 3

87827098476. 4

**Question Number : 9 Question Id : 87827024946 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

सहकारी अधिगम की निम्न में से कौन सी रणनीति में, विद्यार्थियों को एक आंतरिक व एक बाहरी चक्र में पृथक किया जाता है (आंतरिक चक्र में विद्यार्थी चर्चा करते हैं व बाहरी चक्र वाले विद्यार्थी चर्चा को सुनते हैं) ?

- (1) हिमकंटक (स्नो बाल)
- (2) सुस्पष्ट (फिश बाउल)
- (3) चौखटी (जिम्साँ)
- (4) सोचो-जोड़ी-साझा करो (थिंक-पेयर-शेयर)

**Options :**

87827098473. 1

87827098474. 2

87827098475. 3

87827098476. 4

**Question Number : 10 Question Id : 87827024947 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the examples of Information Development Model ?

- (A) Self Awareness Model
- (B) Gagne's Information Model
- (C) Jerome Bruner's Model
- (D) Schuman's Model
- (E) Group Investigation Model

Choose the **correct** answer from the options given below :

- (1) (A), (D) and (E) Only
- (2) (B) and (D) Only
- (3) (B), (C) and (D) Only
- (4) (A), (C) and (E) Only

**Options :**

87827098477. 1

87827098478. 2

87827098479. 3

87827098480. 4

**Question Number : 10 Question Id : 87827024947 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न में से सूचना विकास मॉडल के कौन-कौन से उदाहरण हैं ?

- (A) स्व-जागरूकता मॉडल
- (B) गग्ने का सूचना मॉडल
- (C) जेरोम ब्रूनर का मॉडल
- (D) शूमैन का मॉडल
- (E) समूह अन्वेषण मॉडल

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (D) और (E)
- (2) केवल (B) और (D)
- (3) केवल (B), (C) और (D)
- (4) केवल (A), (C) और (E)

**Options :**

87827098477. 1

87827098478. 2

87827098479. 3

87827098480. 4

**Question Number : 11 Question Id : 87827024948 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The process of deduction involves drawing generalizable inferences out of observations.

**Statement (II) :** Positivism advocates the application of the methods of the natural sciences to the study of social reality.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098481. 1

87827098482. 2

87827098483. 3

87827098484. 4

**Question Number : 11 Question Id : 87827024948 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** निगमन की प्रक्रिया में प्रेक्षणों से सामान्यकरणीय अनुमान निकालना सम्मिलित होता है।

**कथन (II) :** प्रत्यक्षवाद प्राकृतिक विज्ञानों की विधियों को सामाजिक यथार्थ के अध्ययन पर अनुप्रयोग करने का पक्ष समर्थन करता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098481. 1

87827098482. 2

87827098483. 3

87827098484. 4

**Question Number : 12 Question Id : 87827024949 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Identify the threats to the internal validity of an investigation :

- (A) History
- (B) Instrumentation
- (C) Maturation

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (A) and (C) Only
- (4) (A), (B) and (C)

**Options :**

87827098485. 1

87827098486. 2

87827098487. 3

87827098488. 4

**Question Number : 12 Question Id : 87827024949 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

किसी जांच की आन्तरिक वैधता के प्रति खतरों की पहचान कीजिए :

- (A) इतिहास
- (B) साधनीकरण (इन्स्ट्रूमेंटेशन)
- (C) परिपक्वन

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A) और (B)
- (2) केवल (B) और (C)
- (3) केवल (A) और (C)
- (4) (A), (B) और (C)

**Options :**

87827098485. 1

87827098486. 2

87827098487. 3

87827098488. 4

**Question Number : 13 Question Id : 87827024950 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** Pearson's coefficient of correlation 'r' is a very useful measure of the strength and direction of the relationship between two nominal variables.

**Statement (II) :** Pearson's coefficient of correlation 'r' always lies between 0 and 1.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098489. 1

87827098490. 2

87827098491. 3

87827098492. 4

**Question Number : 13 Question Id : 87827024950 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** पियरसन का सहसंबंध गुणांक '1' दो नामिक चरों के बीच के संबंध की शक्ति व दिशा का अत्यधिक उपयोगी मापक है।

**कथन (II) :** पियरसन का सहसंबंध गुणांक '1' हमेशा 0 और 1 के मध्य होता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098489. 1

87827098490. 2

87827098491. 3

87827098492. 4

**Question Number : 14 Question Id : 87827024951 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following refers to a method of sampling in which a core group of participants who are initially sampled for a research study recruit or recommend other potential participants ?

- (1) Simple random sampling
- (2) Snowball sampling
- (3) Quota sampling
- (4) Stratified random sampling

**Options :**

87827098493. 1

87827098494. 2

87827098495. 3

87827098496. 4

**Question Number : 14 Question Id : 87827024951 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न में से कौन प्रतिचयन की उस विधि की ओर संकेत करता है जिसमें किसी शोध अध्ययन के लिए आरंभ में सैंपल में लिए गए प्रतिभागियों का क्रोड समूह अन्य संभाव्य प्रतिभागियों को चुनता है अथवा उनकी अनुशंसा करता है ?

- (1) सामान्य यादृच्छिक प्रतिचयन
- (2) स्नोबाल प्रतिचयन
- (3) कोटा प्रतिचयन
- (4) स्तरीकृत यादृच्छिक प्रतिचयन

**Options :**

87827098493. 1

87827098494. 2

87827098495. 3

87827098496. 4

**Question Number : 15 Question Id : 87827024952 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** According to UGC regulations 2018 on Prevention of Plagiarism, a student is required to give an undertaking while submitting a thesis, stating that the document is his/her original work which is free from any plagiarism.

**Statement (II) :** According to UGC Regulations 2018 on Prevention of Plagiarism, the research supervisor is not required to certify that the work done by the researcher under him/her is plagiarism free.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098497. 1

87827098498. 2

87827098499. 3

87827098500. 4

**Question Number : 15 Question Id : 87827024952 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** साहित्यिक चोरी निवारण के संबंध में यूजीसी विनियम 2018 के अनुसार, विद्यार्थी को अपना शोध प्रबंध प्रस्तुत करते समय एक वचनबंध देना होता है कि वह प्रलेख उसकी मूल कृति है और किसी प्रकार की साहित्यिक चोरी से मुक्त है।

**कथन (II) :** साहित्यिक चोरी निवारण संबंधी यू जी सी विनियम, 2018 के अनुसार, शोध पर्यवेक्षक को यह प्रमाणित करने की आवश्यकता नहीं होती है कि शोधकर्ता द्वारा उसके अधीन किया गया कार्य साहित्यिक चोरी से मुक्त है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098497. 1

87827098498. 2

87827098499. 3

87827098500. 4

**Question Number : 16 Question Id : 87827024953 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In conversations, relevancy maxim means making :

- (1) Metaphoric remarks
- (2) Allusions
- (3) Pertinent comments
- (4) Rudimentary comments

**Options :**

87827098501. 1

87827098502. 2

87827098503. 3

87827098504. 4

**Question Number : 16 Question Id : 87827024953 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

वार्तालाप में, प्रासंगिकता की सूक्ति का अर्थ निम्नलिखित करना है :

- (1) लाक्षणिक अभ्युक्तियाँ
- (2) संकेत
- (3) संगत टिप्पणियाँ
- (4) अल्पविकसित टिप्पणियाँ

**Options :**

87827098501. 1

87827098502. 2

87827098503. 3

87827098504. 4

**Question Number : 17 Question Id : 87827024954 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Failure to understand the cultural environment can lead to :

- (1) Information richness
- (2) Exhibitionism
- (3) High-brow communication
- (4) Miscommunication

**Options :**

87827098505. 1

87827098506. 2

87827098507. 3

87827098508. 4

**Question Number : 17 Question Id : 87827024954 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

सांस्कृतिक परिवेश को समझने में विफलता से निम्नलिखित हो सकता है :

- (1) सूचना बहुलता
- (2) प्रदर्शन-प्रवृत्ति
- (3) उच्चस्तरीय सम्प्रेषण
- (4) गलत सम्प्रेषण

**Options :**

87827098505. 1

87827098506. 2

87827098507. 3

87827098508. 4

**Question Number : 18 Question Id : 87827024955 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The Buddhist mode of inter-personal communication emphasises :

- (A) Unfettered use of language
- (B) Unintelligible moral frames
- (C) Symmetrical relations
- (D) Consensus through interaction
- (E) Verifiability of communication

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (B), (C) and (D) Only
- (3) (C), (D) and (E) Only
- (4) (A), (B) and (E) Only

**Options :**

87827098509. 1

87827098510. 2

87827098511. 3

87827098512. 4

**Question Number : 18 Question Id : 87827024955 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

अंतर-वैयक्तिक संप्रेषण का बौद्ध मॉडल निम्न पर जोर देता है :

- (A) भाषा का निर्बाध प्रयोग
- (B) अबोधगम्य नैतिक ढांचे
- (C) सममित संबंध
- (D) बातचीत के माध्यम से सहमति
- (E) संप्रेषण की सत्यापनीयता

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B) और (C)
- (2) केवल (B), (C) और (D)
- (3) केवल (C), (D) और (E)
- (4) केवल (A), (B) और (E)

**Options :**

87827098509. 1

87827098510. 2

87827098511. 3

87827098512. 4

**Question Number : 19 Question Id : 87827024956 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** Paralinguistic features express emotions and communicate personality traits.

**Statement (II) :** The subtle use of vocal inflections can provide special significance to verbal messages.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098513. 1

87827098514. 2

87827098515. 3

87827098516. 4

**Question Number : 19 Question Id : 87827024956 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** पराभाषीय विशेषताएँ भावनाओं को व्यक्त करती हैं और व्यक्तित्व के गुण संप्रेषित करती है।

**कथन (II) :** वाचिक स्वर-परिवर्तन का विचक्षण प्रयोग मौखिक संदेशों को विशेष महत्व दे सकता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098513. 1

87827098514. 2

87827098515. 3

87827098516. 4

**Question Number : 20 Question Id : 87827024957 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

List - I

List - II

(Type of meta communications)

(Description/Example)

- |                |  |
|----------------|--|
| (A) Explicit   | (I) An aggressive gesture modified with a smile  |
| (B) Implicit   | (II) Comments on others' communication behaviour |
| (C) Verbal     | (III) Sarcastic remarks                          |
| (D) Non-verbal | (IV) Comments about non-verbal behaviour         |

Choose the correct answer from the options given below :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (3) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (4) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

**Options :**

87827098517. 1

87827098518. 2

87827098519. 3

87827098520. 4

**Question Number : 20 Question Id : 87827024957 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**सूची-I के साथ सूची-II का मिलान कीजिए :**

सूची-I ( अधि-संप्रेषण के प्रकार )	सूची-II ( वर्णन/उदाहरण )
(A) स्पष्ट	(I) मुस्कुराहट के साथ बदली गई एक आक्रामक भंगिमा
(B) अंतर्निहित	(II) अन्य लोगों के संप्रेषण व्यवहार पर टिप्पणियाँ
(C) शाब्दिक	(III) व्यंग्यात्मक अभ्युक्तियाँ
(D) गैर-शाब्दिक	(IV) गैर-शाब्दिक व्यवहार के बारे में टिप्पणियाँ

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (3) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (4) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

**Options :**

87827098517. 1

87827098518. 2

87827098519. 3

87827098520. 4

**Question Number : 21 Question Id : 87827024958 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A milkman buys 20 litres of milk from a dairy at the cost of Rs. 50 per litre. He also purchases some mineral water at the rate of Rs 20 per litre and adds it to the milk. He then sells the adulterated milk at the rate of Rs 60 per litre and makes a profit of Rs 400. What is the amount of water he added to the milk ?

- (1) 10 litre
- (2) 8 litre
- (3) 5 litre
- (4) 4 litre

**Options :**

87827098521. 1

87827098522. 2

87827098523. 3

87827098524. 4

**Question Number : 21 Question Id : 87827024958 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

एक दूधवाला डेवरी से ₹ 50 प्रति लीटर की लागत से 20 लीटर दूध खरीदता है। वह ₹ 20 प्रति लीटर की दर से कुछ मिनरल जल भी खरीदता है और इसे दूध में मिला देता है। अपमिश्रित दूध को वह ₹ 60 प्रति लीटर की दर से बेच कर ₹ 400 लाभ अर्जित करता है। उसने दूध में कितनी मात्रा में जल मिलाया था?

- (1) 10 लीटर
- (2) 8 लीटर
- (3) 5 लीटर
- (4) 4 लीटर

**Options :**

87827098521. 1

87827098522. 2

87827098523. 3

87827098524. 4

**Question Number : 22 Question Id : 87827024959 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Identify the correct sequence of letters which will complete the following letter series.

aabcd --- bcdbc --- dcdaab ---

- (1) abaabccdd
- (2) abcabacdd
- (3) abaabdcd
- (4) abcadbbcd

**Options :**

87827098525. 1

87827098526. 2

87827098527. 3

87827098528. 4

**Question Number : 22 Question Id : 87827024959 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न अक्षर शृंखला को पूर्ण करने के लिए अक्षरों के सही अनुक्रम की पहचान कीजिए :

aabcd --- bcdbc --- dcdaab ---

- (1) abaabccdd
- (2) abcabacdd
- (3) abaabdcd
- (4) abcadbbcd

**Options :**

87827098525. 1

87827098526. 2

87827098527. 3

87827098528. 4

**Question Number : 23 Question Id : 87827024960 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Total monthly salary of a couple (husband and wife) is ₹ 2.0 lakh. Their salaries are in the ratio of 5 : 3. If husband and wife spend 40 % and 20 % of their salaries, respectively, what is the ratio of their savings ?

- (1) 3 : 2
- (2) 5 : 3
- (3) 5 : 4
- (4) 3 : 1

**Options :**

87827098529. 1

87827098530. 2

87827098531. 3

87827098532. 4

**Question Number : 23 Question Id : 87827024960 Question Type : MCQ Option Shuffling : No****Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A****Minimum Instruction Time : 0****Correct Marks : 2 Wrong Marks : 0**

एक युगल दंपत्ति (पति व पत्नी) की कुल मासिक आय ₹ 2.0 लाख है। उनके वेतन का अनुपात 5 : 3 है। यदि पति व पत्नी अपने-अपने वेतन का क्रमशः 40 % व 20 % व्यय करते हैं तो उनकी बचत का अनुपात क्या है?

- (1) 3 : 2
- (2) 5 : 3
- (3) 5 : 4
- (4) 3 : 1

**Options :**

87827098529. 1

87827098530. 2

87827098531. 3

87827098532. 4

**Question Number : 24 Question Id : 87827024961 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In a certain coding scheme :

'Family values are important' is written as 'pa, ya, si, sa'

'Values are generally contagious' is written as 'ya, da, ja, sa'

'Some diseases are contagious' is written as 'ka, da, sa, ro'

What are the codes for 'Contagious' and 'Values' ?

- (1) da, sa
- (2) da, si
- (3) ka, ya
- (4) da, ya

**Options :**

87827098533. 1

87827098534. 2

87827098535. 3

87827098536. 4

**Question Number : 24 Question Id : 87827024961 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

एक कूट स्कीम में,  
‘परिवारिक मूल्य महत्वपूर्ण हैं’ को ‘पा, या, सी, सा’ के रूप में लिखा जाता है,  
‘मूल्य सामान्यतया सांसर्गिक हैं’ को ‘या, दा, जा, सा’ के रूप में लिखा जाता है,  
‘कुछ रोग सांसर्गिक हैं’ को ‘का, दा, सा, रो’ के रूप में लिखा जाता है, तो  
‘सांसर्गिक’ व ‘मूल्य’ के लिए कौन से कूट है?

- (1) दा, सा
- (2) दा, सी
- (3) का, या
- (4) दा, या

**Options :**

87827098533. 1

87827098534. 2

87827098535. 3

87827098536. 4

**Question Number : 25 Question Id : 87827024962 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the next term in the following number series ?

3, 14, 39, 84, ?, .....

- (1) 176
- (2) 155
- (3) 142
- (4) 186

**Options :**

87827098537. 1

87827098538. 2

87827098539. 3

87827098540. 4

**Question Number : 25 Question Id : 87827024962 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न अंक शृंखला में अलग पद कौन सा है ?

3, 14, 39, 84, ?, - -

- (1) 176
- (2) 155
- (3) 142
- (4) 186

**Options :**

87827098537. 1

87827098538. 2

87827098539. 3

87827098540. 4

**Question Number : 26 Question Id : 87827024963 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is arranged in order of increasing denotation ?

- (1) Cow, bovine, mammal, vertebrate, animal
- (2) Mammal, Vertebrate, bovine, animal, cow
- (3) Vertebrate, animal, mammal, bovine, cow
- (4) Animal, Vertebrate, mammal, bovine, cow

**Options :**

87827098541. 1

87827098542. 2

87827098543. 3

87827098544. 4

**Question Number : 26 Question Id : 87827024963 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्नलिखित में से कौन सा आरोही (बढ़ते हुए) वस्त्वर्थ के अनुक्रम में व्यवस्थित है?

- (1) गाय, गोजातीय, स्तनपायी, कशेरुकी, पशु
- (2) स्तनपायी, कशेरुकी, गोजातीय, पशु, गाय
- (3) कशेरुकी, पशु, स्तनपायी, गोजातीय, गाय
- (4) पशु, कशेरुकी, स्तनपायी, गोजातीय, गाय

**Options :**

87827098541. 1

87827098542. 2

87827098543. 3

87827098544. 4

**Question Number : 27 Question Id : 87827024964 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

Statement (I) : Truth and falsehood are attributes of individual propositions.

Statement (II) : Validity can be attributed to any single proposition by itself.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098545. 1

87827098546. 2

87827098547. 3

87827098548. 4

**Question Number : 27 Question Id : 87827024964 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

कथन (I) : सत्य एवं असत्यता व्यष्टिक प्रतिज्ञपतियों के गुण हैं।

कथन (II) : वैधता स्वयं से ही किसी भी एक प्रतिज्ञपति को गुणारोपित हो सकती है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098545. 1

87827098546. 2

87827098547. 3

87827098548. 4

**Question Number : 28 Question Id : 87827024965 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which fallacy is committed in the following argument ?

"The universe must be spherical in form because all its constituent parts are spherical in form" ?

- (1) Circular argument
- (2) Red herring
- (3) Slippery slope
- (4) Fallacy of composition

**Options :**

87827098549. 1

87827098550. 2

87827098551. 3

87827098552. 4

**Question Number : 28 Question Id : 87827024965 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्नलिखित युक्ति में कौन सा तर्क-दोष निहित है - "स्वरूप में ब्रह्मांड गोलाकार होना चाहिए क्योंकि इसके सभी संघटक अंग स्वरूप में गोलाकार हैं।"?

