National Testing Agency

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87 Computer Science and Applications

Group Number :	1
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Group Maximum Duration :	0
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PART I General Aptitude

Section Id :	646350459
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	42
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Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	6463501073
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 64635021740 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

To organize discussion method in teaching effectively, which of the following conditions should be met?

(a) Topic be easy

(b) Topic be declared in advance

(c) Topic of common interest

(d) Availability of more than one teacher

(e) Language facility of participants

Select appropriate answer from the options given below :

(1) (b), (c) and (e)

(2) (a), (b) and (c)

(3) (a), (b) and (e)

(4) (c), (d) and (e)

Options :

64635085339. 1

64635085340. 2

64635085341. 3

64635085342. 4

Question Number : 1 Question Id : 64635021740 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शिक्षण में चर्चा पद्धति को प्रभावशाली रूप से आयोजित करने के लिए निम्नलिखित शर्तों को पूरा होना चाहिए :

(a) विषय सरल हो

(b) विषय णहले से ही घोषित हो

(c) विषय सामान्य रुचि का हो

(d) एक से अधिक शिक्षक की उपलब्धता

(e) सहभागियों की भाषा की सहजता

नीचे दिए गए विकल्पो से उचित उत्तर चुनिए :

(1) (b), (c) और (e)

(2) (a), (b) और (c)

(3) (a), (b) और (e)

(4) (c), (d) और (e)

Options :

64635085339. 1

64635085340. 2

64635085341. 3

64635085342. 4

Question Number : 2 Question Id : 64635021741 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Who developed the theory of 'Multiple Intelligence'?

(1) Alfred Binet
(2) L. Thurstone
(3) Charles Spearman
(4) Howard Gardner

Options :

64635085343. 1

64635085344. 2

64635085345. 3

64635085346. 4

Question Number : 2 Question Id : 64635021741 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

बहुल बुद्धि सिद्धान्त का विकास किसने किया?

(1) अल्फ्रेड बिनेट
(2) एल. थर्सटोन
(3) चार्ल्स स्पीयरमैन
(4) होवार्ड गार्डनर

Options :

64635085343. 1

64635085344. 2

64635085345. 3

64635085346. 4

Question Number : 3 Question Id : 64635021742 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

From the list of the effective teaching behaviours, identify those which are called key behaviours.

(i) Direct, audible and oral delivery to all students
(ii) Encouraging students to elaborate on an answer
(iii) Warm and nurturing relationships with learners
(iv) Varying modes of presentation
(v) Preventing misbehaviour with a minimum of class disruption
(vi) Organising what is to come and summarising what has gone before

Select your answer from the options given below :

(1) (i), (iv) and (v)
(2) (i), (ii) and (iii)
(3) (ii), (iii) and (iv)
(4) (iv), (v) and (vi)

Options :

64635085347. 1

64635085348. 2

64635085349. 3

64635085350. 4

Question Number : 3 Question Id : 64635021742 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

प्रभावशाली शिक्षण व्यवहारों की सूची में से उन्हें चुनिए जिन्हें मुख्य व्यवहार कहा जाता है।

(i) सभी विद्यार्थियों को प्रत्यक्ष, श्रव्य और मौखिक प्रदायगी

(ii) विद्यार्थियों को उत्तर विस्तारित करने के लिए प्रोत्साहित करना

(iii) अधिगमकर्ताओं के साथ उत्साहपूर्ण और शिक्षाप्रदायी संबंध

(iv) प्रस्तुतीकरण के विविध तरीके

(v) कक्षा को कम से कम अस्त व्यस्त करते हुए दुर्व्यवहार को रोकना

(vi) आगामी को संगठित करना तथा व्यतीत का सार प्रस्तुत करना

अपना उत्तर नीचे दिए गए विकल्पों से चुनिए :

(1) (i), (iv) और (v)

(2) (i), (ii) और (iii)

(3) (ii), (iii) और (iv)

(4) (iv), (v) और (vi)

Options :

64635085347. 1

64635085348. 2

64635085349. 3

64635085350. 4

Question Number : 4 Question Id : 64635021743 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements explains the concepts of inclusive teaching?

(1) Teacher facilitates the learning of the gifted students

(2) Teacher facilitates the learning of the weak students

(3) Teacher takes support of parents of the students to make them learn

(4) Teacher makes the students of different backgrounds to learn together in the same class

Options :

64635085351. 1

64635085352. 2

64635085353. 3

64635085354. 4

Question Number : 4 Question Id : 64635021743 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित कथनों में से कौन सा समावेशी शिक्षण की अवधारणा की व्याख्या करता है?