- (1) चक्रक युक्ति
- (2) रेड हेरिंग
- (3) फिसलन युक्त ढलान
- (4) संहति दोष

**Options :**

87827098549. 1

87827098550. 2

87827098551. 3

87827098552. 4

**Question Number : 29 Question Id : 87827024966 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The statement - "Pradeep's mind is a cave : deep, dark and full of bats" is an analogy which is only descriptive in nature.

**Statement (II) :** The statement - "Pradeep's mind is a cave ; deep, dark and full of bats" is an analogy which contains an argument.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098553. 1

87827098554. 2

87827098555. 3

87827098556. 4

**Question Number : 29 Question Id : 87827024966 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** “प्रदीप का मन, गहन, अंधकारयुक्त तथा चमगादड़ों से भरी हुई गुफा है” यह कथन सादृश्यानुमान है जो केवल प्रकृतिः विवरणात्मक है।

**कथन (II) :** “प्रदीप का मन, गहन, अंधकारयुक्त तथा चमगादड़ों से भरी हुई गुफा है।” यह कथन सादृश्यानुमान है जिसमें युक्ति सम्मिलित है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098553. 1

87827098554. 2

87827098555. 3

87827098556. 4

**Question Number : 30 Question Id : 87827024967 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** ‘Nyaya’ syllogism has three propositions

**Statement (II) :** Aristotelian syllogism has five propositions

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098557. 1

87827098558. 2

87827098559. 3

87827098560. 4

**Question Number : 30 Question Id : 87827024967 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** न्यायवाक्य 'न्याय' में तीन प्रतिज्ञापितायाँ होती हैं।

**कथन (II) :** अरस्तूवादी न्यायवाक्य में पाँच प्रतिज्ञापितायाँ होती हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) **कथन I और कथन II दोनों सही है**
- (2) **कथन I और कथन II दोनों गलत है**
- (3) **कथन I सही है, लेकिन कथन II गलत है**
- (4) **कथन I गलत है, लेकिन कथन II सही है**

**Options :**

87827098557. 1

87827098558. 2

87827098559. 3

87827098560. 4

**Question Number : 31 Question Id : 87827024968 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is an online store house of all academic awards like certificates, diplomas, degrees, marksheets etc. ?

- (1) SWAYAM
- (2) National Digital Library
- (3) National Academic Library
- (4) National Academic Depository

**Options :**

87827098561. 1

87827098562. 2

87827098563. 3

87827098564. 4

**Question Number : 31 Question Id : 87827024968 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न में से कौन प्रमाण पत्रों, डिप्लोमा, डिग्रियों, अंकपत्रक, आदि जैसे समस्त अकादमिक पुरस्कारों का एक ऑनलाइन भंडार गृह है?

- (1) स्वयं (एस डब्ल्यू ए वाई ए एम)
- (2) राष्ट्रीय अंकीय पुस्तकालय
- (3) राष्ट्रीय अकादमिक पुस्तकालय
- (4) राष्ट्रीय अकादमिक निक्षेपागार

**Options :**

87827098561. 1

87827098562. 2

87827098563. 3

87827098564. 4

**Question Number : 32 Question Id : 87827024969 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Identify the correct sequence of the missing units of data A-D that can be used to represent the size of a file, as it changes in size. The units of data increase in size from smallest to largest as given below.

bit

-----

-----

kilo Byte (KB)

-----

-----

tera Byte (TB)

- (A) byte
- (B) gigaByte (GB)
- (C) megaByte (MB)
- (D) nibble

Choose the **correct** answer from the options given below :

- (1) (D), (A), (C), (B)
- (2) (A), (C), (D), (B)
- (3) (D), (A), (B), (C)
- (4) (A), (D), (C), (B)

**Options :**

87827098565. 1

87827098566. 2

87827098567. 3

87827098568. 4

**Question Number : 32 Question Id : 87827024969 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्न में से डाटा A-D की लुप्त ईकाइयों के सही अनुक्रम की पहचान कीजिए जिसे किसी फाइल के आकर परिवर्तन की स्थिति में आकार प्रदर्शित करने के लिए प्रयोग किया जा सके। डाटा की ईकाइयाँ आकार में निम्नानुसार लघुत्तम से महत्तम की ओर बढ़ती हैं।

बिट

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किलोबाइट (के बी)

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टेराबाइट (टी बी)

- (A) बाइट
- (B) गीगाबाइट (जी बी)
- (C) मेगाबाइट (एम बी)
- (D) निष्पल

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) (D), (A), (C), (B)
- (2) (A), (C), (D), (B)
- (3) (D), (A), (B), (C)
- (4) (A), (D), (C), (B)

**Options :**

87827098565. 1

87827098566. 2

87827098567. 3

87827098568. 4

**Question Number : 33 Question Id : 87827024970 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** Wiki is usually represented in reverse chronological order, whereas blog has a structure determined by content and users.

**Statement (II) :** Blog is usually personal/someone's opinion, whereas a wiki is usually objective.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098569. 1

87827098570. 2

87827098571. 3

87827098572. 4

**Question Number : 33 Question Id : 87827024970 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** विकी को सामान्यतया प्रतिलोम कालानुक्रम में दर्शाया जाता है, जबकि ब्लॉग की संरचना विषयवस्तु व प्रयोक्ताओं द्वारा निर्धारित की जाती है।

**कथन (II) :** ब्लॉग सामान्यतया वैयक्तिक/किसी व्यक्ति का मत होता है, जबकि विकी सामान्यतया विषयपरक (तटस्थ) होता है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098569. 1

87827098570. 2

87827098571. 3

87827098572. 4

**Question Number : 34 Question Id : 87827024971 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements A-E about firewalls in computer networks are true ?

- (A) Firewalls are only available as hardware devices and only examine traffic entering a network.
- (B) Firewalls allow a user to set rules for network traffic.
- (C) Firewalls will automatically stop all malicious traffic.
- (D) Firewalls backup all data that is transmitted around a network.
- (E) Firewalls can be used to block access to certain websites.

Choose the **correct** answer from the options given below :

- (1) (A), (C) and (D) Only
- (2) (B) and (E) Only
- (3) (B), (D) and (E) Only
- (4) (A) and (C) Only

**Options :**

87827098573. 1

87827098574. 2

87827098575. 3

87827098576. 4

**Question Number : 34 Question Id : 87827024971 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

कंप्यूटर नेटवर्क में फायरवाल के संबंध में निम्न कथनों A-E में से कौन-कौन सही हैं?

- (A) फायरवाल केवल हार्डवेयर यंत्र के रूप में उपलब्ध हैं और ये केवल नेटवर्क में प्रवेश करने वाले यातायात की जांच करती हैं।
- (B) फायरवाल प्रयोक्ता को नेटवर्क यातायात हेतु नियम नियत करने देती हैं।
- (C) फायरवाल समस्त विट्रेष्पूर्ण (मेलिशियस) यातायात को स्वतः रोक देंगी।
- (D) फायरवाल किसी नेटवर्क पर प्रेषित समस्त डाटा का बैकअप करती है।
- (E) कठिपय वेबसाइटों तक अभिगम बाधित करने के लिए फायरवाल का प्रयोग किया जा सकता है।

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (C) और (D)
- (2) केवल (B) और (E)
- (3) केवल (B), (D) और (E)
- (4) केवल (A) और (C)

**Options :**

87827098573. 1

87827098574. 2

87827098575. 3

87827098576. 4

**Question Number : 35 Question Id : 87827024972 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

List - I (Automatic data capture method)	List - II (Description)
(A) OCR	(I) System that reads pencil or pen marks on a piece of paper in pre-determined positions
(B) OMR	(II) System that reads characters printed in a special ink, for example, the characters written at the bottom of Bank cheque
(C) RFID	(III) Reading data directly from hard copy and converting into computer-readable form
(D) MICR	(IV) Use of minute-electronic devices (containing microchip and antenna) that can read from distances upto few minutes

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (2) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (3) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (4) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

**Options :**

87827098577. 1

87827098578. 2

87827098579. 3

87827098580. 4

**Question Number : 35 Question Id : 87827024972 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**सूची-I के साथ सूची-II का मिलान कीजिए :**

- |  |   |
|--|---|
| <b>सूची-I</b><br><b>( स्वचालित डाटा ग्रहण विधि )</b> | <b>सूची-II</b><br><b>( विवरण )</b>  |
| (A) ओ सी आर  | (I) वह प्रणाली जो एक कागज पर पूर्व निर्धारित अवस्थितियों में पेंसिल अथवा कलम के चिह्नों को पढ़ती है।                    |
| (B) ओ एम आर  | (II) वह प्रणाली जो एक विशेष स्याही (इंक) में मुद्रित वर्णों को पढ़ती है, उदाहरण स्वरूप बैंक चक के निचली ओर लिखे वर्ण    |
| (C) आर एफ आई डी                                      | (III) सीधे हार्ड कापी से डाटा पठन व कंप्यूटर पठनीय रूप में रूपांतरण।  |
| (D) एम आई सी आर                                      | (IV) ऐसी सूक्ष्म इलेक्ट्रॉनिकी युक्तियों (जिनमें माइक्रोचिप व एंटिना हों) का प्रयोग जो कुछ मीटर तक की दूरी से पढ़ सकें। |

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)
- (2) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (3) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (4) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)

**Options :**

87827098577. 1

87827098578. 2

87827098579. 3

87827098580. 4

**Question Number : 36 Question Id : 87827024973 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The absence of fluoride in drinking water causes tooth decay.

**Statement (II) :** Absence of fluoride in drinking water causes mottling of teeth also known as dental fluorosis.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098581. 1

87827098582. 2

87827098583. 3

87827098584. 4

**Question Number : 36 Question Id : 87827024973 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** पेय जल में फ्लोराइड की अनुपस्थिति के कारण दांतों का क्षय होता है।

**कथन (II) :** पेयजल में फ्लोराइड की अनुपस्थिति के कारण दांतों में कर्बरण होता है जिसे डेंटल फ्लुओरोनमयता (फ्लुओरोसिस) भी कहते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098581. 1

87827098582. 2

87827098583. 3

87827098584. 4

**Question Number : 37 Question Id : 87827024974 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** Under Montreal protocol developed and developing nations have differentiated responsibilities.

**Statement (II) :** Under Kigali amendment of Montreal protocol, ChloroFluoroCarbons (CFCs) and HydroChloroFluoroCarbons (HCFCs) were to be phased out.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098585. 1

87827098586. 2

87827098587. 3

87827098588. 4

**Question Number : 37 Question Id : 87827024974 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** मॉन्ट्रीयल प्रोटोकॉल के अंतर्गत विकसित और विकासशील देशों के विभेदीकृत दायित्व हैं।

**कथन (II) :** मॉन्ट्रीयल प्रोटोकॉल के किंगाली संशोधन के अंतर्गत, क्लोरोफ्लोरोकार्बन (सी एफ सी) और हाइड्रो क्लोरो फ्लोरो कार्बन (एच सी एफ सी) को चरणबद्ध तरीके से समाप्त किया जाना था।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही हैं
- (2) कथन I और कथन II दोनों गलत हैं
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098585. 1

87827098586. 2

87827098587. 3

87827098588. 4

**Question Number : 38 Question Id : 87827024975 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** Naturally occurring Volatile Organic Compounds (VOCs) generally oxidize to form Carbonmonoxide (CO) and Carbondioxide (CO<sub>2</sub>)

**Statement (II) :** Anthropogenically emitted VOCs play an important role in the formation of smog

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098589. 1

87827098590. 2

87827098591. 3

87827098592. 4

**Question Number : 38 Question Id : 87827024975 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** प्राकृतिक रूप से मौजूद वाष्पशील कार्बनिक यौगिक (वी ओ सी) सामान्यतः आँक्सीकरण करके कार्बन मोनोक्साइड ( $\text{CO}$ ) और कार्बन डाइआँक्साइड ( $\text{CO}_2$ ) बनाते हैं।

**कथन (II) :** मानवजनित कारकों से उत्सर्जित वाष्पशील कार्बनिक यौगिक धूमकुहरा (स्मॉग) के निर्माण में महत्वपूर्ण भूमिका निभाते हैं।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098589. 1

87827098590. 2

87827098591. 3

87827098592. 4

**Question Number : 39 Question Id : 87827024976 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following gases has the maximum contribution to Global Warming ?

- (1) Chlorofluorocarbons (CFCs)
- (2) Methane ( $\text{CH}_4$ )
- (3) Sulfur Hexa fluoride ( $\text{SF}_6$ )
- (4) Carbon dioxide ( $\text{CO}_2$ )

**Options :**

87827098593. 1

87827098594. 2

87827098595. 3

87827098596. 4

**Question Number : 39 Question Id : 87827024976 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

निम्नलिखित में से किस गैस का योगदान वैश्विक ऊष्मण में सर्वाधिक है ?

- (1) क्लोरोफ्लोरोकार्बन (सी एफ सी)
- (2) मीथेन ( $\text{CH}_4$ )
- (3) सल्फर हेक्सा फ्लोराइड ( $\text{SF}_6$ )
- (4) कार्बन डाइऑक्साइड ( $\text{CO}_2$ )

**Options :**

87827098593. 1

87827098594. 2

87827098595. 3

87827098596. 4

**Question Number : 40 Question Id : 87827024977 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are true about Persistent Organic Pollutants (POPs) ?

- (A) They are extremely widespread and occur from tropics to Arctic.
- (B) They often accumulate in food webs and reach toxic concentrations.
- (C) Volatile Organic Compounds (VOCs) are examples of POPs.
- (D) They are widely used as flame retardants and in deodorants.
- (E) Some chemicals used in making non-stick, waterproof and stain-resistant products are categorized as POPs.

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C) and (D) Only
- (2) (B), (C), (D) and (E) Only
- (3) (A), (B), (D) and (E) Only
- (4) (A), (C) and (E) Only

**Options :**

87827098597. 1

87827098598. 2

87827098599. 3

87827098600. 4

**Question Number : 40 Question Id : 87827024977 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

दीर्घस्थायी कार्बनिक प्रदूषकों (पी ओ पी) के संबंध में निम्नलिखित में से कौन से सही हैं?

- (A) ये अत्यधिक व्यापक हैं और उष्णकटिबंध से आर्कटिक तक मौजूद हैं।
- (B) ये अक्सर खाद्य जल में संचित होते हैं और विषाक्त संकेन्द्रण तक पहुँचते हैं।
- (C) वाष्पशील कार्बनिक यौगिक (वी ओ सी) पी ओ पी के उदाहरण हैं।
- (D) लौ मंदकों के रूप में और निर्गंधीकारकों में इनका व्यापक प्रयोग होता है।
- (E) न चिपकनेवाले, जलावरोधक और दागरोधी उत्पादों में प्रयुक्त कुछ रसायनों को पी ओ पी के रूप में श्रेणीबद्ध किया जाता है।

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B), (C) और (D)
- (2) केवल (B), (C), (D) और (E)
- (3) केवल (A), (B), (D) और (E)
- (4) केवल (A), (C) और (E)

**Options :**

87827098597. 1

87827098598. 2

87827098599. 3

87827098600. 4

**Question Number : 41 Question Id : 87827024978 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The Hindu College in Banaras set up by Annie Besant before Independence proposed to impart :

- (1) Physical education
- (2) Religious and moral education
- (3) Western education
- (4) Medical education

**Options :**

87827098601. 1

87827098602. 2

87827098603. 3

87827098604. 4

**Question Number : 41 Question Id : 87827024978 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

ऐनी बेसेन्ट द्वारा स्वतंत्रता पूर्व बनारस में स्थापित हिंदू महाविद्यालय ने निम्न में से क्या प्रदान करने का प्रस्ताव किया था ?

- (1) शारीरिक शिक्षा
- (2) धार्मिक व नैतिक शिक्षा
- (3) पश्चिमी शिक्षा
- (4) चिकित्सा शिक्षा

**Options :**

87827098601. 1

87827098602. 2

87827098603. 3

87827098604. 4

**Question Number : 42 Question Id : 87827024979 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which one of the following Universities was the largest in the initial years of Lord Curzon's regime ?

- (1) Calcutta
- (2) Madras
- (3) Bombay
- (4) Punjab

**Options :**

87827098605. 1

87827098606. 2

87827098607. 3

87827098608. 4

**Question Number : 42 Question Id : 87827024979 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

लार्ड कर्जन के शासन के आरंभिक वर्षों निम्न में से कौन सा विश्वविद्यालय सबसे बड़ा था ?

- (1) कलकत्ता
- (2) मद्रास
- (3) बम्बई
- (4) पंजाब

**Options :**

87827098605. 1

87827098606. 2

87827098607. 3

87827098608. 4

**Question Number : 43 Question Id : 87827024980 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following were the recommendations of the first educational conference held at Shimla in 1901 ?

- (A) Appointment of only Indians as Vice-Chancellors of Indian Universities
- (B) Importance to teaching and research in Sanskrit
- (C) A thorough reform of Indian Universities
- (D) Appointment of a Director-General of Indian education
- (E) Co-ordination of rules for examinations

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (B), (C) and (D) Only
- (3) (C), (D) and (E) Only
- (4) (A), (B) and (E) Only

**Options :**

87827098609. 1

87827098610. 2

87827098611. 3

87827098612. 4

**Question Number : 43 Question Id : 87827024980 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

1901 में शिमला में आयोजित प्रथम शैक्षिक सम्मेलन की निम्न में से कौन-कौन सी अनुशंसाएँ थी ?

- (A) भारतीय विश्वविद्यालयों के उपकुलपतियों के रूप में केवल भारतीयों की नियुक्ति
- (B) संस्कृत में शिक्षण व शोध को महत्ता
- (C) भारतीय विश्वविद्यालयों का संपूर्ण सुधार
- (D) भारतीय शिक्षा के महानिदेशक की नियुक्ति
- (E) परीक्षाओं हेतु नियमों का समन्वयन

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B) और (C)
- (2) केवल (B), (C) और (D)
- (3) केवल (C), (D) और (E)
- (4) केवल (A), (B) और (E)

**Options :**

87827098609. 1

87827098610. 2

87827098611. 3

87827098612. 4

**Question Number : 44 Question Id : 87827024981 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the administrative reforms in universities suggested by the National Knowledge Commission ?

- (A) Appointment of vice-chancellors based on their academic and administrative credentials
- (B) De-politicisation of appointments
- (C) Centralised control of universities
- (D) Restrictions on academic freedom
- (E) Creation of a good research environment

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (B), (C) and (D) Only
- (3) (C), (D) and (E) Only
- (4) (A), (B) and (E) Only

**Options :**

87827098613. 1

87827098614. 2

87827098615. 3

87827098616. 4

**Question Number : 44 Question Id : 87827024981 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

राष्ट्रीय ज्ञान आयोग द्वारा विश्वविद्यालयों में प्रशासनिक सुधारों के संबंध में निम्न में से कौन-कौन से सुझाव दिए गए थे ?

- (A) उपकुलपतियों की नियुक्ति उनके अकादमिक व प्रशासनिक प्रत्ययों के आधार पर हो
- (B) नियुक्तियों का अराजनीतिकरण
- (C) विश्वविद्यालयों का केन्द्रीकृत नियंत्रण
- (D) अकादमिक स्वतंत्रताओं पर प्रतिबंध
- (E) उत्तम शोध परिवेश (वातावरण) की रचना

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B) और (C)
- (2) केवल (B), (C) और (D)
- (3) केवल (C), (D) और (E)
- (4) केवल (A), (B) और (E)

**Options :**

87827098613. 1

87827098614. 2

87827098615. 3

87827098616. 4

**Question Number : 45 Question Id : 87827024982 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The monastery of Vikramasila, possessed a University with six colleges.

**Statement (II) :** Vikramasila was a well-known centre of Tantric Buddhism and attracted students from other countries.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098617. 1

87827098618. 2

87827098619. 3

87827098620. 4

**Question Number : 45 Question Id : 87827024982 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** विक्रमशिला के विहार में छह महाविद्यालयों सहित एक विश्वविद्यालय था।

**कथन (II) :** विक्रमशिला तांत्रिक बौद्ध धर्म का एक सुविख्यात केन्द्र था और यह अन्य देशों से विद्यार्थियों को आकर्षित करता था।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) कथन I और कथन II दोनों सही है
- (2) कथन I और कथन II दोनों गलत है
- (3) कथन I सही है, लेकिन कथन II गलत है
- (4) कथन I गलत है, लेकिन कथन II सही है

**Options :**

87827098617. 1

87827098618. 2

87827098619. 3

87827098620. 4

**Sub-Section Number :** 3**Sub-Section Id :** 8782701091**Question Shuffling Allowed :** Yes**Is Section Default? :** null

**Question Id : 87827024983 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (46 to 50)**

Question Label : Comprehension

Read the following passage and answer the questions that follow :

Bharat, the country of historical values and sentiments overflowing with cultures and religions, changes with every mile, but is still known for preserving its rich cultural heritage. Moving towards global tourism, the ministry of ports, shipping and waterways recently created an experience for people that brought forth the historical, cultural and religious significance of our rivers. In January and February, the global tourism and cruise sector was abuzz with the news of the world's longest river cruise MV Ganga Vilas. The cruise covered nearly 32,000 Km over 51 days, crossing 27 rivers systems across five states and two countries, via the Ganga-Brahmaputra river system. Starting from the heart of Uttar pradesh in Varanasi to Dibrugarh in Assam, it had several stops and visits to nearly 50 locations.

The Act East Policy of Prime Minister Narendra Modi and the focus on developing the national waterways made this historic voyage a reality. It was also a true demonstration of *Atmanirbhar Bharat* (self reliant India) with a domestically manufactured vessel, a fully Indian crew, Indian decor, Indian cuisine, Indian art and craft, and products being showcased. The vessel with a zero-discharge policy also used the Indian Oil Corporation manufactured green fuel with the Dolphin Deterrent Device.

**Sub questions**

**Question Number : 46 Question Id : 87827024984 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The following are true about the country Bharat :

- (A) It does not preserve its cultural heritage.
- (B) It is overflowing with cultures.
- (C) It does not have a variety of religions.
- (D) It is a country of historical values.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (C) and (D) Only
- (3) (A) and (C) Only
- (4) (B) and (D) Only

**Options :**

87827098621. 1

87827098622. 2

87827098623. 3

87827098624. 4

**Question Number : 47 Question Id : 87827024985 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is correct about M V Ganga Vilas ?

- (1) It is a tourist spot.
- (2) It started from Haridwar.
- (3) It is world's longest river cruise.
- (4) It covered nearly 32,000 Km over 27 days

**Options :**

87827098625. 1

87827098626. 2

87827098627. 3

**Question Number : 48 Question Id : 87827024986 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

M V Ganga Vilas is a true demonstration of self-reliant India because :

- (A) The decor is done by Indian designers.
- (B) It serves both Indian and Western cuisine.
- (C) It showcases Indian arts and crafts.
- (D) It is operated by an all Indian crew.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B), (C) and (D)
- (3) (A), (C) and (D) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098629. 1

87827098630. 2

87827098631. 3

87827098632. 4

**Question Number : 49 Question Id : 87827024987 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

“This historic voyage” refers to :

- (1) Global tourism
- (2) Act East Policy of Prime Minister Narendra Modi
- (3) M V Ganga Vilas cruise
- (4) Development of National waterways

**Options :**

87827098633. 1

87827098634. 2

87827098635. 3

87827098636. 4

**Question Number : 50 Question Id : 87827024988 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** MV Ganga Vilas is an environment friendly vessel.

**Statement (II) :** MV Ganga Vilas is not indigenously manufactured vessel.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098637. 1

87827098638. 2

87827098639. 3

87827098640. 4

**Question Id : 87827024983 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (46 to 50)**

Question Label : Comprehension

**निम्न गद्यांश को पढ़िए व उसके बाद पूछे गए प्रश्नों के उत्तर दीजिए :**

ऐतिहासिक मूल्यों और संस्कृतियों व धर्मों से आप्लावित भावनाओं का देश भारत प्रत्येक मील पर बदलता है परन्तु फिर भी यह अपनी समृद्ध सांस्कृतिक विरासत के संरक्षण के लिए विख्यात है। वैश्विक पर्यटन की दिशा में अग्रसर होते हुए पत्तन, पोत-परिवहन व जलमार्ग मंत्रालय ने हाल ही में जनता के लिए एक ऐसे अनुभव की रचना की जिसने हमारी नदियों के ऐतिहासिक, सांस्कृतिक व धार्मिक महत्व को प्रदर्शित किया है। जनवरी व फरवरी में वैश्विक पर्यटन व पोत विहार क्षेत्र विश्व के सबसे लंबे पोत विहारी (क्रूज) एम वी गंगा विलास के समाचार से गुंजायमान था। इस पोत विहार ने गंगा ब्रह्मपुत्र नदी प्रणालियों के मार्ग से पांच राज्यों व दो देशों की 27 नदी प्रणालियों को पार करते हुए 51 दिनों में लगभग 32,000 कि.मी. की दूरी तय की। उत्तर प्रदेश के हृदय स्थल वाराणसी से आरंभ कर असम के डिब्रुगढ़ तक इसके अनेक ठहराव थे और इसने लगभग 50 स्थानों की यात्रा की।

प्रधानमंत्री नरेन्द्र मोदी की एक ईस्ट (पूर्व पर ध्यान देने) की नीति और राष्ट्रीय जलमार्गों को विकसित करने के उनके फोकस ने इस ऐतिहासिक जल यात्रा को यथार्थ बना दिया। स्वदेश में निर्मित पोत, पूर्णतया भारतीय कर्मी दल, भारतीय साज-सज्जा, भारतीय व्यंजन, भारतीय कला, शिल्प व उत्पादों के प्रदर्शन से यह आत्मनिर्भर भारत का सच्चा प्रदर्शन भी था। शून्य उत्सर्जन नीति वाले इस पोत ने डॉल्फिन निवारक युक्ति के साथ भारतीय तेल निगम द्वारा विनिर्मित हरित ईंधन का भी प्रयोग किया।

### **Sub questions**

**Question Number : 46 Question Id : 87827024984 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

भारत देश के संबंध में निम्न में से क्या-क्या सही हैं ?

- (A) यह अपनी सांस्कृतिक विरासत का संरक्षण नहीं करता है।
- (B) यह संस्कृतियों से आप्लावित है।
- (C) इसमें धर्मों की विविधता नहीं है।
- (D) यह ऐतिहासिक मूल्यों का देश है।

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A), (B) और (C)
- (2) केवल (C) और (D)
- (3) केवल (A) और (C)
- (4) केवल (B) और (D)

**Options :**

87827098621. 1

87827098622. 2

87827098623. 3

87827098624. 4

**Question Number : 47 Question Id : 87827024985 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

एम वी गंगा विलास के बारे में निम्न विकल्पों में से कौन सा सही है?

- (1) यह एक पर्यटन स्थल है।
- (2) इसने हरिद्वार से चलना शुरू किया।
- (3) यह विश्व का सबसे लंबा नदी विहार है।
- (4) इसने 27 दिनों में लगभग 32,000 कि.मी. की दूरी तय की।

**Options :**

87827098625. 1

87827098626. 2

87827098627. 3

87827098628. 4

**Question Number : 48 Question Id : 87827024986 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

एम वी गंगा विलास आत्म निर्भर भारत का सच्चा प्रदर्शन है क्योंकि :

- (A) इसकी साज सज्जा भारतीय डिजाइनरों ने की है।
- (B) इसमें भारतीय व पश्चिमी व्यंजन, दोनों परोसे जाते हैं।
- (C) यह भारतीय कला व शिल्प को प्रदर्शित करता है।
- (D) इसका संचालन पूर्णरूपेण एक भारतीय कर्मी दल करता है।

नीचे दिए गए विकल्पों में से सही उत्तर का चयन कीजिए :

- (1) केवल (A) और (B)
- (2) (A), (B), (C) और (D)
- (3) केवल (A), (C) और (D)
- (4) केवल (B), (C) और (D)

**Options :**

87827098629. 1

87827098630. 2

87827098631. 3

87827098632. 4

**Question Number : 49 Question Id : 87827024987 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

“ऐतिहासिक जल यात्रा” का संकेत निम्न में से किसकी ओर है ?

- (1) वैश्विक पर्यटन
- (2) प्रधान मंत्री नरेन्द्र मोदी की ‘एक्ट ईस्ट’ नीति
- (3) एम वी गंगा विलास पोत विहार
- (4) राष्ट्रीय जलमार्गों का विकास

**Options :**

87827098633. 1

87827098634. 2

87827098635. 3

87827098636. 4

**Question Number : 50 Question Id : 87827024988 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

नीचे दो कथन दिए गए हैं :

**कथन (I) :** एम वी गंगा विलास एक पर्यावरण अनुकूल जलपोत है।

**कथन (II) :** एम वी गंगा विलास स्वदेश में निर्मित जलपोत नहीं है।

उपरोक्त कथन के आलोक में, नीचे दिए गए विकल्पों में से सबसे उपयुक्त उत्तर का चयन कीजिए :

- (1) **कथन I और कथन II दोनों सही है**
- (2) **कथन I और कथन II दोनों गलत है**
- (3) **कथन I सही है, लेकिन कथन II गलत है**
- (4) **कथन I गलत है, लेकिन कथन II सही है**

**Options :**

87827098637. 1

87827098638. 2

87827098639. 3

87827098640. 4

## Computer Science and Applications

**Section Id :** 878270731

**Section Number :** 2

**Section type :** Online

**Mandatory or Optional :** Mandatory

**Number of Questions :** 92

<b>Number of Questions to be attempted :</b>	92
<b>Section Marks :</b>	200
<b>Enable Mark as Answered Mark for Review and Clear Response :</b>	Yes
<b>Maximum Instruction Time :</b>	0
<b>Sub-Section Number :</b>	1
<b>Sub-Section Id :</b>	8782701092
<b>Question Shuffling Allowed :</b>	Yes
<b>Is Section Default? :</b>	null

**Question Number : 51 Question Id : 87827024989 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the probability that a positive integer selected at random from the set of positive integers not exceeding 100 is divisible by either 2 or 5 ?

- (1)  $10/5$
- (2)  $3/5$
- (3)  $2/5$
- (4)  $1/5$

**Options :**

87827098641. 1

87827098642. 2

87827098643. 3

87827098644. 4

**Question Number : 51 Question Id : 87827024989 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the probability that a positive integer selected at random from the set of positive integer not exceeding 100 is divisible by either 2 or 5 ?

- (1)  $10/5$
- (2)  $3/5$
- (3)  $2/5$
- (4)  $1/5$

**Options :**

87827098641. 1

87827098642. 2

87827098643. 3

87827098644. 4

**Question Number : 52 Question Id : 87827024990 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a palindromic subsequence of the string "ababcdabba" ?

- (1) abcba
- (2) abba
- (3) abbbba
- (4) adba

**Options :**

87827098645. 1

87827098646. 2

87827098647. 3

87827098648. 4

**Question Number : 52 Question Id : 87827024990 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a palindromic subsequence of the string "ababcdabba" ?

- (1) abcba
- (2) abba
- (3) abbbbba
- (4) adba

**Options :**

87827098645. 1

87827098646. 2

87827098647. 3

87827098648. 4

**Question Number : 53 Question Id : 87827024991 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is TRUE ?

- (1) The cost of searching an AVL tree is  $\theta(\log n)$  but that of binary search is  $O(n)$
- (2) The cost of searching an AVL tree is  $\theta(\log n)$  but that of complete binary tree is  $\theta(n \log n)$
- (3) The cost of searching a binary tree is  $O(\log n)$  but that of AVL tree is  $\theta(n)$
- (4) The cost of searching an AVL tree is  $\theta(n \log n)$  but that of binary search tree is  $O(n)$

**Options :**

87827098649. 1

87827098650. 2

87827098651. 3

87827098652. 4

**Question Number : 53 Question Id : 87827024991 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is TRUE ?

- (1) The cost of searching an AVL tree is  $\theta(\log n)$  but that of binary search is  $O(n)$
- (2) The cost of searching an AVL tree is  $\theta(\log n)$  but that of complete binary tree is  $\theta(n \log n)$
- (3) The cost of searching a binary tree is  $O(\log n)$  but that of AVL tree is  $\theta(n)$
- (4) The cost of searching an AVL tree is  $\theta(n \log n)$  but that of binary search tree is  $O(n)$

**Options :**

87827098649. 1

87827098650. 2

87827098651. 3

87827098652. 4

**Question Number : 54 Question Id : 87827024992 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the result of evaluating the postfix expression “ $43*25^*+b-$ ” ?

- (1) 8
- (2) 14
- (3) 10
- (4) 5

**Options :**

87827098653. 1

87827098654. 2

87827098655. 3

87827098656. 4

**Question Number : 54 Question Id : 87827024992 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the result of evaluating the postfix expression “43\*25\*+b-” ?

- (1) 8
- (2) 14
- (3) 10
- (4) 5

**Options :**

87827098653. 1

87827098654. 2

87827098655. 3

87827098656. 4

**Question Number : 55 Question Id : 87827024993 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following circuit is used to store one bit of data ?

- (1) Encoder
- (2) Decoder
- (3) Flip-Flop
- (4) Register

**Options :**

87827098657. 1

87827098658. 2

87827098659. 3

87827098660. 4

**Question Number : 55 Question Id : 87827024993 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following circuit is used to store one bit of data ?

- (1) Encoder
- (2) Decoder
- (3) Flip-Flop
- (4) Register

**Options :**

87827098657. 1

87827098658. 2

87827098659. 3

87827098660. 4

**Question Number : 56 Question Id : 87827024994 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Identify the code sequence :

1010

1011

1001

1000

- (1) BCD
- (2) Excess-3
- (3) Gray
- (4) Excess-3 gray

**Options :**

87827098661. 1

87827098662. 2

87827098663. 3

87827098664. 4

**Question Number : 56 Question Id : 87827024994 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Identify the code sequence :

1010

1011

1001

1000

- (1) BCD
- (2) Excess-3
- (3) Gray
- (4) Excess-3 gray

**Options :**

87827098661. 1

87827098662. 2

87827098663. 3

87827098664. 4

**Question Number : 57 Question Id : 87827024995 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The microoperation which divides a signed binary number by 2 is :

- (1) Circular shift
- (2) Logical shift
- (3) Arithmetic shift right
- (4) Arithmetic shift left

**Options :**

87827098665. 1

87827098666. 2

87827098667. 3

87827098668. 4

**Question Number : 57 Question Id : 87827024995 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The microoperation which divides a signed binary number by 2 is :

- (1) Circular shift
- (2) Logical shift
- (3) Arithmetic shift right
- (4) Arithmetic shift left

**Options :**

87827098665. 1

87827098666. 2

87827098667. 3

87827098668. 4

**Question Number : 58 Question Id : 87827024996 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A program that is used by other routines to accomplish a particular task, is called :

- (1) Micro program
- (2) Micro operation
- (3) Routine
- (4) Subroutine

**Options :**

87827098669. 1

87827098670. 2

87827098671. 3

87827098672. 4

**Question Number : 58 Question Id : 87827024996 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A program that is used by other routines to accomplish a particular task, is called :

- (1) Micro program
- (2) Micro operation
- (3) Routine
- (4) Subroutine

**Options :**

87827098669. 1

87827098670. 2

87827098671. 3

87827098672. 4

**Question Number : 59 Question Id : 87827024997 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider a triangle PQR with coordinates as P(0,0), Q(2,2) and R(10,4). If this triangle is to be magnified to four times its size while keeping R(10, 4) fixed, then the coordinates of the magnified triangle are :

- (1) (-20, -12), Q(-20, -4) and R(10, 4)
- (2) (-30, -12), Q(-22, -4) and R(10, 4)
- (3) (-25, -10), Q(22, -4) and R(10, 4)
- (4) (30, -12), Q(-22, 4) and R(10, 4)

**Options :**

87827098673. 1

87827098674. 2

87827098675. 3

87827098676. 4

**Question Number : 59 Question Id : 87827024997 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider a triangle PQR with coordinates as P(0,0), Q(2,2) and R(10,4). If this triangle is to be magnified to four times its size while keeping R(10, 4) fixed, then the coordinates of the magnified triangle are :

- (1) (-20, -12), Q(-20, -4) and R(10, 4)
- (2) (-30, -12), Q(-22, -4) and R(10, 4)
- (3) (-25, -10), Q(22, -4) and R(10, 4)
- (4) (30, -12), Q(-22, 4) and R(10, 4)

**Options :**

87827098673. 1

87827098674. 2

87827098675. 3

87827098676. 4

**Question Number : 60 Question Id : 87827024998 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements is TRUE ?

- (1) Virtual functions do not implement polymorphism
- (2) Virtual functions do not permit calling of derived class functions using a base class pointer
- (3) We can never build an object from a class containing a pure virtual function
- (4) Pure virtual functions can never have a body