(1) शिक्षक नैसर्गिक रूप से प्रतिभावान विद्यार्थियों के अधिगम को सुकर बनाता है।

(2) शिक्षक कमजोर विद्यार्थियों के अधिगम को सुकर बनाता है।

(3) शिक्षक विद्यार्थियों को सिखाने के लिए उनके माता पिता का सहयोग लेता है।

(4) शिक्षक विभिन्न पृष्ठभूमियों के विद्यार्थियों को एक ही कक्षा में एक साथ सिखाता है।

Options :

64635085351. 1

64635085352. 2

64635085353. 3

64635085354. 4

Question Number : 5 Question Id : 64635021744 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which among the following best describes the Emotional Intelligence of learners?

(a) Understand the emotion of other people and your own

(b) Express oneself very strongly

(c) Being rational in thinking

(d) Adjusting one's emotion as per situation

(e) Being creative and open to criticism

(f) Accepting other people as they are

Choose your answer from the options given below :

(1) (a), (d) and (f)

(2) (d), (e) and (f)

(3) (a), (b) and (c)

(4) (b), (c) and (d)

Options :

64635085355. 1

64635085356. 2

64635085357. 3

64635085358. 4

Question Number : 5 Question Id : 64635021744 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा अधिगमकर्त्ताओं को संवेगावात्मक बुद्धि का सर्वोत्तम विवरण प्रस्तुत करता है?

(a) दूसरे लोगों और स्वयं अपने संवेग को समझना

(b) स्वंय को बलपूर्वक अभिव्यक्त करना

(c) चिंतन में विवेकपूर्ण होना

(d) स्थिति के अनुरूप अपने संवेगों का समायोजन करना

(e) रचनात्मक और आलोचना के प्रति खुला होना

(f) अन्य लोगों को जैसे वे हैं वैसा ही स्वीकार करना

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए :

(1) (a), (d) और (f)

(2) (d), (e) और (f)

(3) (a), (b) और (c)

(4) (b), (c) और (d)

Options :

64635085355. 1

64635085356. 2

64635085357. 3

64635085358. 4

Question Number : 6 Question Id : 64635021745 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Bibliography given in a research report

(1) Helps those interested in further research

(2) Shows the vast knowledge of the researcher

(3) Makes the report authentic

(4) Is an optional part of the report

Options :

64635085359. 1

64635085360. 2

64635085361. 3

64635085362. 4

Question Number : 6 Question Id : 64635021745 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शोध – रिपोर्ट में दी गई ग्रंथ – सूची

(1) और आगे शोध में रुचि रखने वालों की सहायता करती है

(2) शोधकर्त्ता के विशद् ज्ञान को दर्शाता है

(3) रिपोर्ट को प्रमाणिक बनाता है

(4) रिपोर्ट का वैकल्पिक भाग है

Options :

64635085359. 1

64635085360. 2

64635085361. 3

64635085362. 4

Question Number : 7 Question Id : 64635021746 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The research design is specifically related to which of the following features in research?

(i) Sample selection

(ii) Formulation of a plan

(iii) Deciding about the tool for data collection

(iv) Hypothesis making

(v) Choice of a field of inquiry

Select your answer from the options given below.

(1) (ii), (iii) and (iv)

(2) (i), (ii) and (iii)

(3) (ii), (iv) and (v)

(4) (iii), (iv) and (v)

Options :

64635085363. 1

64635085364. 2

64635085365. 3

64635085366. 4

Question Number : 7 Question Id : 64635021746 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शोध डिजायन शोध में निम्नलिखित किन विशेषताओं से विशेष रूप से संबंधित है?

(i) प्रतिदर्श चयन

(ii) योजना का निर्माण

(iii) डेटा संग्रहण के टूल के बारे में निर्णय लेना

(iv) परिकल्पना निर्माण

(v) पृच्छा-अनुक्षेत्र का चयन

नीचे दिए गए विकल्पों से अपना उत्तर चुनिए।

(1) (ii), (iii) और (iv)

(2) (i), (ii) और (iii)

(3) (ii), (iv) और (v)

(4) (iii), (iv) और (v)

Options :

64635085363. 1

64635085364. 2

64635085365. 3

64635085366. 4

Question Number : 8 Question Id : 64635021747 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Through which research method, the manipulation of an independent variable and its effect on dependent variable is examined with reference to a hypothesis under controlled conditions?

(1) Ex-post facto research

(2) Descriptive research

(3) Case study research

(4) Experimental research

Options :

64635085367. 1

64635085368. 2

64635085369. 3

64635085370. 4

Question Number : 8 Question Id : 64635021747 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

किस शोध पद्धति के माध्यम से नियंत्रित दशाओं के अधीन परिकल्पना के संदर्भ में एक स्वतंत्र चर के हेर-फेर और आश्रित चर पर इसके प्रभाव की जांच की जाती है?