**Options :**

87827098677. 1

87827098678. 2

87827098679. 3

87827098680. 4

**Question Number : 60 Question Id : 87827024998 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements is TRUE ?

- (1) Virtual functions do not implement polymorphism
- (2) Virtual functions do not permit calling of derived class functions using a base class pointer
- (3) We can never build an object from a class containing a pure virtual function
- (4) Pure virtual functions can never have a body

**Options :**

87827098677. 1

87827098678. 2

87827098679. 3

87827098680. 4

**Question Number : 61 Question Id : 87827024999 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the output of the following program ?

```
#include<stdio.h>
```

```
int main( )
```

```
{ int i=3;
```

```
while (i--)
```

```
{ int i=10;
```

```
    i--;
```

```
printf("%d", i);
```

```
}
```

```
printf("%d", i);
```

```
}
```

(1) 990

(2) 9990

(3) 999 - 1

(4) 99 - 1

**Options :**

87827098681. 1

87827098682. 2

87827098683. 3

87827098684. 4

**Question Number : 61 Question Id : 87827024999 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the output of the following program ?

```
#include<stdio.h>
```

```
int main( )
```

```
{ int i=3;
```

```
while (i--)
```

```
{ int i=10;
```

```
    i--;
```

```
printf("%d", i);
```

```
}
```

```
printf("%d", i);
```

```
}
```

(1) 990

(2) 9990

(3) 999 - 1

(4) 99 - 1

**Options :**

87827098681. 1

87827098682. 2

87827098683. 3

87827098684. 4

**Question Number : 62 Question Id : 87827025000 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The Hue of a colour is related to its :

(1) Luminance

(2) Saturation

(3) Incandescence

(4) Wavelength

**Options :**

87827098685. 1

87827098686. 2

87827098687. 3

87827098688. 4

**Question Number : 62 Question Id : 87827025000 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The Hue of a colour is related to its :

- (1) Luminance
- (2) Saturation
- (3) Incandescence
- (4) Wavelength

**Options :**

87827098685. 1

87827098686. 2

87827098687. 3

87827098688. 4

**Question Number : 63 Question Id : 87827025001 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

“CREATE TABLE T” in SQL is an example of :

- (1) Normalization
- (2) DML
- (3) DDL
- (4) Primary key

**Options :**

87827098689. 1

87827098690. 2

87827098691. 3

87827098692. 4

**Question Number : 63 Question Id : 87827025001 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

“CREATE TABLE T” in SQL is an example of :

- (1) Normalization
- (2) DML
- (3) DDL
- (4) Primary key

**Options :**

87827098689. 1

87827098690. 2

87827098691. 3

87827098692. 4

**Question Number : 64 Question Id : 87827025002 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

An Address in main memory is called :

- (1) Virtual address
- (2) Memory address
- (3) Logical address
- (4) Physical address

**Options :**

87827098693. 1

87827098694. 2

87827098695. 3

87827098696. 4

**Question Number : 64 Question Id : 87827025002 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

An Address in main memory is called :

- (1) Virtual address
- (2) Memory address
- (3) Logical address
- (4) Physical address

**Options :**

87827098693. 1

87827098694. 2

87827098695. 3

87827098696. 4

**Question Number : 65 Question Id : 87827025003 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A system bus in which each data item is transferred during a time slice known in advance to both units source and destination is called :

- (1) MIMD
- (2) DMA
- (3) asynchronous bus
- (4) synchronous bus

**Options :**

87827098697. 1

87827098698. 2

87827098699. 3

87827098700. 4

**Question Number : 65 Question Id : 87827025003 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A system bus in which each data item is transferred during a time slice known in advance to both units source and destination is called :

- (1) MIMD
- (2) DMA
- (3) asynchronous bus
- (4) synchronous bus

**Options :**

87827098697. 1

87827098698. 2

87827098699. 3

87827098700. 4

**Question Number : 66 Question Id : 87827025004 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the output of the following program ?

```
# include <stdio.h>
# define SQR(x) (x*x)
int main ( )
{ int a, b=3;
  a = SQR(b + 2);
  printf("%d",a);
  return 0;
}
```

(1) 25  
(2) 11  
(3) Garbage value  
(4) 24

**Options :**

87827098701. 1

87827098702. 2

87827098703. 3

87827098704. 4

**Question Number : 66 Question Id : 87827025004 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the output of the following program ?

```
# include <stdio.h>
# define SQR(x) (x*x)
int main ( )
{ int a, b=3;
    a = SQR(b + 2);
    printf("%d",a);
    return 0;
}
```

(1) 25  
(2) 11  
(3) Garbage value  
(4) 24

**Options :**

87827098701. 1

87827098702. 2

87827098703. 3

87827098704. 4

**Question Number : 67 Question Id : 87827025005 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The head of a moving head disk with 200 tracks, numbered 0 to 199, has just finished a request at track 125, and currently serving a request at track 143. The queue of requests is given in the FIFO order as 86, 147, 91, 177, 94, 150, 102, 175, 130. What will be the total number of head movements required to satisfy these requests for SCAN algorithm ?

- (1) 259 cylinders  
(2) 169 cylinders  
(3) 154 cylinders  
(4) 264 cylinders

**Options :**

87827098705. 1

87827098706. 2

87827098707. 3

87827098708. 4

**Question Number : 67 Question Id : 87827025005 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The head of a moving head disk with 200 tracks, numbered 0 to 199, has just finished a request at track 125, and currently serving a request at track 143. The queue of requests is given in the FIFO order as 86, 147, 91, 177, 94, 150, 102, 175, 130. What will be the total number of head movements required to satisfy these requests for SCAN algorithm ?

- (1) 259 cylinders
- (2) 169 cylinders
- (3) 154 cylinders
- (4) 264 cylinders

**Options :**

87827098705. 1

87827098706. 2

87827098707. 3

87827098708. 4

**Question Number : 68 Question Id : 87827025006 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given as 4 GB ( $\approx 4.3 \times 10^9$  bytes) of virtual space and typical page size of 4 KB and each page table entry is 5 bytes. How many virtual pages would this imply ? What is the size of whole page table ?

- (1) 107500 and 20480 bytes
- (2) 215000 and 40960 bytes
- (3) 10750 and 10240 bytes
- (4) 43000 and 1024 bytes

**Options :**

87827098709. 1

87827098710. 2

87827098711. 3

87827098712. 4

**Question Number : 68 Question Id : 87827025006 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given as 4 GB ( $\approx 4.3 \times 10^9$  bytes) of virtual space and typical page size of 4 KB and each page table entry is 5 bytes. How many virtual pages would this imply ? What is the size of whole page table ?

- (1) 107500 and 20480 bytes
- (2) 215000 and 40960 bytes
- (3) 10750 and 10240 bytes
- (4) 43000 and 1024 bytes

**Options :**

87827098709. 1

87827098710. 2

87827098711. 3

87827098712. 4

**Question Number : 69 Question Id : 87827025007 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In Linux, where is the user password stored ?

- (1) /etc/password
- (2) /root/password
- (3) /etc/passwd
- (4) /root/passwd

**Options :**

87827098713. 1

87827098714. 2

87827098715. 3

87827098716. 4

**Question Number : 69 Question Id : 87827025007 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In Linux, where is the user password stored ?

- (1) /etc/password
- (2) /root/password
- (3) /etc/passwd
- (4) /root/passwd

**Options :**

87827098713. 1

87827098714. 2

87827098715. 3

87827098716. 4

**Question Number : 70 Question Id : 87827025008 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Has functions are used to produce the message digests which are then encrypted with a private key to get :

- (1) Public key
- (2) Digital signature
- (3) Cipher text
- (4) Data Encryption Standard

**Options :**

87827098717. 1

87827098718. 2

87827098719. 3

87827098720. 4

**Question Number : 70 Question Id : 87827025008 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Has functions are used to produce the message digests which are then encrypted with a private key to get :

- (1) Public key
- (2) Digital signature
- (3) Cipher text
- (4) Data Encryption Standard

**Options :**

87827098717. 1

87827098718. 2

87827098719. 3

87827098720. 4

**Question Number : 71 Question Id : 87827025009 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Let  $L = \{ab, aa, baa\}$ . Which of the following strings are not in  $L^*$ .

- (1) abaabaaaabaa
- (2) aaaabaaaa
- (3) baaaaabaaaab
- (4) baaaaabaa

**Options :**

87827098721. 1

87827098722. 2

87827098723. 3

87827098724. 4

**Question Number : 71 Question Id : 87827025009 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Let  $L = \{ab, aa, baa\}$ . Which of the following strings are not in  $L^*$ .

- (1) abaabaaaabaa
- (2) aaaabaaaa
- (3) baaaaabaaaab
- (4) baaaaabaa

**Options :**

87827098721. 1

87827098722. 2

87827098723. 3

87827098724. 4

**Question Number : 72 Question Id : 87827025010 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Let  $A = \{a, b\}$  and  $L = A^*$ . Let  $x = \{a^n b^n, n > 0\}$ . The languages  $L \cup X$  and  $X$  are respectively :

- (1) Not regular, Regular
- (2) Regular, Regular
- (3) Regular, Not regular
- (4) Not Regular, Not Regular

**Options :**

87827098725. 1

87827098726. 2

87827098727. 3

87827098728. 4

**Question Number : 72 Question Id : 87827025010 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Let  $A = \{a, b\}$  and  $L = A^*$ . Let  $x = \{a^n b^n, n > 0\}$ . The languages  $L \cup X$  and  $X$  are respectively :

- (1) Not regular, Regular
- (2) Regular, Regular
- (3) Regular, Not regular
- (4) Not Regular, Not Regular

**Options :**

87827098725. 1

87827098726. 2

87827098727. 3

87827098728. 4

**Question Number : 73 Question Id : 87827025011 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following symbol table implementation is best suited if access time is to be minimum ?

- (1) Linear list
- (2) Search tree
- (3) Hash Table
- (4) Self organisation list

**Options :**

87827098729. 1

87827098730. 2

87827098731. 3

87827098732. 4

**Question Number : 73 Question Id : 87827025011 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following symbol table implementation is best suited if access time is to be minimum ?

- (1) Linear list
- (2) Search tree
- (3) Hash Table
- (4) Self organisation list

**Options :**

87827098729. 1

87827098730. 2

87827098731. 3

87827098732. 4

**Question Number : 74 Question Id : 87827025012 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider a Grammar  $E \rightarrow E+n \mid E \times n \mid n$  for a sentence  $n+n \times n$ , the handles in the right-sentential form of the reduction are ?

- (1)  $n$ ,  $E+n$  and  $E+n \times n$
- (2)  $n$ ,  $E+n$  and  $E+E \times n$
- (3)  $n$ ,  $n+n$  and  $n+n \times n$
- (4)  $n$ ,  $E+n$  and  $E \times n$

**Options :**

87827098733. 1

87827098734. 2

87827098735. 3

87827098736. 4

**Question Number : 74 Question Id : 87827025012 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider a Grammar  $E \rightarrow E + n \mid E \times n \mid n$  for a sentence  $n + n \times n$ , the handles in the right-sentential form of the reduction are ?

- (1)  $n, E + n$  and  $E + n \times n$
- (2)  $n, E + n$  and  $E \times n$
- (3)  $n, n + n$  and  $n + n \times n$
- (4)  $n, E + n$  and  $E \times n$

**Options :**

87827098733. 1

87827098734. 2

87827098735. 3

87827098736. 4

**Question Number : 75 Question Id : 87827025013 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which data structure is typically used to implement hash table ?

- (1) Linked list
- (2) Array
- (3) Binary Tree
- (4) Stack

**Options :**

87827098737. 1

87827098738. 2

87827098739. 3

87827098740. 4

**Question Number : 75 Question Id : 87827025013 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which data structure is typically used to implement hash table ?

- (1) Linked list
- (2) Array
- (3) Binary Tree
- (4) Stack

**Options :**

87827098737. 1

87827098738. 2

87827098739. 3

87827098740. 4

**Question Number : 76 Question Id : 87827025014 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which collision resolution technique involves maintaining a linked list of collided keys ?

- (1) Linear probing
- (2) Quadratic probing
- (3) Chaining
- (4) Double hashing

**Options :**

87827098741. 1

87827098742. 2

87827098743. 3

87827098744. 4

**Question Number : 76 Question Id : 87827025014 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which collision resolution technique involves maintaining a linked list of collided keys ?

- (1) Linear probing
- (2) Quadratic probing
- (3) Chaining
- (4) Double hashing

**Options :**

87827098741. 1

87827098742. 2

87827098743. 3

87827098744. 4

**Question Number : 77 Question Id : 87827025015 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the following functions :

$$f(n) = 3n^{\sqrt{n}}$$

$$g(n) = 2^{\lceil n \rceil} \log_2^n$$

$$h(n) = n!$$

Which of the following is true ?

- (1)  $h(n)$  is 0 ( $f(n)$ )
- (2)  $h(n)$  is 0 ( $g(n)$ )
- (3)  $g(n)$  is not 0 ( $f(n)$ )
- (4)  $f(n)$  is 0 ( $g(n)$ )

**Options :**

87827098745. 1

87827098746. 2

87827098747. 3

87827098748. 4

**Question Number : 77 Question Id : 87827025015 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the following functions :

$$f(n) = 3n^{\sqrt{n}}$$

$$g(n) = 2^{\lceil n \rceil} \log_2^n$$

$$h(n) = n!$$

Which of the following is true ?

- (1)  $h(n)$  is 0 ( $f(n)$ )
- (2)  $h(n)$  is 0 ( $g(n)$ )
- (3)  $g(n)$  is not 0 ( $f(n)$ )
- (4)  $f(n)$  is 0 ( $g(n)$ )

**Options :**

87827098745. 1

87827098746. 2

87827098747. 3

87827098748. 4

**Question Number : 78 Question Id : 87827025016 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

2–3–4 trees are B - trees of order 4. They are isometric of \_\_\_\_\_ trees.

- (1) AVL
- (2) AA
- (3) 2 – 3
- (4) Red-Black

**Options :**

87827098749. 1

87827098750. 2

87827098751. 3

87827098752. 4

**Question Number : 78 Question Id : 87827025016 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

2–3–4 trees are B - trees of order 4. They are isometric of \_\_\_\_\_ trees.

- (1) AVL
- (2) AA
- (3) 2 – 3
- (4) Red-Black

**Options :**

87827098749. 1

87827098750. 2

87827098751. 3

87827098752. 4

**Question Number : 79 Question Id : 87827025017 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The average time required to search a storage location in memory and obtain its contents is called :

- (1) Access time
- (2) Latency time
- (3) Response time
- (4) Reading time

**Options :**

87827098753. 1

87827098754. 2

87827098755. 3

87827098756. 4

**Question Number : 79 Question Id : 87827025017 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The average time required to search a storage location in memory and obtain its contents is called :

- (1) Access time
- (2) Latency time
- (3) Response time
- (4) Reading time

**Options :**

87827098753. 1

87827098754. 2

87827098755. 3

87827098756. 4

**Question Number : 80 Question Id : 87827025018 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

One of the purposes of using intermediate code in compilers is to :

- (1) make parsing and semantic analysis simpler
- (2) improve error recovery and error reporting
- (3) increase the chances of reusing the machine independent code optimizer in other compilers
- (4) improve the register allocation

**Options :**

87827098757. 1

87827098758. 2

87827098759. 3

87827098760. 4

**Question Number : 80 Question Id : 87827025018 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

One of the purposes of using intermediate code in compilers is to :

- (1) make parsing and semantic analysis simpler
- (2) improve error recovery and error reporting
- (3) increase the chances of reusing the machine independent code optimizer in other compilers
- (4) improve the register allocation

**Options :**

87827098757. 1

87827098758. 2

87827098759. 3

**Question Number : 81 Question Id : 87827025019 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The sum of minimum and maximum number of final states for a Deterministic Finite Automata (DFA) having 'P' state is equal to :

- (1) p
- (2) p - 1
- (3) p + 1
- (4) p + 2

**Options :**

87827098761. 1

87827098762. 2

87827098763. 3

87827098764. 4

**Question Number : 81 Question Id : 87827025019 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The sum of minimum and maximum number of final states for a Deterministic Finite Automata (DFA) having 'P' state is equal to :

- (1) p
- (2) p - 1
- (3) p + 1
- (4) p + 2

**Options :**

87827098761. 1

87827098762. 2

87827098763. 3

87827098764. 4

**Question Number : 82 Question Id : 87827025020 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Test suite is consist of :

- (1) Set of defect cases
- (2) Set of boundary cases
- (3) Set of test cases
- (4) Set of nest cases

**Options :**

87827098765. 1

87827098766. 2

87827098767. 3

87827098768. 4

**Question Number : 82 Question Id : 87827025020 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Test suite is consist of :

- (1) Set of defect cases
- (2) Set of boundary cases
- (3) Set of test cases
- (4) Set of nest cases

**Options :**

87827098765. 1

87827098766. 2

87827098767. 3

**Question Number : 83 Question Id : 87827025021 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A multiplexes combines for 100 Kbps channels using a time slot of 2 bits. What is the bit rate ?

- (1) 100 Kbps
- (2) 200 Kbps
- (3) 40 Kbps
- (4) 1000 Kbps

**Options :**

87827098769. 1

87827098770. 2

87827098771. 3

87827098772. 4

**Question Number : 83 Question Id : 87827025021 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A multiplexes combines for 100 Kbps channels using a time slot of 2 bits. What is the bit rate ?

- (1) 100 Kbps
- (2) 200 Kbps
- (3) 40 Kbps
- (4) 1000 Kbps

**Options :**

87827098769. 1

87827098770. 2

87827098771. 3

87827098772. 4

**Question Number : 84 Question Id : 87827025022 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a field in TCP header ?

- (1) Sequence Number
- (2) Checksum
- (3) Frgmentation offset
- (4) Window size

**Options :**

87827098773. 1

87827098774. 2

87827098775. 3

87827098776. 4

**Question Number : 84 Question Id : 87827025022 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not a field in TCP header ?

- (1) Sequence Number
- (2) Checksum
- (3) Frgmentation offset
- (4) Window size

**Options :**

87827098773. 1

87827098774. 2

87827098775. 3

87827098776. 4

**Question Number : 85 Question Id : 87827025023 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In "bit stuffing", each frame begins and ends with a bit pattern in hexadecimal ?