(1) कार्योत्तर शोध

(2) वर्णनात्मक शोध

(3) केस स्टडी शोध

(4) प्रयोगात्मक शोध

Options :

64635085367. 1

64635085368. 2

64635085369. 3

64635085370. 4

Question Number : 9 Question Id : 64635021748 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In which of the following research studies interpretation and meaning get more attention than formulation of generalisations?

(i) Historical studies

(ii) Survey studies

(iii) Philosophical studies

(iv) Ethnographic studies

(v) Hypothetico – deductive studies

(vi) Ex-post facto studies

Choose your answer from the options given below.

(1) (i), (ii) and (iii)

(2) (iv), (v) and (vi)

(3) (ii), (iv) and (v)

(4) (i), (iii) and (iv)

Options :

64635085371. 1

64635085372. 2

64635085373. 3

64635085374. 4

Question Number : 9 Question Id : 64635021748 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित शोध अध्ययनों में से किसमें सामान्यीकरण के निरूपण की अपेक्षा व्याख्या और अर्थ पर अधिक ध्यान दिया जाता है?

(i) ऐतिहासिक अध्ययन

(ii) सर्वेक्षण अध्ययन

(iii) दार्शनिक अध्ययन

(iv) नृजातीय अध्ययन

(v) प्राक्कल्पना निगमनात्मक अध्ययन

(vi) कार्योत्तर अध्ययन

नीचे दिए गए विकल्पों से अपना उत्तर चुनिए।

(1) (i), (ii) और (iii)

(2) (iv), (v) और (vi)

(3) (ii), (iv) और (v)

(4) (i), (iii) और (iv)

Options :

64635085371. 1

64635085372. 2

64635085373. 3

64635085374. 4

Question Number : 10 Question Id : 64635021749 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is a plagiarism checking website?

(1) http://go.turnitin.com

(2) http://www.researchgate.com

(3) http://www.editorial.elsevier.com

(4) http://www.grammarly.com

Options :

64635085375. 1

64635085376. 2

64635085377. 3

64635085378. 4

Question Number : 10 Question Id : 64635021749 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन-सा साहित्यिक चोरी की जांच का वेबसाइट है?

(1) http://go.turnitin.com

(2) http://www.researchgate.com

(3) http://www.editorial.elsevier.com

(4) http://www.grammarly.com

Options :

64635085375. 1

64635085376. 2

64635085377. 3

64635085378. 4

Sub-Section Number:	2
Sub-Section Id:	6463501074
Question Shuffling Allowed :	Yes

Question Id : 64635021750 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (11 to 15)

Question Label : Comprehension

Michaelangelo is famous for having successfully interpreted the human body. His great achievement is that of the painting of David whose hands reach out as a sign of human capability and potential. It is assumed that the time he lived was ripe for exchange of knowledge, development in science and matured enough to advance the horizon of investigation in all fields. Renaissance humanism stressed on a serious rethink on the nature of art that focussed on accurate details. In painting and sculpture, artists focussed on not so casual but verifiable and minute details. Michaelangelo's paintings are no exception to it. In a study published in the journal of the Royal Society of medicine, a group of surgeons are of the opinion that the great master was "afflicted by an illness involving his joints". They have used his portraits as evidence to argue their view. During his life, he complained of what he felt to be 'gout'. Later he complained of his sore and stiff hands which the doctors would find to be natural for someone who was engaged in handmade art. The doctors found corroboration of those claims in portraits of the artist that show a hanging left hand with both degenerative and non-degenerative changes. They attribute the pain not just to arthritis, but to the stress of hammering and chiseling and note that though the master was seen hammering days before his death at an old age, he did not write or sign his own letters before his death. In recent times there have been attempts to diagnose famous artists with diseases that were not known during their time. This practice has raised many questions, especially on the issue of ethics in research. It is also inferred from authentic analysis that Michaelangelo persisted in his work until his last days. This theory would emphasize that his artistic subject defied his physical infirmities.

Sub questions

Question Number : 11 Question Id : 64635021751 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Michaelangelo lived during a time that lets us know that

(1) Human aspirations are limitless and open to new vistas of knowledge

(2) Cross cultural exchange in ideas is the only way for human progress

(3) It is progress of science and anatomy that contributes to civilizations exclusively

(4) Human beings possess language which is the only key to knowledge

Options :

64635085379. 1

64635085380. 2

64635085381. 3

64635085382. 4

Question Number : 12 Question Id : 64635021752 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Renaissance painting in Europe was sceptical of

(1) The obsessive medieval method of accuracy

(2) The classical simplicity and lack of control

(3) The case and decorative excess of earlier art

(4) Expressionist technique

Options :

64635085383. 1

64635085384. 2

64635085385. 3

64635085386. 4

Question Number : 13 Question Id : 64635021753 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The controversy that the passage above refers to is whether

(1) Michaelangelo worked under duress

(2) Michaelangelo could contain his physical infirmity by artistic excellence

(3) Michaelangelo submitted to disease

(4) Michaelangelo survived different diseases before pursuing art

Options :

64635085387. 1

64635085388. 2

64635085389. 3

64635085390. 4

Question Number : 14 Question Id : 64635021754 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What generalisations do people subscribe to?

(1) Establishing facts by DNA tests

(2) Inferring the essence of character from famous people's handwriting

(3) Carbon dating of the hair of celebrities to draw conclusion on their physical structure

(4) To retroactively diagnose famous artists and public figures of conditions that were not prevalent during their time

Options :

64635085391. 1

64635085392. 2

64635085393. 3

64635085394. 4

Question Number : 15 Question Id : 64635021755 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What actually may be concluded from the above passage?

(1) Physical infirmities do dissuade people with capabilities from excelling

(2) Excellence in any form triumphs over extraneous factors including physical ailments

(3) Michaelangelo's gout and other ailments lessened his efficiency

(4) The diseases Michaelangelo faced were due to constant hammering

Options :

64635085395. 1

64635085396. 2

64635085397. 3

64635085398. 4

Question Id : 64635021750 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (11 to 15)

Question Label : Comprehension

माइकल एन्जेलो मानव शरीर की सफल व्याख्या करने के लिए प्रसिद्ध हैं। उनकी महान उपलब्धि डेविड जो मानव की योग्यता और क्षमता के प्रतीक के रूप में विधमान हैं का चित्रांकन है। यह माना जाता है कि वे जिस युग में थे, वह ज्ञान के आदान-प्रदान, विज्ञान के विकास के लिए उपयुक्त था तथा सभी क्षेत्रों में जांच के क्षितिज के विस्तार हेतु पर्याप्त रूप से अनुकूल था। पुनर्जागरण कालीन मानववाद ने कला की प्रकृति, जो सटीक विवरणों पर केंद्रित थी, पर गंभीर पुनर्चिंतन पर बल दिया है। चित्रकला और मूर्तिकला में नैमित्तिक की बजाय सत्यापनीय तथा सूक्ष्म विवरणों पर ध्यान केंद्रित किया गया। माइकल एन्जेलो के चित्र भी इसके अपवाद नहीं हैं। रॉयल सोसाइटी ऑफ मेडिसिन के जर्नल में प्रकाशित एक अध्ययन में शल्य चिकित्सकों के एक समूह का मानना है कि यह महान सिद्धहस्त व्यक्ति अपने जोड़ों की बीमारी से ग्रस्त था। उन्होंने उनके रूपचित्र को अपने विचार के समर्थन में साक्ष्य के रूप में प्रयोग किया है। अपने जीवन के दौरान उसने जिस गठिया को महसूस किया, उसकी शिकायत की। बाद में उसने दुखते और सख्त हाथों की शिकायत की, जिसे डाक्टर हस्तनिर्मित कला में संलग्न किसी व्यक्ति के बारे में स्वाभाविक मानेंगे। चिकित्सकों को कलाकार के चित्रों में उन दावों की पुष्टि मिली जिस्में अपक्षयनात्मक और गैर अपक्षयनात्मक दोनों परिवर्तनों सहित झूलते हुए बाएं हाथ को दिखाया गया है। वे दर्द का कारण न सिर्फ गठिया को बताते हैं, अपितु हथौड़ी और छेनी के प्रयोग के दबाव को भी मानते हैं और यह पाते हैं कि यद्यपि यह सिद्धहस्त व्यक्ति वृद्धावस्था में अपनी मृत्यु से पूर्व के दिनों में हथौड़ी का प्रयोग करता हुआ देखा गया, अपनी मृत्यु से पहले उसने न तो अपने पत्र लिखे ना ही हस्ताक्षर किए। हाल ही में उनके समय की अज्ञात बीमारियों से ग्रस्त प्रसिद्ध कलाकारों का निदान करने के प्रयत्न किये गये हैं। इस प्रचलन ने, विशेषकर शोध में नैतिकता के मुद्दे पर बहुत से प्रश्न खड़े किये हैं। प्रामाणिक विश्लेषण से यह भी निष्कर्ष निकाला गया है कि माइकल एन्जेलो अपने जीवन के अंतिम दिनों तक कार्य करता रहा था। यह सिद्धान्त इस बात पर बल देगा कि उसके कला विषय ने उसकी शारीरिक निःशक्तता की अवज्ञा की।