- (1) O<sub>x</sub>8C
- (2) O<sub>x</sub>6F
- (3) O<sub>x</sub>FF
- (4) O<sub>x</sub>7E

**Options :**

87827098777. 1

87827098778. 2

87827098779. 3

87827098780. 4

**Question Number : 85 Question Id : 87827025023 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In "bit stuffing", each frame begins and ends with a bit pattern in hexadecimal ?

- (1) O<sub>x</sub>8C
- (2) O<sub>x</sub>6F
- (3) O<sub>x</sub>FF
- (4) O<sub>x</sub>7E

**Options :**

87827098777. 1

87827098778. 2

87827098779. 3

87827098780. 4

**Question Number : 86 Question Id : 87827025024 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Level - 0 DFD is also called as :

- (1) Use case Diagram
- (2) Sequence Diagram
- (3) Context Diagram
- (4) Prototype Diagram

**Options :**

87827098781. 1

87827098782. 2

87827098783. 3

87827098784. 4

**Question Number : 86 Question Id : 87827025024 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Level - 0 DFD is also called as :

- (1) Use case Diagram
- (2) Sequence Diagram
- (3) Context Diagram
- (4) Prototype Diagram

**Options :**

87827098781. 1

87827098782. 2

87827098783. 3

87827098784. 4

**Question Number : 87 Question Id : 87827025025 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the generic structure of Multi Agent System (MAS) ?

- (1) Single agent with multiple objectives
- (2) Multiagents with a single objectives
- (3) Multiagents with diverse objectives and communication abilities
- (4) Multiagent with two objectives

**Options :**

87827098785. 1

87827098786. 2

87827098787. 3

87827098788. 4

**Question Number : 87 Question Id : 87827025025 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the generic structure of Multi Agent System (MAS) ?

- (1) Single agent with multiple objectives
- (2) Multiagents with a single objectives
- (3) Multiagents with diverse objectives and communication abilities
- (4) Multiagent with two objectives

**Options :**

87827098785. 1

87827098786. 2

87827098787. 3

87827098788. 4

**Question Number : 88 Question Id : 87827025026 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A \_\_\_\_\_ point of fuzzy set A is a point  $x \in X$  at which  $\mu_A(x) = 0.5$

- (1) Core
- (2) Support
- (3) Crossover
- (4)  $\alpha$ -cut

**Options :**

87827098789. 1

87827098790. 2

87827098791. 3

87827098792. 4

**Question Number : 88 Question Id : 87827025026 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

A \_\_\_\_\_ point of fuzzy set A is a point  $x \in X$  at which  $\mu_A(x) = 0.5$

- (1) Core
- (2) Support
- (3) Crossover
- (4)  $\alpha$ -cut

**Options :**

87827098789. 1

87827098790. 2

87827098791. 3

87827098792. 4

**Question Number : 89 Question Id : 87827025027 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In a genetic algorithm optimization problem the fitness function is defined as  $f(x)=x^2-4x+4$ .

Given a population of four individuals with values of  $x : \{1.5, 2.0, 3.0, 4.5\}$

What is the fitness value of the individual that will be selected as the parent for reproduction in one generation ?

- (1) 2.25
- (2) 6.0
- (3) 0.0
- (4) 6.25

**Options :**

87827098793. 1

87827098794. 2

87827098795. 3

87827098796. 4

**Question Number : 89 Question Id : 87827025027 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In a genetic algorithm optimization problem the fitness function is defined as  $f(x)=x^2-4x+4$ .

Given a population of four individuals with values of  $x : \{1.5, 2.0, 3.0, 4.5\}$

What is the fitness value of the individual that will be selected as the parent for reproduction in one generation ?

- (1) 2.25
- (2) 6.0
- (3) 0.0
- (4) 6.25

**Options :**

87827098793. 1

87827098794. 2

87827098795. 3

87827098796. 4

**Question Number : 90 Question Id : 87827025028 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In a feed forward neural network with the following specifications :

Input layer has 4 neurons, hidden layer has 3 neurons and output layer has 2 neurons using the sigmoid activation function for given input values  $[0.5, 0.8, 0.2, 0.6]$  as well as the initial weights for the connections.

$W1 : [0.1, 0.3, 0.5, 0.2]$   
 $W2 : [0.2, 0.4, 0.6, 0.2]$   
 $W3 : [0.3, 0.5, 0.7, 0.2]$

Input layer to hidden layer weights

$W4 : [0.4, 0.1, 0.3]$   
 $W5 : [0.5, 0.2, 0.4]$

Hidden layer to output layer weights

What is the output of the output layer when the given input values are passed through neural network ? Round the answer to two decimal places :

- (1)  $[0.62, 0.68]$
- (2)  $[0.72, 0.78]$
- (3)  $[0.82, 0.88]$
- (4)  $[0.92, 0.98]$

**Options :**

87827098797. 1

87827098798. 2

87827098799. 3

87827098800. 4

**Question Number : 90 Question Id : 87827025028 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In a feed forward neural network with the following specifications :

Input layer has 4 neurons, hidden layer has 3 neurons and output layer has 2 neurons using the sigmoid activation function for given input values [0.5, 0.8, 0.2, 0.6] as well as the initial weights for the connections.

$$\begin{matrix} W1 : [0.1, 0.3, 0.5, 0.2] \\ W2 : [0.2, 0.4, 0.6, 0.2] \\ W3 : [0.3, 0.5, 0.7, 0.2] \end{matrix} \left[ \begin{array}{l} \text{Input layer to hidden layer weights} \\ \text{Hidden layer to output layer weights} \end{array} \right]$$

$$\begin{matrix} W4 : [0.4, 0.1, 0.3] \\ W5 : [0.5, 0.2, 0.4] \end{matrix} \left[ \begin{array}{l} \text{Input layer to hidden layer weights} \\ \text{Hidden layer to output layer weights} \end{array} \right]$$

What is the output of the output layer when the given input values are passed through neural network ? Round the answer to two decimal places :

- (1) [0.62, 0.68]
- (2) [0.72, 0.78]
- (3) [0.82, 0.88]
- (4) [0.92, 0.98]

**Options :**

87827098797. 1

87827098798. 2

87827098799. 3

87827098800. 4

**Question Number : 91 Question Id : 87827025029 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If universe of disclosure are all real numbers, then which of the following are true ?

- (A)  $\exists x \forall y (x+y=y)$
- (B)  $\forall x \forall y (((x \geq 0) \wedge (y < 0)) \rightarrow (x - y > 0))$
- (C)  $\exists x \exists y (((x \leq 0) \wedge (y \leq 0)) \wedge (x - y > 0))$
- (D)  $\forall x \forall y ((x \neq 0) \wedge (y \neq 0) \leftrightarrow (xy \neq 0))$

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (C) and (D) Only
- (3) (A), (B) and (D) Only
- (4) (A), (B), (C) and (D) Only

**Options :**

87827098801. 1

87827098802. 2

87827098803. 3

87827098804. 4

**Question Number : 91 Question Id : 87827025029 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If universe of disclosure are all real numbers, then which of the following are true ?

- (A)  $\exists x \forall y (x+y=y)$
- (B)  $\forall x \forall y (((x \geq 0) \wedge (y < 0)) \rightarrow (x - y > 0))$
- (C)  $\exists x \exists y (((x \leq 0) \wedge (y \leq 0)) \wedge (x - y > 0))$
- (D)  $\forall x \forall y ((x \neq 0) \wedge (y \neq 0) \leftrightarrow (xy \neq 0))$

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (C) and (D) Only
- (3) (A), (B) and (D) Only
- (4) (A), (B), (C) and (D) Only

**Options :**

87827098801. 1

87827098802. 2

87827098803. 3

87827098804. 4

**Question Number : 92 Question Id : 87827025030 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If the universe of disclosure is set of integers, then which of the followings are TRUE ?

- (A)  $\forall n \exists m (n^2 < m)$
- (B)  $\exists n \forall m (n < m^2)$
- (C)  $\exists n \forall m (nm = m)$
- (D)  $\exists n \exists m (n^2 + m^2 = 6)$
- (E)  $\exists n \exists m (n + m = 4 \wedge n - m = 1)$

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (B) and (C) Only
- (3) (C), (D) and (E) Only
- (4) (C) and (E) Only

**Options :**

87827098805. 1

87827098806. 2

87827098807. 3

87827098808. 4

**Question Number : 92 Question Id : 87827025030 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If the universe of disclosure is set of integers, then which of the followings are TRUE ?

- (A)  $\forall n \exists m (n^2 < m)$
- (B)  $\exists n \forall m (n < m^2)$
- (C)  $\exists n \forall m (nm = m)$
- (D)  $\exists n \exists m (n^2 + m^2 = 6)$
- (E)  $\exists n \exists m (n + m = 4 \wedge n - m = 1)$

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (B) and (C) Only
- (3) (C), (D) and (E) Only
- (4) (C) and (E) Only

**Options :**

87827098805. 1

87827098806. 2

87827098807. 3

87827098808. 4

**Question Number : 93 Question Id : 87827025031 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If  $N^2 = N \times N$ ,  $N$  is set of natural numbers and  $R$  is relation on  $N^2$ , s.t.  $R \subseteq N^2 \times N^2$  i.e.  $\langle x, y \rangle R \langle u, v \rangle \Leftrightarrow xv = yu$ , then which of the followings are TRUE ?

- (A) Reflexive
- (B) Symmetric
- (C) Transitive
- (D) Assymmetric

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (A), (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098809. 1

87827098810. 2

87827098811. 3

87827098812. 4

**Question Number : 93 Question Id : 87827025031 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

If  $N^2 = N \times N$ ,  $N$  is set of natural numbers and  $R$  is relation on  $N^2$ , s.t.  $R \subseteq N^2 \times N^2$  i.e.  $\langle x, y \rangle R \langle u, v \rangle \Leftrightarrow xv = yu$ , then which of the followings are TRUE ?

- (A) Reflexive
- (B) Symmetric
- (C) Transitive
- (D) Assymmetric

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (A), (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098809. 1

87827098810. 2

87827098811. 3

87827098812. 4

**Question Number : 94 Question Id : 87827025032 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The interface(s) that provide(s) I/O transfer of data directly to and from the memory unit peripheral is/are termed as :

- (A) DMA (Direct Memory Access)
- (B) IOP (Input-Output Processor)
- (C) Serial Interface
- (D) Parallel Interface

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) Only
- (3) (A) and (B) Only
- (4) (C) and (D) Only

**Options :**

87827098813. 1

87827098814. 2

87827098815. 3

87827098816. 4

**Question Number : 94 Question Id : 87827025032 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The interface(s) that provide(s) I/O transfer of data directly to and from the memory unit peripheral is/are termed as :

- (A) DMA (Direct Memory Access)
- (B) IOP (Input-Output Processor)
- (C) Serial Interface
- (D) Parallel Interface

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) Only
- (3) (A) and (B) Only
- (4) (C) and (D) Only

**Options :**

87827098813. 1

87827098814. 2

87827098815. 3

87827098816. 4

**Question Number : 95 Question Id : 87827025033 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following(s) are main memory ?

- (A) Virtual memory
- (B) Cache memory
- (C) RAM
- (D) SSD

Choose the **correct** answer from the options given below :

- (1) (A) and (C) Only
- (2) (B) and (C) Only
- (3) (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098817. 1

87827098818. 2

87827098819. 3

87827098820. 4

**Question Number : 95 Question Id : 87827025033 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following(s) are main memory ?

- (A) Virtual memory
- (B) Cache memory
- (C) RAM
- (D) SSD

Choose the **correct** answer from the options given below :

- (1) (A) and (C) Only
- (2) (B) and (C) Only
- (3) (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098817. 1

87827098818. 2

87827098819. 3

87827098820. 4

**Question Number : 96 Question Id : 87827025034 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are tautology ?

- (A)  $(P \rightarrow (P \wedge Q)) \rightarrow (P \rightarrow Q)$
- (B)  $((P \rightarrow Q) \rightarrow Q) \rightarrow (P \vee Q)$
- (C)  $((P \vee \neg P) \rightarrow Q) \rightarrow ((P \vee \neg P) \rightarrow R)$
- (D)  $(Q \rightarrow (P \wedge \neg P)) \rightarrow (R \rightarrow (P \wedge \neg P))$

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) Only
- (3) (A) and(B) Only
- (4) (C) and (D) Only

**Options :**

87827098821. 1

87827098822. 2

87827098823. 3

87827098824. 4

**Question Number : 96 Question Id : 87827025034 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are tautology ?

- (A)  $(P \rightarrow (P \wedge Q)) \rightarrow (P \rightarrow Q)$
- (B)  $((P \rightarrow Q) \rightarrow Q) \rightarrow (P \vee Q)$
- (C)  $((P \vee \neg P) \rightarrow Q) \rightarrow ((P \vee \neg P) \rightarrow R)$
- (D)  $(Q \rightarrow (P \wedge \neg P)) \rightarrow (R \rightarrow (P \wedge \neg P))$

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) Only
- (3) (A) and(B) Only
- (4) (C) and (D) Only

**Options :**

87827098821. 1

87827098822. 2

87827098823. 3

87827098824. 4

**Question Number : 97 Question Id : 87827025035 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the three points  $P_1(1, 2, 0)$ ,  $P_2(3, 6, 20)$  and  $P_3(2, 4, 6)$  and a view point  $C(0, 0, -10)$ .

Choose the correct options.

- (A)  $P_1$  obscure  $P_2$ , if viewed from  $C$ .
- (B)  $P_2$  obscure  $P_1$ , if viewed from  $C$ .
- (C)  $P_3$  does not obscure  $P_1$ , if viewed from  $C$ .
- (D)  $P_2$  does not obscure  $P_3$ , if viewed from  $C$ .

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C) and (D) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098825. 1

87827098826. 2

87827098827. 3

87827098828. 4

**Question Number : 97 Question Id : 87827025035 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the three points P1(1, 2, 0), P2(3, 6, 20) and P3(2, 4, 6) and a view point C(0, 0, -10).

Choose the correct options.

- (A) P1 obscure P2, if viewed from C.
- (B) P2 obscure P1, if viewed from C.
- (C) P3 does not obscure P1, if viewed from C.
- (D) P2 does not obscure P3, if viewed from C.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C) and (D) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098825. 1

87827098826. 2

87827098827. 3

87827098828. 4

**Question Number : 98 Question Id : 87827025036 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the statement are CORRECT ?

- (A) Constructors are invoked automatically when the objects are created.
- (B) Constructors do not have return types, not even void and therefore they cannot return values.
- (C) Constructors cannot be inherited though a derived class can call the base class constructors.
- (D) Constructors can be declared as virtual.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (D) Only
- (2) (A), (B) and (C) Only
- (3) (B), (C) and (D) Only
- (4) (A), (C) and (D) Only

**Options :**

87827098829. 1

87827098830. 2

87827098831. 3

87827098832. 4

**Question Number : 98 Question Id : 87827025036 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the statement are CORRECT ?

- (A) Constructors are invoked automatically when the objects are created.
- (B) Constructors do not have return types, not even void and therefore they cannot return values.
- (C) Constructors cannot be inherited though a derived class can call the base class constructors.
- (D) Constructors can be declared as virtual.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (D) Only
- (2) (A), (B) and (C) Only
- (3) (B), (C) and (D) Only
- (4) (A), (C) and (D) Only

**Options :**

87827098829. 1

87827098830. 2

87827098831. 3

87827098832. 4

**Question Number : 99 Question Id : 87827025037 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which one of the following statements are CORRECT ?

- (A) Granularity is the size of data item in a database.
- (B) Two operations in a schedule are said to be conflict if they belong to same transaction.
- (C) Two schedulers are said to be conflict equivalent if the order of any two conflicting operations is the same in both schedules.
- (D) Write operations which are performed without performing the write operation are known as Blind Writes.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (C) Only
- (3) (A), (B) and (D) Only
- (4) (B) and (C) Only

**Options :**

87827098833. 1

87827098834. 2

87827098835. 3

87827098836. 4

**Question Number : 99 Question Id : 87827025037 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which one of the following statements are CORRECT ?

- (A) Granularity is the size of data item in a database.
- (B) Two operations in a schedule are said to be conflict if they belong to same transaction.
- (C) Two schedulers are said to be conflict equivalent if the order of any two conflicting operations is the same in both schedules.
- (D) Write operations which are performed without performing the write operation are known as Blind Writes.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (C) Only
- (3) (A), (B) and (D) Only
- (4) (B) and (C) Only

**Options :**

87827098833. 1

87827098834. 2

87827098835. 3

87827098836. 4

**Question Number : 100 Question Id : 87827025038 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is/are NOT CORRECT statement ?

- (A) The first record in each block of the data file is known as actor record.
- (B) Dense index has index entries for every search key value in the data file.
- (C) Searching is harder in the  $B^+$  tree than  $B-$  tree as the all external nodes linked to each other.
- (D) In extendible hashing the size of directory is just an array of  $2^{d-1}$ , where d is global depth.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C) and (D) Only
- (3) (A), (B) and (D) Only
- (4) (A), (B), (C) and (D) Only

**Options :**

87827098837. 1

87827098838. 2

87827098839. 3

87827098840. 4

**Question Number : 100 Question Id : 87827025038 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is/are NOT CORRECT statement ?

- (A) The first record in each block of the data file is known as actor record.
- (B) Dense index has index entries for every search key value in the data file.
- (C) Searching is harder in the  $B^+$  tree than  $B-$  tree as the all external nodes linked to each other.
- (D) In extendible hashing the size of directory is just an array of  $2^{d-1}$ , where d is global depth.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C) and (D) Only
- (3) (A), (B) and (D) Only
- (4) (A), (B), (C) and (D) Only

**Options :**

87827098837. 1

87827098838. 2

87827098839. 3

87827098840. 4

**Question Number : 101 Question Id : 87827025039 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements is/are NOT CORRECT about NUMA ?

- (A) LOAD and STORE instructions are used to access remote memory.
- (B) There is a single address space visible to all CPU.
- (C) Access to local memory is slower than access to remote memory.
- (D) When the access time to remote memory is hidden, the system is called NC - NUMA.
- (E) In CC - NUMA, Coherent caches are present.

Choose the **correct** answer from the options given below :

- (1) (A) and (C) Only
- (2) (B) and (D) Only
- (3) (A) and (E) Only
- (4) (C) and (D) Only

**Options :**

87827098841. 1

87827098842. 2

87827098843. 3

87827098844. 4

**Question Number : 101 Question Id : 87827025039 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements is/are NOT CORRECT about NUMA ?

- (A) LOAD and STORE instructions are used to access remote memory.
- (B) There is a single address space visible to all CPU.
- (C) Access to local memory is slower than access to remote memory.
- (D) When the access time to remote memory is hidden, the system is called NC - NUMA.
- (E) In CC - NUMA, Coherent caches are present.

Choose the **correct** answer from the options given below :

- (1) (A) and (C) Only
- (2) (B) and (D) Only
- (3) (A) and (E) Only
- (4) (C) and (D) Only

**Options :**

87827098841. 1

87827098842. 2

87827098843. 3

87827098844. 4

**Question Number : 102 Question Id : 87827025040 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Indexed/grouped allocation is useful as :

- (A) It supports both sequential and direct access.
- (B) Entire block is available for data.
- (C) It does not require lots of space for keeping pointers.
- (D) No external fragmentation.

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) and (C) Only
- (3) (B) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098845. 1

87827098846. 2

87827098847. 3

87827098848. 4

**Question Number : 102 Question Id : 87827025040 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Indexed/grouped allocation is useful as :

- (A) It supports both sequential and direct access.
- (B) Entire block is available for data.
- (C) It does not require lots of space for keeping pointers.
- (D) No external fragmentation.

Choose the **correct** answer from the options given below :

- (1) (A) Only
- (2) (B) and (C) Only
- (3) (B) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098845. 1

87827098846. 2

87827098847. 3

87827098848. 4

**Question Number : 103 Question Id : 87827025041 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements are CORRECT ?

- (A) A process always check state of currently executing process to enter critical schema.
- (B) Spin locks uses busy waiting.
- (C) Periodically testing a variable until some value appear is known as busy waiting.
- (D) Critical region is a part of program, where shared memory is kept.
- (E) Printer daemon, continuously checks to see if there are any file to be printed.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (B) and (D) Only
- (4) (B) and (E) Only

**Options :**

87827098849. 1

87827098850. 2

87827098851. 3

87827098852. 4

**Question Number : 103 Question Id : 87827025041 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statements are CORRECT ?

- (A) A process always check state of currently executing process to enter critical schema.
- (B) Spin locks uses busy waiting.
- (C) Periodically testing a variable until some value appear is known as busy waiting.
- (D) Critical region is a part of program, where shared memory is kept.
- (E) Printer daemon, continuously checks to see if there are any file to be printed.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (B) and (D) Only
- (4) (B) and (E) Only

**Options :**

87827098849. 1

87827098850. 2

87827098851. 3

87827098852. 4

**Question Number : 104 Question Id : 87827025042 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Three address codes can be represented in special structures known as :

- (A) Quadruples
- (B) Triples
- (C) Patterns
- (D) Indirect Triples

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (D) Only
- (3) (B) and (C) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098853. 1

87827098854. 2

87827098855. 3

87827098856. 4

**Question Number : 104 Question Id : 87827025042 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Three address codes can be represented in special structures known as :

- (A) Quadruples
- (B) Triples
- (C) Patterns
- (D) Indirect Triples

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (D) Only
- (3) (B) and (C) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098853. 1

87827098854. 2

87827098855. 3

87827098856. 4

**Question Number : 105 Question Id : 87827025043 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the statement is/are CORRECT ?

- (A) Moore and Mealy machines are finite state machines with output capabilities.
- (B) Any given Moore machine has an equivalent Mealy machine.
- (C) Any given Mealy machine has an equivalent Moore machine.
- (D) Moore machine is not a finite state machine.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (C) Only
- (3) (B) and (D) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098857. 1

87827098858. 2

87827098859. 3

87827098860. 4

**Question Number : 105 Question Id : 87827025043 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the statement is/are CORRECT ?

- (A) Moore and Mealy machines are finite state machines with output capabilities.
- (B) Any given Moore machine has an equivalent Mealy machine.
- (C) Any given Mealy machine has an equivalent Moore machine.
- (D) Moore machine is not a finite state machine.

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (C) Only
- (3) (B) and (D) Only
- (4) (A), (B) and (D) Only

**Options :**

87827098857. 1

87827098858. 2

87827098859. 3

87827098860. 4

**Question Number : 106 Question Id : 87827025044 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The statement  $P(x)$  : " $x=x^2$ ". If the universe of disclosure consists of integers, what are the following have truth values :

- (A)  $P(0)$
- (B)  $P(1)$
- (C)  $P(2)$
- (D)  $\exists x P(x)$
- (E)  $\forall x P(x)$

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (E) Only
- (2) (A), (B) and (C) Only
- (3) (A), (B) and (D) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098861. 1

87827098862. 2

87827098863. 3

87827098864. 4

**Question Number : 106 Question Id : 87827025044 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The statement  $P(x)$  : " $x=x^2$ ". If the universe of disclosure consists of integers, what are the following have truth values :

- (A)  $P(0)$
- (B)  $P(1)$
- (C)  $P(2)$
- (D)  $\exists x P(x)$
- (E)  $\forall x P(x)$

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (E) Only
- (2) (A), (B) and (C) Only
- (3) (A), (B) and (D) Only
- (4) (B), (C) and (D) Only

**Options :**

87827098861. 1

87827098862. 2

87827098863. 3

87827098864. 4

**Question Number : 107 Question Id : 87827025045 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement are truth statements if universe of disclosure is set of integers :

- (A)  $\forall n(n^2 \geq 0)$
- (B)  $\exists n(n^2 = 2)$
- (C)  $\forall n(n^2 \geq n)$
- (D)  $\exists n(n^2 < 0)$

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (C) and (D) Only
- (4) (A) and (C) Only

**Options :**

87827098865. 1

87827098866. 2

87827098867. 3

87827098868. 4

**Question Number : 107 Question Id : 87827025045 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement are truth statements if universe of disclosure is set of integers :

- (A)  $\forall n(n^2 \geq 0)$
- (B)  $\exists n(n^2 = 2)$
- (C)  $\forall n(n^2 \geq n)$
- (D)  $\exists n(n^2 < 0)$

Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (B) and (C) Only
- (3) (C) and (D) Only
- (4) (A) and (C) Only

**Options :**

87827098865. 1

87827098866. 2

87827098867. 3

87827098868. 4

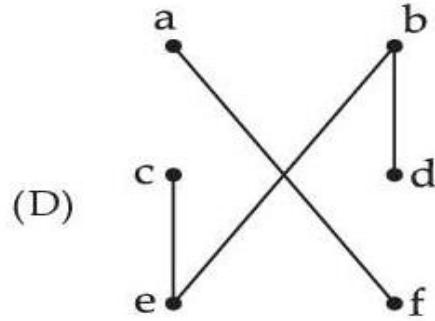
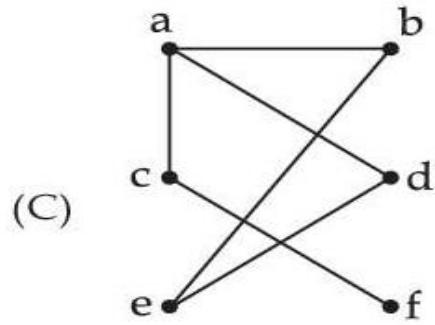
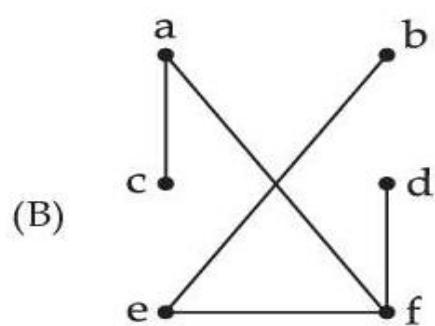
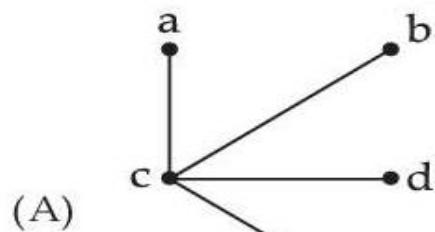
**Question Number : 108 Question Id : 87827025046 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following graphs are trees ?



Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (D) Only
- (3) (A) and (D) Only
- (4) (A), (B), (C) and (D) Only

**Options :**

87827098869. 1

87827098870. 2

87827098871. 3

87827098872. 4

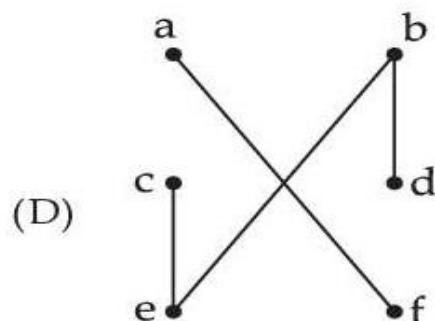
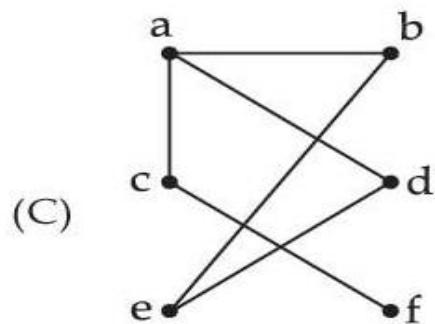
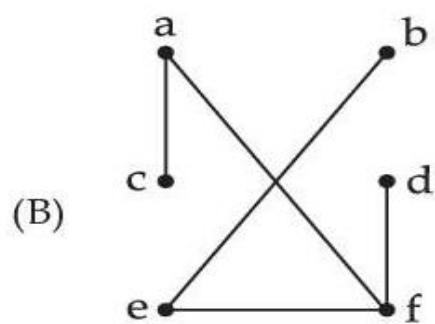
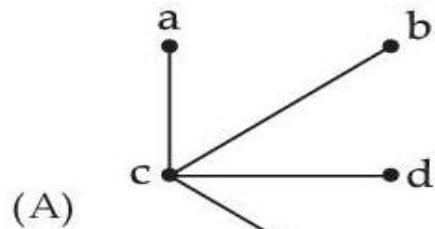
Question Number : 108 Question Id : 87827025046 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

Which of the following graphs are trees ?



Choose the **correct** answer from the options given below :

- (1) (A) and (B) Only
- (2) (A), (B) and (D) Only
- (3) (A) and (D) Only
- (4) (A), (B), (C) and (D) Only

Options :

87827098869. 1

87827098870. 2

87827098871. 3

87827098872. 4

**Question Number : 109 Question Id : 87827025047 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are example of CSMA channel sensing methods ?

- (A) 1-persistent
- (B) 2-persistent
- (C) p-persistent
- (D) o-persistent

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (D) Only
- (2) (A), (C) and (D) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098873. 1

87827098874. 2

87827098875. 3

87827098876. 4

**Question Number : 109 Question Id : 87827025047 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are example of CSMA channel sensing methods ?

- (A) 1-persistent
- (B) 2-persistent
- (C) p-persistent
- (D) o-persistent

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (D) Only
- (2) (A), (C) and (D) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B) and (C) Only

**Options :**

87827098873. 1

87827098874. 2

87827098875. 3

87827098876. 4

**Question Number : 110 Question Id : 87827025048 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The selection of Spiral Model based on characteristics of requirements :

- (A) Are requirements easily understandable and defined ?
- (B) Do we change requirements quite often ?
- (C) Can we define requirements early in the cycle ?
- (D) Requirements are indicating a complex to be built

Choose the **correct** answer from the options given below :

- (1) (C) Only
- (2) (B) Only
- (3) (B) and (D) Only
- (4) (A) and (C) Only

**Options :**

87827098877. 1

87827098878. 2

87827098879. 3

87827098880. 4

**Question Number : 110 Question Id : 87827025048 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The selection of Spiral Model based on characteristics of requirements :

- (A) Are requirements easily understandable and defined ?
- (B) Do we change requirements quite often ?
- (C) Can we define requirements early in the cycle ?
- (D) Requirements are indicating a complex to be built

Choose the **correct** answer from the options given below :

- (1) (C) Only
- (2) (B) Only
- (3) (B) and (D) Only
- (4) (A) and (C) Only

**Options :**

87827098877. 1

87827098878. 2

87827098879. 3

87827098880. 4

**Question Number : 111 Question Id : 87827025049 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The work done by UDP is/are :

- (A) Congestion control
- (B) Flow control
- (C) Retransmission
- (D) Segments transmission

Choose the **correct** answer from the options given below :

- (1) (A) and (D) Only
- (2) (C) Only
- (3) (D) Only
- (4) (B) and (C) Only

**Options :**

87827098881. 1

87827098882. 2

87827098883. 3

87827098884. 4

**Question Number : 111 Question Id : 87827025049 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The work done by UDP is/are :

- (A) Congestion control
- (B) Flow control
- (C) Retransmission
- (D) Segments transmission

Choose the **correct** answer from the options given below :

- (1) (A) and (D) Only
- (2) (C) Only
- (3) (D) Only
- (4) (B) and (C) Only

**Options :**

87827098881. 1

87827098882. 2

87827098883. 3

87827098884. 4

**Question Number : 112 Question Id : 87827025050 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement/s is/are NOT CORRECT ?

- (A) OSPF is based on distance-vector routing protocol.
- (B) Both link-state and distance-vector routing are based on the least cost goal.
- (C) BGP4 is based on the path-vector algorithm.
- (D) The three-node instability can be avoided using split horizon combined with poison reverse.
- (E) RIP is based on link state algorithm.

Choose the **correct** answer from the options given below :

- (1) (A), (D) and (E) Only
- (2) (A) and (B) Only
- (3) (B) and (C) Only
- (4) (B), (C) and (E) Only

**Options :**

87827098885. 1

87827098886. 2

87827098887. 3

87827098888. 4

**Question Number : 112 Question Id : 87827025050 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement/s is/are NOT CORRECT ?

- (A) OSPF is based on distance-vector routing protocol.
- (B) Both link-state and distance-vector routing are based on the least cost goal.
- (C) BGP4 is based on the path-vector algorithm.
- (D) The three-node instability can be avoided using split horizon combined with poison reverse.
- (E) RIP is based on link state algorithm.

Choose the **correct** answer from the options given below :

- (1) (A), (D) and (E) Only
- (2) (A) and (B) Only
- (3) (B) and (C) Only
- (4) (B), (C) and (E) Only

**Options :**

87827098885. 1

87827098886. 2

87827098887. 3

87827098888. 4

**Question Number : 113 Question Id : 87827025051 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement/s are CORRECT ?

- (A) NRZ is a bipolar scheme in which the positive voltage define bit is 0 (zero).
- (B) NRZ-L and NRZ-I both have an average signal rate of  $N/2$ .
- (C) The idea of RZ and NRZ-L are combined into Manchester scheme.
- (D) NRZ-L and NRZ-I both have DC component problems.
- (E) The minimum bandwidth of Manchester and differential Manchester is 3 times that of NRZ.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C), (D) and (E) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B), (C) and (E) Only

**Options :**

87827098889. 1

87827098890. 2

87827098891. 3

87827098892. 4

**Question Number : 113 Question Id : 87827025051 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement/s are CORRECT ?

- (A) NRZ is a bipolar scheme in which the positive voltage define bit is 0 (zero).
- (B) NRZ-L and NRZ-I both have an average signal rate of  $N/2$ .
- (C) The idea of RZ and NRZ-L are combined into Manchester scheme.
- (D) NRZ-L and NRZ-I both have DC component problems.
- (E) The minimum bandwidth of Manchester and differential Manchester is 3 times that of NRZ.

Choose the **correct** answer from the options given below :

- (1) (A), (B) and (C) Only
- (2) (A), (C), (D) and (E) Only
- (3) (B), (C) and (D) Only
- (4) (A), (B), (C) and (E) Only

**Options :**

87827098889. 1

87827098890. 2

87827098891. 3

87827098892. 4

**Question Number : 114 Question Id : 87827025052 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are commonly used parsing techniques in NLP (Natural Language Processing) for syntactic analysis.

- (A) Top down parsing
- (B) Bottom Up parsing
- (C) Dependency parsing
- (D) Statistical machine translation
- (E) Earley parsing

Choose the **correct** answer from the options given below :

- (1) (A), (C), (D), (E) Only
- (2) (B), (C), (D), (E) Only
- (3) (A), (B), (C), (E) Only
- (4) (A) and (B) Only

**Options :**

87827098893. 1

87827098894. 2

87827098895. 3

87827098896. 4

**Question Number : 114 Question Id : 87827025052 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are commonly used parsing techniques in NLP (Natural Language Processing) for syntactic analysis.

- (A) Top down parsing
- (B) Bottom Up parsing
- (C) Dependency parsing
- (D) Statistical machine translation
- (E) Earley parsing

Choose the **correct** answer from the options given below :

- (1) (A), (C), (D), (E) Only
- (2) (B), (C), (D), (E) Only
- (3) (A), (B), (C), (E) Only
- (4) (A) and (B) Only

**Options :**

87827098893. 1

87827098894. 2

87827098895. 3

87827098896. 4

**Question Number : 115 Question Id : 87827025053 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of Alpha Beta pruning in game trees which of the following statements are correct regarding cut off procedures ?

- (A) Alpha Beta pruning can eliminate subtrees with certainty when the value of a node exceeds both the alpha and beta bonds.
- (B) The primary purpose of Alpha-Beta pruning is to save computation time by searching fewer nodes in the same tree.
- (C) Alpha Beta pruning guarantees the optimal solution in all cases by exploring the entire game tree.
- (D) Alpha and Beta bonds are initialized to negative and positive infinity respectively at the root note.

Choose the **correct** answer from the options given below :

- (1) (A), (C), (D) Only
- (2) (B), (C), (D) Only
- (3) (A), (B), (D) Only
- (4) (C), (B) Only

**Options :**

87827098897. 1

87827098898. 2

87827098899. 3

87827098900. 4

**Question Number : 115 Question Id : 87827025053 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of Alpha Beta pruning in game trees which of the following statements are correct regarding cut off procedures ?

- (A) Alpha Beta pruning can eliminate subtrees with certainty when the value of a node exceeds both the alpha and beta bonds.
- (B) The primary purpose of Alpha-Beta pruning is to save computation time by searching fewer nodes in the same tree.
- (C) Alpha Beta pruning guarantees the optimal solution in all cases by exploring the entire game tree.
- (D) Alpha and Beta bonds are initialized to negative and positive infinity respectively at the root note.