Sub questions

Question Number : 11 Question Id : 64635021751 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

माइकल एन्जेलो उस काल के दौरान था, जो हमें यह ज्ञात कराता है कि :

(1) मानव आकांक्षाएं असीम हैं और ज्ञान के नए क्षेत्रों के लिए खुली हैं

(2) विचारों का अंतः सांस्कृतिक आदान-प्रदान मानव प्रगति का एक मात्र रास्ता है

(3) यह विज्ञान और शरीर रचना विज्ञान की प्रगति है, जो अनन्य रूप से सभ्यताओं को योगदान करती है

(4) मानवजाति के पास भाषा है, जो ज्ञान की एकमात्र कुंजी है

Options :

64635085379. 1

64635085380. 2

64635085381. 3

64635085382. 4

Question Number : 12 Question Id : 64635021752 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

यूरोप में पुनर्जागरण चित्रकला किसके बारे में संदेहवादी थी?

(1) परिशुद्धता की मनोग्रसित मध्यकालीन पद्धति

(2) श्रेण्य सहजता और नियंत्रण का अभाव

(3) पूर्व की कला की सरलता तथा अलंकरणीय अतिशयता

(4) अभिव्यंजनवादी तकनीक

Options :

64635085383. 1

64635085384. 2

64635085385. 3

64635085386. 4

Question Number : 13 Question Id : 64635021753 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उपर्युक्त गद्यांश इस विवाद के बारे में है कि क्या :

(1) माइकल एन्जेलो ने दबाव में काम किया

(2) माइकल एन्जेलो कलात्मक उत्कृष्टता के द्वारा अपनी शारीरिक अशक्तता को कम कर सकता था

(3) माइकल एन्जेलो अपनी बीमारी से हार गया

(4) कला का अनुसरण करने से पूर्व माइकल एन्जेलो विभिन्न बीमारियों के बाद भी जीवित रहा

Options :

64635085387. 1

64635085388. 2

64635085389. 3

64635085390. 4

Question Number : 14 Question Id : 64635021754 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

लोग किस प्रकार का सामान्यीकरण अपनाते हैं?

(1) डी एन ए जांच द्वारा तथ्यों को स्थापित करना

(2) प्रसिद्ध लोगों की हस्तलिपि से चरित्र के सार का निष्कर्ष निकालना

(3) प्रसिद्ध व्यक्तियों की शारीरिक संरचना के बारे में निष्कर्ष निकालने के लिए उनके बाल की कार्बन डेटिंग करना

(4) प्रसिद्ध कलाकारों और सार्वजनिक व्यक्तियों की दशाओं का पूर्व प्रभावी रूप से पता लगाना, जो उनके समय में प्रचलित नहीं थी

Options :

64635085391. 1

64635085392. 2

64635085393. 3

64635085394. 4

Question Number : 15 Question Id : 64635021755 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उपर्युक्त गद्यांश से वस्तुतः किस निष्कर्ष पर पहुंचा जा सकता है?

(1) शारीरिक अशक्तताएं सक्षम लोगों को उत्कृष्टता की ओर बढ़ने से रोकती है

(2) किसी भी रूप में उत्कृष्टता शारीरिक बीमारियों सहित बाहरी कारकों पर विजयी रहती है

(3) माइकल एन्जेलो की गठियां और अन्य बीमारियों ने उसकी दक्षता को कम किया

(4) माइकल एन्जेलो ने जिन बीमारियों का सामना किया, वे सतत रूप से हथौड़ी चलाने के कारण थीं

Options :

64635085395. 1

64635085396. 2

64635085397. 3

64635085398. 4

Sub-Section Number: 3

Sub-Section Id: 6463501075

Question Shuffling Allowed : Yes

Question Number : 16 Question Id : 64635021756 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The dance of the honeybee conveying to other bees where nector will be found is an example of

(1) Mass communication

(2) Group communication

(3) Interpersonal communication

(4) Intrapersonal communication

Options :

64635085399. 1

64635085400. 2

64635085401. 3

64635085402. 4

Question Number : 16 Question Id : 64635021756 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

मधुमक्खियों का नृत्य जो दूसरी मधुमक्खियों को यह बताता है कि मधुरस कहाँ मिलेगा किसका उदाहरण है ?