Choose the **correct** answer from the options given below :

- (1) (A), (C), (D) Only
- (2) (B), (C), (D) Only
- (3) (A), (B), (D) Only
- (4) (C), (B) Only

**Options :**

87827098897. 1

87827098898. 2

87827098899. 3

87827098900. 4

**Question Number : 116 Question Id : 87827025054 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

## Match List - I with List - II.

List - I	List - II
(A) $\phi \cap \{\phi\} =$	(I) $\phi$
(B) $\{\phi\} \cap \{\phi\} =$	(II) $\{\phi\}$
(C) $\{\phi, \{\phi\}\} - \phi =$	(III) $\{\{\phi\}\}$
(D) $\phi \cup \{\{\phi\}\} =$	(IV) $\{\phi, \{\phi\}\}$

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (3) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (4) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

### Options :

87827098901. 1

87827098902. 2

87827098903. 3

87827098904. 4

**Question Number : 116 Question Id : 87827025054 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

## Match List - I with List - II.

List - I	List - II
(A) $\phi \cap \{\phi\} =$	(I) $\phi$
(B) $\{\phi\} \cap \{\phi\} =$	(II) $\{\phi\}$
(C) $\{\phi, \{\phi\}\} - \phi =$	(III) $\{\{\phi\}\}$
(D) $\phi \cup \{\{\phi\}\} =$	(IV) $\{\phi, \{\phi\}\}$

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (3) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (4) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

### Options :

87827098901. 1

87827098902. 2

87827098903. 3

87827098904. 4

**Question Number : 117 Question Id : 87827025055 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

<b>List - I</b>	<b>List - II</b>
(A) SZA	(I) Increment M and skip it zero
(B) SKI	(II) Skip if AC is negative
(C) SNA	(III) Skip if input flag is on
(D) ISZ	(IV) Skip if AC is Zero

Choose the **correct** answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (3) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

**Options :**

87827098905. 1

87827098906. 2

87827098907. 3

87827098908. 4

**Question Number : 117 Question Id : 87827025055 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

<b>List - I</b>	<b>List - II</b>
(A) SZA	(I) Increment M and skip it zero
(B) SKI	(II) Skip if AC is negative
(C) SNA	(III) Skip if input flag is on
(D) ISZ	(IV) Skip if AC is Zero

Choose the **correct** answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (2) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- (3) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

**Options :**

87827098905. 1

87827098906. 2

87827098907. 3

87827098908. 4

**Question Number : 118 Question Id : 87827025056 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

<b>List - I</b>	<b>List - II</b>
(A) Bresenham	(I) Hidden surface removal
(B) Cohen-Sutherland	(II) Line drawing algorithm
(C) Sutherland-Hodgemann	(III) Line clipping algorithm
(D) Z-Buffer	(IV) Polygon clipping algorithm

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- (2) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (4) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)

**Options :**

87827098909. 1

87827098910. 2

87827098911. 3

87827098912. 4

**Question Number : 118 Question Id : 87827025056 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

<b>List - I</b>	<b>List - II</b>
(A) Bresenham	(I) Hidden surface removal
(B) Cohen-Sutherland	(II) Line drawing algorithm
(C) Sutherland-Hodgemann	(III) Line clipping algorithm
(D) Z-Buffer	(IV) Polygon clipping algorithm

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- (2) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (4) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)

**Options :**

87827098909. 1

87827098910. 2

87827098911. 3

87827098912. 4

**Question Number : 119 Question Id : 87827025057 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

- | List - I     | List - II  |
|--------------|--|
| (A) BCNF iff | (I) every JD is implied by the candidate keys          |
| (B) 5 NF iff | (II) all underlying domains contain scalar values only |
| (C) 1 NF iff | (III) every MVD is implied by the candidate keys       |
| (D) 4 NF iff | (IV) every FD is implied by the candidate keys         |

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
- (2) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (4) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)

**Options :**

87827098913. 1

87827098914. 2

87827098915. 3

87827098916. 4

**Question Number : 119 Question Id : 87827025057 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

- | List - I     | List - II  |
|--------------|--|
| (A) BCNF iff | (I) every JD is implied by the candidate keys          |
| (B) 5 NF iff | (II) all underlying domains contain scalar values only |
| (C) 1 NF iff | (III) every MVD is implied by the candidate keys       |
| (D) 4 NF iff | (IV) every FD is implied by the candidate keys         |

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
- (2) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)
- (3) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- (4) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)

**Options :**

87827098913. 1

87827098914. 2

87827098915. 3

87827098916. 4

**Question Number : 120 Question Id : 87827025058 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

- | List - I                   | List - II   |
|----------------------------|---|
| (A) LRU                    | (I) A page is written to secondary memory only when it has been selected for replacement        |
| (B) Demand cleaning        | (II) A page that has not been referenced for the longest time is replaced                       |
| (C) Long term scheduling   | (III) The decision to add to the number of processes that are partially or fully in main memory |
| (D) Medium term scheduling | (IV) The decision to add to the pool of processes to be executed                                |

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
- (4) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)

**Options :**

87827098917. 1

87827098918. 2

87827098919. 3

87827098920. 4

**Question Number : 120 Question Id : 87827025058 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

- | List - I                   | List - II   |
|----------------------------|---|
| (A) LRU                    | (I) A page is written to secondary memory only when it has been selected for replacement        |
| (B) Demand cleaning        | (II) A page that has not been referenced for the longest time is replaced                       |
| (C) Long term scheduling   | (III) The decision to add to the number of processes that are partially or fully in main memory |
| (D) Medium term scheduling | (IV) The decision to add to the pool of processes to be executed                                |

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)
- (4) (A)-(IV), (B)-(II), (C)-(III), (D)-(I)

**Options :**

87827098917. 1

87827098918. 2

87827098919. 3

87827098920. 4

**Question Number : 121 Question Id : 87827025059 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II according to input to the compiler phase that process it :

**List - I**

- (A) Syntax tree
- (B) Intermediate representation
- (C) Token stream
- (D) Character stream

**List - II**

- (I) Code generator
- (II) Semantic analyzer
- (III) Lexical analyze
- (IV) Syntax analyser

Choose the **correct** answer from the options given below :

- (1) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (4) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

**Options :**

87827098921. 1

87827098922. 2

87827098923. 3

87827098924. 4

**Question Number : 121 Question Id : 87827025059 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II according to input to the compiler phase that process it :

**List - I**

- (A) Syntax tree
- (B) Intermediate representation
- (C) Token stream
- (D) Character stream

**List - II**

- (I) Code generator
- (II) Semantic analyzer
- (III) Lexical analyze
- (IV) Syntax analyser

Choose the **correct** answer from the options given below :

- (1) (A)-(IV), (B)-(III), (C)-(I), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (4) (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

**Options :**

87827098921. 1

87827098922. 2

87827098923. 3

87827098924. 4

**Question Number : 122 Question Id : 87827025060 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

List - I	List - II
Propositions	Disjunctive Normal Form (DNF)
(A) $P \wedge (P \rightarrow Q)$	(I) $P \vee Q$
(B) $\neg(P \vee Q) \rightarrow (P \wedge Q)$	(II) $(P \wedge \neg P) \vee (P \wedge Q)$
(C) $P \rightarrow Q$	(III) $(\neg P) \vee Q$
(D) $P \vee (Q \wedge R)$	(IV) $(P \wedge P) \vee (P \wedge Q) \vee (P \wedge R) \vee (Q \wedge R)$

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (3) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
- (4) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

**Options :**

87827098925. 1

87827098926. 2

87827098927. 3

87827098928. 4

**Question Number : 122 Question Id : 87827025060 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match List - I with List - II.

List - I	List - II
Propositions	Disjunctive Normal Form (DNF)
(A) $P \wedge (P \rightarrow Q)$	(I) $P \vee Q$
(B) $\neg(P \vee Q) \rightarrow (P \wedge Q)$	(II) $(P \wedge \neg P) \vee (P \wedge Q)$
(C) $P \rightarrow Q$	(III) $(\neg P) \vee Q$
(D) $P \vee (Q \wedge R)$	(IV) $(P \wedge P) \vee (P \wedge Q) \vee (P \wedge R) \vee (Q \wedge R)$

Choose the **correct** answer from the options given below :

- (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (2) (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
- (3) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
- (4) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)

**Options :**

87827098925. 1

87827098926. 2

87827098927. 3

87827098928. 4

**Question Number : 123 Question Id : 87827025061 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

- | <b>List - I</b>                 | <b>List - II</b>  |
|---------------------------------|---|
| (A) Greedy Best first search    | (I) The space complexity as $O(d)$ where $d$ = depth of the deepest optimal solution                |
| (B) A*                          | (II) Incomplete even if the search space is finite  |
| (C) Recursive best first search | (III) Optimal if optimal solution is reachable otherwise return the best reachable optimal solution |
| (D) SMA*                        | (IV) Computation and space complexity is two light  |

Choose the **correct** answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (2) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (3) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

**Options :**

87827098929. 1

87827098930. 2

87827098931. 3

87827098932. 4

**Question Number : 123 Question Id : 87827025061 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

- | <b>List - I</b>                 | <b>List - II</b>  |
|---------------------------------|---|
| (A) Greedy Best first search    | (I) The space complexity as $O(d)$ where $d$ = depth of the deepest optimal solution                |
| (B) A*                          | (II) Incomplete even if the search space is finite  |
| (C) Recursive best first search | (III) Optimal if optimal solution is reachable otherwise return the best reachable optimal solution |
| (D) SMA*                        | (IV) Computation and space complexity is two light  |

Choose the **correct** answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (2) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (3) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

**Options :**

87827098929. 1

87827098930. 2

87827098931. 3

87827098932. 4

**Question Number : 124 Question Id : 87827025062 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

**Match List - I with List - II.**

<b>List - I</b>	<b>List - II</b>
(A) Monoalphabetic Cipher	(I) Round key
(B) DES	(II) One-to-many relationship
(C) Stream Cipher	(III) One-to-one relationship
(D) Polyalphabetic Cipher	(IV) Feedback mechanism

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
- (3) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (4) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

**Options :**

87827098933. 1

87827098934. 2

87827098935. 3

87827098936. 4

**Question Number : 124 Question Id : 87827025062 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

## Match List - I with List - II.

List - I	List - II
(A) Monoalphabetic Cipher	(I) Round key
(B) DES	(II) One-to-many relationship
(C) Stream Cipher	(III) One-to-one relationship
(D) Polyalphabetic Cipher	(IV) Feedback mechanism

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
- (3) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (4) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)

### Options :

87827098933. 1

87827098934. 2

87827098935. 3

87827098936. 4

**Question Number : 125 Question Id : 87827025063 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

## Match List - I with List - II.

List - I	List - II
(A) Hill climbing	(I) $O(b^d)$
(B) Best first search	(II) $O(bd)$
(C) A* Search	(III) $O(1)$
(D) Depth first search	(IV) $O(b^m)$

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (4) (A)-(I), (B)-(III), (C)-(II), (D)-(I)

**Options :**

87827098937. 1

87827098938. 2

87827098939. 3

87827098940. 4

**Question Number : 125 Question Id : 87827025063 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

## Match List - I with List - II.

List - I	List - II
(A) Hill climbing	(I) $O(b^d)$
(B) Best first search	(II) $O(bd)$
(C) A* Search	(III) $O(1)$
(D) Depth first search	(IV) $O(b^m)$

Choose the **correct** answer from the options given below :

- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
- (3) (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
- (4) (A)-(I), (B)-(III), (C)-(II), (D)-(I)

### Options :

87827098937. 1

87827098938. 2

87827098939. 3

87827098940. 4

**Question Number : 126 Question Id : 87827025064 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following in ascending order :

- (A) Remainder of  $49^{16}$  when divided by 17
- (B) Remainder of  $2^{446}$  when divided by 9
- (C) Remainder of  $155^{17}$  when divided by 17
- (D) Last digits of the number  $7^{45}$

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D)
- (2) (A), (B), (D), (C)
- (3) (A), (C), (B), (D)
- (4) (D), (C), (B), (A)

**Options :**

87827098941. 1

87827098942. 2

87827098943. 3

87827098944. 4

**Question Number : 126 Question Id : 87827025064 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following in ascending order :

- (A) Remainder of  $49^{16}$  when divided by 17
- (B) Remainder of  $2^{446}$  when divided by 9
- (C) Remainder of  $155^{17}$  when divided by 17
- (D) Last digits of the number  $7^{45}$

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D)
- (2) (A), (B), (D), (C)
- (3) (A), (C), (B), (D)
- (4) (D), (C), (B), (A)

**Options :**

87827098941. 1

87827098942. 2

87827098943. 3

87827098944. 4

**Question Number : 127 Question Id : 87827025065 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In most general case, the computer needs to process each instruction with the following sequence of steps :

- (A) Calculate the effective address
- (B) Execute the instruction
- (C) Fetch the instruction from memory
- (D) Fetch the operand from memory
- (E) Decode the instruction

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D), (E)
- (2) (A), (B), (C), (E), (D)
- (3) (C), (E), (A), (D), (B)
- (4) (C), (E), (D), (A), (B)

**Options :**

87827098945. 1

87827098946. 2

87827098947. 3

87827098948. 4

**Question Number : 127 Question Id : 87827025065 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In most general case, the computer needs to process each instruction with the following sequence of steps :

- (A) Calculate the effective address
- (B) Execute the instruction
- (C) Fetch the instruction from memory
- (D) Fetch the operand from memory
- (E) Decode the instruction

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D), (E)
- (2) (A), (B), (C), (E), (D)
- (3) (C), (E), (A), (D), (B)
- (4) (C), (E), (D), (A), (B)

**Options :**

87827098945. 1

87827098946. 2

87827098947. 3

87827098948. 4

**Question Number : 128 Question Id : 87827025066 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the following code segment :

```
int arr [ ] = {0, 1, 2, 3, 4};
```

```
int i=1, *ptr;
```

```
ptr=arr+2;
```

arrange the following printf statements in the increasing order of their output.

- (A) `printf ("%d", ptr[i]);`
- (B) `printf ("%d", ptr[i+1]);`
- (C) `printf ("%d", ptr[-i]);`
- (D) `printf ("%d", ptr[-i+1]);`

Choose the **correct** answer from the options given below :

- (1) (C), (A), (B), (D)
- (2) (C), (D), (A), (B)
- (3) (D), (A), (B), (C)
- (4) (A), (B), (D), (C)

**Options :**

87827098949. 1

87827098950. 2

87827098951. 3

87827098952. 4

**Question Number : 128 Question Id : 87827025066 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Consider the following code segment :

```
int arr [ ] = {0, 1, 2, 3, 4};
```

```
int i=1, *ptr;
```

```
ptr=arr+2;
```

arrange the following printf statements in the increasing order of their output.

- (A) `printf ("%d", ptr[i]);`
- (B) `printf ("%d", ptr[i+1]);`
- (C) `printf ("%d", ptr[-i]);`
- (D) `printf ("%d", ptr[-i+1]);`

Choose the **correct** answer from the options given below :

- (1) (C), (A), (B), (D)
- (2) (C), (D), (A), (B)
- (3) (D), (A), (B), (C)
- (4) (A), (B), (D), (C)

**Options :**

87827098949. 1

87827098950. 2

87827098951. 3

87827098952. 4

**Question Number : 129 Question Id : 87827025067 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The steps for analysis and design of object oriented system.

- (A) Draw interaction diagrams
- (B) Draw state chart and object diagram
- (C) Draw use case and activity diagram
- (D) Draw component and deployment diagram
- (E) Draw class diagram

Choose the **correct** answer from the options given below :

- (1) (E)→(B)→(A)→(C)→(D)
- (2) (B)→(A)→(E)→(D)→(C)
- (3) (E)→(C)→(B)→(D)→(A)
- (4) (C)→(A)→(E)→(B)→(D)

**Options :**

87827098953. 1

87827098954. 2

87827098955. 3

87827098956. 4

**Question Number : 129 Question Id : 87827025067 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The steps for analysis and design of object oriented system.

- (A) Draw interaction diagrams
- (B) Draw state chart and object diagram
- (C) Draw use case and activity diagram
- (D) Draw component and deployment diagram
- (E) Draw class diagram

Choose the **correct** answer from the options given below :

- (1) (E)→(B)→(A)→(C)→(D)
- (2) (B)→(A)→(E)→(D)→(C)
- (3) (E)→(C)→(B)→(D)→(A)
- (4) (C)→(A)→(E)→(B)→(D)

**Options :**

87827098953. 1

87827098954. 2

87827098955. 3

87827098956. 4

**Question Number : 130 Question Id : 87827025068 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following levels of interrupt protection within the Linux Kernel, in the order of increasing priority.

- (A) user mode programs
- (B) bottom half interrupt handlers
- (C) kernel system service routines
- (D) top half interrupt handlers

Choose the **correct** answer from the options given below :

- (1) (A), (B), (D), (C)
- (2) (A), (C), (B), (D)
- (3) (A), (C), (D), (B)
- (4) (D), (A), (C), (B)

**Options :**

87827098957. 1

87827098958. 2

87827098959. 3

87827098960. 4

**Question Number : 130 Question Id : 87827025068 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following levels of interrupt protection within the Linux Kernel, in the order of increasing priority.