(1) जन संचार

(2) समूह संचार

(3) अन्तर्वैयक्तिक संचार

(4) अंतःवैयक्तिक संचार

Options :

64635085399. 1

64635085400. 2

64635085401. 3

64635085402. 4

Question Number : 17 Question Id : 64635021757 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Choose the correct sequence of communication from the options given below :

(1) Information – exposure – persuasion – behavioural change

(2) Persuasion – information – behavioural change – exposure

(3) Exposure – information – persuasion – behavioural change

(4) Behavioural change – information – persuasion – exposure

Options :

64635085403. 1

64635085404. 2

64635085405. 3

64635085406. 4

Question Number : 17 Question Id : 64635021757 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

नीचे दिए गए विकल्पों से संचार का सही क्रम चुनिए :

(1) सूचना - विगोपन - प्रत्यायन - व्यवहार संबंधी परिवर्तन

(2) प्रत्यायन - सूचना - व्यवहार संबंधी परिवर्तन - विगोपन

(3) विगोपन - सूचना - प्रत्यायन - व्यवहार संबंधी परिवर्तन

(4) व्यवहार संबंधी परिवर्तन - सूचना - प्रत्यायन - विगोपन

Options :

64635085403. 1

64635085404. 2

64635085405. 3

64635085406. 4

Question Number : 18 Question Id : 64635021758 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is a function of mass media?

(1) To transmit culture

(2) To formulate national policies

(3) To help the judiciary take its decisions

(4) To stabilise the share market

Options :

64635085407. 1

64635085408. 2

64635085409. 3

64635085410. 4

Question Number : 18 Question Id : 64635021758 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा एक मास मीडिया का कार्य है?

(1) संस्कृति को प्रसारित करना

(2) राष्ट्रीय नीति का निर्माण करना

(3) न्यायपालिका को अपना निर्णय लेने में सहायता करना

(4) शेयर बाजार को स्थिर करना

Options :

64635085407. 1

64635085408. 2

64635085409. 3

64635085410. 4

Question Number : 19 Question Id : 64635021759 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In a classroom situation, a teacher organises group discussion to help arrive at a solution of a problem. In terms of a model of communication used, it will be called

(1) A transactional model
(2) An interaction model
(3) A horizontal model
(4) A linear model

Options :

64635085411. 1

64635085412. 2

64635085413. 3

64635085414. 4

Question Number : 19 Question Id : 64635021759 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

एक क्लासरूम स्थिति की दशा में, एक शिक्षक किसी समस्या के हल पर पहुंचने में समूह चर्चा का आयोजन करता है। प्रयुक्त संचार के प्रतिमान की दृष्टि से इसे कहा जाएगा :

(1) क्रियान्वितकारी प्रतिमान
(2) अन्तर्क्रिया प्रतिमान
(3) क्षैतिज प्रतिमान
(4) रैखिक प्रतिमान

Options :

64635085411. 1

64635085412. 2

64635085413. 3

64635085414. 4

Question Number : 20 Question Id : 64635021760 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Today's media-society equation is largely

(1) Mystical
(2) Morally bound
(3) Consumer conscious
(4) Tradition centric

Options :

64635085415. 1

64635085416. 2

64635085417. 3

64635085418. 4

Question Number : 20 Question Id : 64635021760 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

आज का मीडिया-समाज समीकरण मुख्यतया है :

(1) रहस्यमयी
(2) नैतिक रूप से विवश
(3) उपभोक्ता सचेत
(4) परम्परा केन्द्रित

Options :

64635085415. 1

64635085416. 2

64635085417. 3

64635085418. 4

Question Number : 21 Question Id : 64635021761 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Oar is to rowboat as foot is to

(1) running
(2) sneaker
(3) skateboard
(4) jumping

Options :

64635085419. 1

64635085420. 2

64635085421. 3

64635085422. 4

Question Number : 21 Question Id : 64635021761 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

चप्पू का नाव खेने से वही संबंध है जो पाँव का :

(1) दौड़ने से है
(2) स्नीकर से है
(3) स्केटबोर्ड से है
(4) कूदने से है

Options :

64635085419. 1

64635085420. 2

64635085421. 3

64635085422. 4

Question Number : 22 Question Id : 64635021762 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For all integers $y > 1$, $\langle y \rangle = 2y + (2y-1) + (2y-2) + \ldots + 1$.

What is the value of $\langle 3 \rangle \times \langle 2 \rangle$? Where $\times$ is a multiplication operator?

(1) 116 (2) 210

(3) 263 (4) 478

Options :

64635085423. 1

64635085424. 2

64635085425. 3

64635085426. 4

Question Number : 22 Question Id : 64635021762 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

सभी पूर्ण संख्याओं के $y > 1$ लिए, $\langle y \rangle = 2y + (2y-1) + (2y-2) + \ldots + 1$.

$\langle 3 \rangle \times \langle 2 \rangle$ का मान क्या है? जहाँ $\times$ गुणन संकारक है :

(1) 116 (2) 210

(3) 263 (4) 478

Options :

64635085423. 1

64635085424. 2

64635085425. 3

64635085426. 4

Question Number : 23 Question Id : 64635021763 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If 152 is divided into four parts proportional to 3, 4, 5 and 7, then the smallest part is

(1) 29 (2) 26

(3) 25 (4) 24

Options :

64635085427. 1

64635085428. 2

64635085429. 3

64635085430. 4

Question Number : 23 Question Id : 64635021763 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

यदि 152 को 3, 4, 5 और 7, के समानुपातिक चार हिस्सों में विभाजित किया जाता है, तो सबसे छोटा हिस्सा है :

(1) 29 (2) 26

(3) 25 (4) 24

Options :

64635085427. 1

64635085428. 2

64635085429. 3

64635085430. 4

Question Number : 24 Question Id : 64635021764 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In a new budget, the price of petrol rose by 25%. By how much percent must a person reduce his consumption so that his expenditure on it does not increase?

(1) 10% (2) 15%

(3) 20% (4) 25%

Options :

64635085431. 1

64635085432. 2

64635085433. 3

64635085434. 4

Question Number : 24 Question Id : 64635021764 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

नए बजट में पेट्रोल की कीमत 25% बढ़ती है। एक व्यक्ति को अपनी खपत में कितना प्रतिशत कम करना होगा जिससे कि पेट्रोल पर उसका खर्च नहीं बढ़े?

(1) 10% (2) 15%

(3) 20% (4) 25%

Options :

64635085431. 1

64635085432. 2

64635085433. 3

64635085434. 4

Question Number : 25 Question Id : 64635021765 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A sum of money doubles at compound interest in 6 years. In how many years will it become 16 times?

(1) 16 years (2) 24 years

(3) 48 years (4) 96 years

Options :

64635085435. 1

64635085436. 2

64635085437. 3

64635085438. 4

Question Number : 25 Question Id : 64635021765 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कोई धनराशि 6 वर्षों में चक्रवृद्धि ब्याज पर दोगुनी हो जाती है। यह कितने वर्षों में 16 गुना हो जाएगी?

(1) 16 वर्ष (2) 24 वर्ष

(3) 48 वर्ष (4) 96 वर्ष

Options :

64635085435. 1

64635085436. 2

64635085437. 3

64635085438. 4

Question Number : 26 Question Id : 64635021766 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If the proposition 'Houses are not bricks' is taken to be False then which of the following propositions can be True?

(a) All houses are bricks

(b) No house is brick

(c) Some houses are bricks

(d) Some houses are not bricks

Select the correct answer from the options given below :

(1) (b) and (c) (2) (a) and (d)

(3) (b) only (4) (c) only

Options :

64635085439. 1

64635085440. 2

64635085441. 3

64635085442. 4

Question Number : 26 Question Id : 64635021766 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

यदि तर्क वाक्य 'घर ईंट नहीं हैं' को गलत माना जाता है तो निम्नलिखित में से कौन सा/से तर्क वाक्य सही हो सकता/सकते हैं?

(a) सभी घर ईंटें हैं

(b) कोई भी घर ईंट नहीं है

(c) कुछ घर ईंटें हैं

(d) कुछ घर ईंटें नहीं हैं

नीचे दिए गए विकल्पों से सही उत्तर का चयन करें :

(1) (b) और (c)

(2) (a) और (d)

(3) केवल (b)

(4) केवल (c)

Options :

64635085439. 1

64635085440. 2

64635085441. 3

64635085442. 4

Question Number : 27 Question Id : 64635021767 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Given below are two premises with four conclusions drawn from them. Which of the following conclusions could be validly drawn from the premises?

Premises :

(i) No paper is pen

(ii) Some paper are handmade.

Conclusions :

(1) All paper are handmade

(2) Some handmade are pen

(3) Some handmade are not pen

(4) All handmade are paper

Options :

64635085443. 1

64635085444. 2

64635085445. 3

64635085446. 4

Question Number : 27 Question Id : 64635021767 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

नीचे दो आधार वाक्य और उनसे निकाले गए चार निष्कर्ष दिए गए हैं। निम्नलिखित में से कौन सा निष्कर्ष आधार वाक्यों से वैध रूप में निकाला जा सकता है?