- (A) user mode programs
- (B) bottom half interrupt handlers
- (C) kernel system service routines
- (D) top half interrupt handlers

Choose the **correct** answer from the options given below :

- (1) (A), (B), (D), (C)
- (2) (A), (C), (B), (D)
- (3) (A), (C), (D), (B)
- (4) (D), (A), (C), (B)

**Options :**

87827098957. 1

87827098958. 2

87827098959. 3

87827098960. 4

**Question Number : 131 Question Id : 87827025069 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following phases of a compiler as per their order of execution (start to end)

- (A) Target code generation
- (B) Syntax Analysis
- (C) Code optimization
- (D) Semantic Analysis
- (E) Lexical Analysis

Choose the **correct** answer from the options given below :

- (1) (B), (E), (D), (A), (C)
- (2) (E), (D), (B), (A), (C)
- (3) (E), (B), (D), (C), (A)
- (4) (B), (D), (E), (A), (C)

**Options :**

87827098961. 1

87827098962. 2

87827098963. 3

87827098964. 4

**Question Number : 131 Question Id : 87827025069 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following phases of a compiler as per their order of execution (start to end)

- (A) Target code generation
- (B) Syntax Analysis
- (C) Code optimization
- (D) Semantic Analysis
- (E) Lexical Analysis

Choose the **correct** answer from the options given below :

- (1) (B), (E), (D), (A), (C)
- (2) (E), (D), (B), (A), (C)
- (3) (E), (B), (D), (C), (A)
- (4) (B), (D), (E), (A), (C)

**Options :**

87827098961. 1

87827098962. 2

87827098963. 3

87827098964. 4

**Question Number : 132 Question Id : 87827025070 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The prototyping model has the sequence :

- (A) Customer Evaluation
- (B) Quick design
- (C) Requirements
- (D) Implement
- (E) Design

Choose the **correct** answer from the options given below :

- (1) (C)→(A)→(D)→(B)→(E)
- (2) (B)→(C)→(A)→(D)→(E)
- (3) (C)→(B)→(D)→(A)→(E)
- (4) (E)→(B)→(C)→(D)→(A)

**Options :**

87827098965. 1

87827098966. 2

87827098967. 3

87827098968. 4

**Question Number : 132 Question Id : 87827025070 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The prototyping model has the sequence :

- (A) Customer Evaluation
- (B) Quick design
- (C) Requirements
- (D) Implement
- (E) Design

Choose the **correct** answer from the options given below :

- (1) (C)→(A)→(D)→(B)→(E)
- (2) (B)→(C)→(A)→(D)→(E)
- (3) (C)→(B)→(D)→(A)→(E)
- (4) (E)→(B)→(C)→(D)→(A)

**Options :**

87827098965. 1

87827098966. 2

87827098967. 3

87827098968. 4

**Question Number : 133 Question Id : 87827025071 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following encoding strategies used in Genetic Algorithms (GAs) in the correct sequence starting from the initial step and ending with the final representation of solutions :

- (A) Binary Encoding
- (B) Real valued Encoding
- (C) Permutation Encoding
- (D) Gray coding

Choose the **correct** answer from the options given below :

- (1) (D), (B), (A), (C)
- (2) (B), (D), (A), (C)
- (3) (C), (D), (A), (B)
- (4) (B), (C), (A), (D)

**Options :**

87827098969. 1

87827098970. 2

87827098971. 3

87827098972. 4

**Question Number : 133 Question Id : 87827025071 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following encoding strategies used in Genetic Algorithms (GAs) in the correct sequence starting from the initial step and ending with the final representation of solutions :

- (A) Binary Encoding
- (B) Real valued Encoding
- (C) Permutation Encoding
- (D) Gray coding

Choose the **correct** answer from the options given below :

- (1) (D), (B), (A), (C)
- (2) (B), (D), (A), (C)
- (3) (C), (D), (A), (B)
- (4) (B), (C), (A), (D)

**Options :**

87827098969. 1

87827098970. 2

87827098971. 3

87827098972. 4

**Question Number : 134 Question Id : 87827025072 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps in the correct order for a DHCP Client to renew its IP lease with a DHCP server :

- (A) DHCP client sends a DHCPREQUEST message
- (B) DHCP server acknowledges the renewal with a DHCPACK message
- (C) DHCP client checks the local lease timer and initiates renewal
- (D) DHCP server updates its lease database

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D)
- (2) (C), (D), (B), (A)
- (3) (C), (B), (A), (D)
- (4) (C), (A), (B), (D)

**Options :**

87827098973. 1

87827098974. 2

87827098975. 3

87827098976. 4

**Question Number : 134 Question Id : 87827025072 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps in the correct order for a DHCP Client to renew its IP lease with a DHCP server :

- (A) DHCP client sends a DHCPREQUEST message
- (B) DHCP server acknowledges the renewal with a DHCPACK message
- (C) DHCP client checks the local lease timer and initiates renewal
- (D) DHCP server updates its lease database

Choose the **correct** answer from the options given below :

- (1) (A), (B), (C), (D)
- (2) (C), (D), (B), (A)
- (3) (C), (B), (A), (D)
- (4) (C), (A), (B), (D)

**Options :**

87827098973. 1

87827098974. 2

87827098975. 3

87827098976. 4

**Question Number : 135 Question Id : 87827025073 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps in the correct sequence for applying an unsupervised learning technique such as K-means clustering is to a data set :

- (A) Randomly initialize cluster centroids
- (B) Assign each data point to nearest cluster centroid
- (C) Update the cluster centroids based on the mean of data points assigned to each cluster
- (D) Specify the number of clusters (K) to partation the data into
- (E) Repeat steps B and C until convergence criteria are met

Choose the **correct** answer from the options given below :

- (1) (D), (A), (B), (C), (E)
- (2) (A), (B), (C), (D), (E)
- (3) (C), (B), (A), (D), (E)
- (4) (D), (C), (A), (B), (E)

**Options :**

87827098977. 1

87827098978. 2

87827098979. 3

87827098980. 4

**Question Number : 135 Question Id : 87827025073 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps in the correct sequence for applying an unsupervised learning technique such as K-means clustering is to a data set :

- (A) Randomly initialize cluster centroids
- (B) Assign each data point to nearest cluster centroid
- (C) Update the cluster centroids based on the mean of data points assigned to each cluster
- (D) Specify the number of clusters (K) to partation the data into
- (E) Repeat steps B and C until convergence criteria are met

Choose the **correct** answer from the options given below :

- (1) (D), (A), (B), (C), (E)
- (2) (A), (B), (C), (D), (E)
- (3) (C), (B), (A), (D), (E)
- (4) (D), (C), (A), (B), (E)

**Options :**

87827098977. 1

87827098978. 2

87827098979. 3

87827098980. 4

**Question Number : 136 Question Id : 87827025074 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** If  $H$  is non empty finite subset of a group  $G$  and  $ab \in H \forall a, b \in H$ , then  $H$  is also a group

**Statement (II) :** There is no homomorphism exist from  $(\mathbb{Z}, +)$  to  $(\mathbb{Q}, +)$ ; where  $\mathbb{Z}$  is set of integers and  $\mathbb{Q}$  is set of rational number.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098981. 1

87827098982. 2

87827098983. 3

87827098984. 4

**Question Number : 136 Question Id : 87827025074 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** If  $H$  is non empty finite subset of a group  $G$  and  $ab \in H \forall a, b \in H$ , then  $H$  is also a group

**Statement (II) :** There is no homomorphism exist from  $(\mathbb{Z}, +)$  to  $(\mathbb{Q}, +)$ ; where  $\mathbb{Z}$  is set of integers and  $\mathbb{Q}$  is set of rational number.

In the light of the above statements, choose the most appropriate answer from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098981. 1

87827098982. 2

87827098983. 3

87827098984. 4

**Question Number : 137 Question Id : 87827025075 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The friend function and the member functions of a friend class directly access the private and protected data.

**Statement (II) :** The friend function can access the private data through the member functions of the base class

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098985. 1

87827098986. 2

87827098987. 3

87827098988. 4

**Question Number : 137 Question Id : 87827025075 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** The friend function and the member functions of a friend class directly access the private and protected data.

**Statement (II) :** The friend function can access the private data through the member functions of the base class

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098985. 1

87827098986. 2

87827098987. 3

87827098988. 4

**Question Number : 138 Question Id : 87827025076 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** A thread is a dispatchable unit of work that does not execute sequentially and is not interruptible

**Statement (II) :** It is not possible to alter the behaviour of a thread by altering its context when thread is suspended

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098989. 1

87827098990. 2

87827098991. 3

87827098992. 4

**Question Number : 138 Question Id : 87827025076 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** A thread is a dispatchable unit of work that does not executes sequentially and is not interruptible

**Statement (II) :** It is not possible to alter the behaviour of a thread by altering its context when thread is suspended

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098989. 1

87827098990. 2

87827098991. 3

87827098992. 4

**Question Number : 139 Question Id : 87827025077 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** In Reuse Oriented Model, Modification of the old system parts appropriate to the new requirements.

**Statement (II) :** In Reuse Oriented Model, Integration of the modified parts are not possible into the new systems.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098993. 1

87827098994. 2

87827098995. 3

87827098996. 4

**Question Number : 139 Question Id : 87827025077 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** In Reuse Oriented Model, Modification of the old system parts appropriate to the new requirements.

**Statement (II) :** In Reuse Oriented Model, Integration of the modified parts are not possible into the new systems.

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098993. 1

87827098994. 2

87827098995. 3

87827098996. 4

**Question Number : 140 Question Id : 87827025078 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** In datagram networks - routers hold state information about connections

**Statement (II) :** In virtual circuit network- each virtual circuit requires router table space per connection

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098997. 1

87827098998. 2

87827098999. 3

87827099000. 4

**Question Number : 140 Question Id : 87827025078 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Given below are two statements :

**Statement (I) :** In datagram networks - routers hold state information about connections

**Statement (II) :** In virtual circuit network- each virtual circuit requires router table space per connection

In the light of the above statements, choose the **most appropriate answer** from the options given below :

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

**Options :**

87827098997. 1

87827098998. 2

87827098999. 3

87827099000. 4

**Sub-Section Number :** 2

**Sub-Section Id :** 8782701093

**Question Shuffling Allowed :** Yes

**Is Section Default? :** null

**Question Id : 87827025079 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (141 to 145)**

**Question Label : Comprehension**

Food X contains 6 units of Vitamin D per gram and 7 units of Vitamin E per gram and cost is Rs 12 per gram. Food Y contains 8 units of vitamin D per gram and 12 units of Vitamin E per gram and cost is Rs 20 per gram. The daily minimum requirements of vitamin D and E are 100 units and 120 units respectively.

Suppose  $x$  is quantity (in gram) of food X,  $y$  is quantity (in gram) of food Y.

Answering the following question based on the above paragraph given.

## **Sub questions**

**Question Number : 141 Question Id : 87827025080 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The cost function of total food is :

- (1)  $Z = 6x + 7y$
- (2)  $Z = 8x + 12y$
- (3)  $Z = 12x + 20y$
- (4)  $Z = 20x + 12y$

**Options :**

87827099001. 1

87827099002. 2

87827099003. 3

87827099004. 4

**Question Number : 142 Question Id : 87827025081 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following constraints when formulating the LPP ?

- (1)  $6x + 7y \leq 100, 8x + 12y \leq 120, x, y \geq 0$
- (2)  $6x + 8y \leq 100, 7x + 12y \leq 120, x, y \geq 0$
- (3)  $6x + 7y \geq 100, 8x + 12y \geq 120, x, y \geq 0$
- (4)  $6x + 8y \geq 100, 7x + 12y \geq 120, x, y \geq 0$

**Options :**

87827099005. 1

87827099006. 2

87827099007. 3

87827099008. 4

**Question Number : 143 Question Id : 87827025082 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are quantities (in grams) of food X and Y respectively when the cost of food is minimum :

(1) 0 and  $12\frac{1}{2}$

(2) 15 and  $\frac{5}{4}$

(3)  $\frac{120}{7}$  and 0

(4) 0 and 10

**Options :**

87827099009. 1

87827099010. 2

87827099011. 3

87827099012. 4

**Question Number : 144 Question Id : 87827025083 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The dual of the formulated LPP is :

(1) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \leq 12$$

$$8u + 12v \leq 20$$

$$u, v \geq 0$$

(2) Max  $Z = 12u + 20v$

s.t.

$$6u + 7v \leq 100$$

$$8u + 12v \leq 120$$

$$u, v \geq 0$$

(3) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \leq 12$$

$$8u + 7v \leq 20$$

$u, v$  are unrestricted

(4) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \geq 12$$

$$8u + 12v \geq 20$$

$$u, v \geq 0$$

**Options :**

87827099013. 1

87827099014. 2

87827099015. 3

87827099016. 4

**Question Number : 145 Question Id : 87827025084 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The minimum cost of food is :

- (1) 205
- (2) 250
- (3) 330
- (4) 200

**Options :**

87827099017. 1

87827099018. 2

87827099019. 3

87827099020. 4

**Question Id : 87827025079 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (141 to 145)**

Question Label : Comprehension

Food X contains 6 units of Vitamin D per gram and 7 units of Vitamin E per gram and cost is Rs 12 per gram. Food Y contains 8 units of vitamin D per gram and 12 units of Vitamin E per gram and cost is Rs 20 per gram. The daily minimum requirements of vitamin D and E are 100 units and 120 units respectively.

Suppose  $x$  is quantity (in gram) of food X,  $y$  is quantity (in gram) of food Y.

Answering the following question based on the above paragraph given.

**Sub questions**

**Question Number : 141 Question Id : 87827025080 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The cost function of total food is :

- (1)  $Z = 6x + 7y$
- (2)  $Z = 8x + 12y$
- (3)  $Z = 12x + 20y$
- (4)  $Z = 20x + 12y$

**Options :**

87827099001. 1

87827099002. 2

87827099003. 3

87827099004. 4

**Question Number : 142 Question Id : 87827025081 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following constraints when formulating the LPP ?

- (1)  $6x + 7y \leq 100, 8x + 12y \leq 120, x, y \geq 0$
- (2)  $6x + 8y \leq 100, 7x + 12y \leq 120, x, y \geq 0$
- (3)  $6x + 7y \geq 100, 8x + 12y \geq 120, x, y \geq 0$
- (4)  $6x + 8y \geq 100, 7x + 12y \geq 120, x, y \geq 0$

**Options :**

87827099005. 1

87827099006. 2

87827099007. 3

87827099008. 4

**Question Number : 143 Question Id : 87827025082 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are quantities (in grams) of food X and Y respectively when the cost of food is minimum :

(1) 0 and  $12\frac{1}{2}$

(2) 15 and  $\frac{5}{4}$

(3)  $\frac{120}{7}$  and 0

(4) 0 and 10

**Options :**

87827099009. 1

87827099010. 2

87827099011. 3

87827099012. 4

**Question Number : 144 Question Id : 87827025083 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The dual of the formulated LPP is :

(1) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \leq 12$$

$$8u + 12v \leq 20$$

$$u, v \geq 0$$

(2) Max  $Z = 12u + 20v$

s.t.

$$6u + 7v \leq 100$$

$$8u + 12v \leq 120$$

$$u, v \geq 0$$

(3) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \leq 12$$

$$8u + 7v \leq 20$$

$u, v$  are unrestricted

(4) Max  $Z = 100u + 120v$

s.t.

$$6u + 7v \geq 12$$

$$8u + 12v \geq 20$$

$$u, v \geq 0$$

**Options :**

87827099013. 1

87827099014. 2

87827099015. 3

87827099016. 4

**Question Number : 145 Question Id : 87827025084 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The minimum cost of food is :

- (1) 205
- (2) 250
- (3) 330
- (4) 200

**Options :**

87827099017. 1

87827099018. 2

87827099019. 3

87827099020. 4

**Sub-Section Number :** 3

**Sub-Section Id :** 8782701094

**Question Shuffling Allowed :** Yes

**Is Section Default? :** null

**Question Id : 87827025085 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (146 to 150)**

Question Label : Comprehension

Consider the following relations X (S, Si, C) and Y (S, P, D).

X Y

S	Si	C
J	1	M
B	2	N
R	3	H
T	4	G

S	P	D
J	S <sub>1</sub>	CA
B	P <sub>1</sub>	AB
R	D <sub>1</sub>	DC
A	H <sub>1</sub>	MD

**Sub questions**

**Question Number : 146 Question Id : 87827025086 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Find the number of tuples by applying the operation  $x \bowtie_{x.s=y.s} y$

- (1) 1
- (2) 3
- (3) 4
- (4) 6

**Options :**

87827099021. 1

87827099022. 2

87827099023. 3

87827099024. 4

**Question Number : 147 Question Id : 87827025087 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Result of  $X \bowtie_{x.s} Y$  is :

(1)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
T	4	G	Null	Null

(2)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
A	Null	Null	H <sub>1</sub>	MD

(3)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
T	4	G	Null	MD
A	Null	Null	H <sub>1</sub>	Null

(4) None of these

**Options :**

87827099025. 1

87827099026. 2

87827099027. 3

87827099028. 4

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following join is used to get all the tuples of relation X and Y with Null values of corresponding missing values ?

- (1) Left outer join
- (2) Right outer join
- (3) Natural join
- (4) Full outer join

**Options :**

87827099029. 1

87827099030. 2

87827099031. 3

87827099032. 4

**Question Number : 149 Question Id : 87827025089 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Number of tuples by applying right outer join on relation X and Y is/are :

- (1) 16
- (2) 5
- (3) 3
- (4) 4

**Options :**

87827099033. 1

87827099034. 2

87827099035. 3

87827099036. 4

**Question Number : 150 Question Id : 87827025090 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Number of tuples obtained by applying cartesian product over X and Y are :

- (1) 16
- (2) 12
- (3) 04
- (4) 32

**Options :**

87827099037. 1

87827099038. 2

87827099039. 3

87827099040. 4

**Question Id : 87827025085 Question Type : COMPREHENSION Sub Question Shuffling Allowed**

**: Yes Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (146 to 150)**

Question Label : Comprehension

Consider the following relations X (S, Si, C) and Y (S, P, D).

X

S	Si	C
J	1	M
B	2	N
R	3	H
T	4	G

Y

S	P	D
J	S <sub>1</sub>	CA
B	P <sub>1</sub>	AB
R	D <sub>1</sub>	DC
A	H <sub>1</sub>	MD

**Sub questions**

**Question Number : 146 Question Id : 87827025086 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Find the number of tuples by applying the operation  $X \bowtie_{x.s=y.s} Y$

- (1) 1
- (2) 3
- (3) 4
- (4) 6

**Options :**

87827099021. 1

87827099022. 2

87827099023. 3

87827099024. 4

**Question Number : 147 Question Id : 87827025087 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Result of  $X \bowtie_{x.s} Y$  is :

(1)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
T	4	G	Null	Null

(2)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
A	Null	Null	H <sub>1</sub>	MD

(3)

S	Si	C	P	D
J	1	M	S <sub>1</sub>	CA
B	2	N	P <sub>1</sub>	AB
R	3	H	D <sub>1</sub>	DC
T	4	G	Null	MD
A	Null	Null	H <sub>1</sub>	Null

(4) None of these

**Options :**

87827099025. 1

87827099026. 2

87827099027. 3

87827099028. 4

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following join is used to get all the tuples of relation X and Y with Null values of corresponding missing values ?

- (1) Left outer join
- (2) Right outer join
- (3) Natural join
- (4) Full outer join

**Options :**

87827099029. 1

87827099030. 2

87827099031. 3

87827099032. 4

**Question Number : 149 Question Id : 87827025089 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Number of tuples by applying right outer join on relation X and Y is/are :

- (1) 16
- (2) 5
- (3) 3
- (4) 4

**Options :**

87827099033. 1

87827099034. 2

87827099035. 3

87827099036. 4

**Question Number : 150 Question Id : 87827025090 Question Type : MCQ Option Shuffling : No**

**Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A**

**Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Number of tuples obtained by applying cartesian product over X and Y are :

- (1) 16
- (2) 12
- (3) 04
- (4) 32

**Options :**

87827099037. 1

87827099038. 2

87827099039. 3

87827099040. 4