आधार वाक्य :

(i) कोई कागज कलम नहीं हैं

(ii) कुछ कागज हस्तनिर्मित हैं

निष्कर्ष :

(1) सभी कागज हस्तनिर्मित हैं

(2) कुछ हस्तनिर्मित कलम हैं

(3) कुछ हस्तनिर्मित कलम नहीं है

(4) सभी हस्तनिर्मित कागज हैं

Options :

64635085443. 1

64635085444. 2

64635085445. 3

64635085446. 4

Question Number : 28 Question Id : 64635021768 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

'All republics are grateful' and 'Some republics are not grateful' cannot both be true, and they cannot both be false. This is called as

(1) contraries

(2) contradictories

(3) subaltern

(4) super altern

Options :

64635085447. 1

64635085448. 2

64635085449. 3

64635085450. 4

Question Number : 28 Question Id : 64635021768 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

"सभी गणतंत्र महान हैं" और "कुछ गणतंत्र महान नहीं हैं" – ये दोनों वाक्य सही नहीं हो सकते हैं और दोनों गलत भी नहीं हो सकते हैं। यह क्या कहलाता हैं?

(1) विपरीत

(2) विरोधाभासी

(3) उपाश्रित

(4) अध्याश्रित

Options :

64635085447. 1

64635085448. 2
64635085449. 3
64635085450. 4

Question Number : 29 Question Id : 64635021769 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Identify the reasoning in the following argument :

'Use of teaching aids in the classroom to enhance learning is important in a similar way as that of the use of ICT for production of knowledge'.

(1) Hypothetical
(2) Analogical
(3) Inductive
(4) Deductive

Options :
64635085451. 1
64635085452. 2
64635085453. 3
64635085454. 4

Question Number : 29 Question Id : 64635021769 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

निम्नलिखित तर्क वाक्य में तर्क की पहचान कीजिए :

'अधिगम वृद्धि के लिए कक्षा में शिक्षण सहायक सामग्री का उपयोग उसी प्रकार महत्वपूर्ण है जिस प्रकार ज्ञान के सृजन के लिए आई सी टी का उपयोग महत्वपूर्ण है।'

(1) परिकल्पनात्मक
(2) सादृश्यात्मक
(3) आगमनात्मक
(4) निगमनात्मक

Options :
64635085451. 1
64635085452. 2
64635085453. 3
64635085454. 4

Question Number : 30 Question Id : 64635021770 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

The proposition 'No historians are non-mathematician' is equivalent to which of the following proposition?

(1) All historians are mathematicians

(2) No historians are mathematicians

(3) Some historians are mathematicians

(4) Some historians are not mathematicians

Options :

64635085455. 1

64635085456. 2

64635085457. 3

64635085458. 4

Question Number : 30 Question Id : 64635021770 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

तर्क वाक्य 'कोई इतिहासकार गैर–गणितज्ञ नहीं है, ' निम्नलिखित में से किस तर्क वाक्य के समतुल्य है?

(1) सभी इतिहासकार गणितज्ञ हैं

(2) कोई इतिहासकार गणितज्ञ नहीं हैं

(3) कुछ इतिहासकार गणितज्ञ हैं

(4) कुछ इतिहासकार गणितज्ञ नहीं हैं

Options :

64635085455. 1

64635085456. 2

64635085457. 3

64635085458. 4

Sub-Section Number:	4
Sub-Section Id:	6463501076
Question Shuffling Allowed :	Yes

Question Id : 64635021771 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (31 to 35)

Question Label : Comprehension

Consider the following table that shows the number (in lakhs) of different sizes of LED television sets sold by a company over the last seven years from 2012 to 2018. Answer the questions based on the data contained in the table :

Sale of LED Television sets (in lakhs) of different sizes (in inches)

Year	Size of LED Television sets (in inches)				
	22"	24"	32"	40"	49"
2012	85	154	124	112	118
2013	100	136	112	94	136
2014	106	124	85	115	145
2015	115	100	160	100	85
2016	100	85	145	85	100
2017	115	70	175	55	130
2018	125	95	170	110	155

Sub questions

Question Number : 31 Question Id : 64635021772 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What was the approximate percentage increase/decrease in the sales of 32-inch LED Television sets in 2017 compared to that in 2013?

(1) 36% (2) 56%

(3) 57% (4) 64%

Options :

64635085459. 1

64635085460. 2

64635085461. 3

64635085462. 4

Question Number : 32 Question Id : 64635021773 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For which size LED Television sets is the total sales of all the seven years the maximum?

(1) 22-inch Television (2) 24-inch Television

(3) 32-inch Television (4) 49-inch Television

Options :

64635085463. 1

64635085464. 2

64635085465. 3

64635085466. 4

Question Number : 33 Question Id : 64635021774 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the difference in the number of 40-inch Television sets sold in 2013 and 2018?

(1) 1,600,000
(2) 1,500,000
(3) 15,000,000
(4) 16,000,000

Options :

64635085467. 1

64635085468. 2

64635085469. 3

64635085470. 4

Question Number : 34 Question Id : 64635021775 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the total sale of Television sets of size 49-inches (in lakhs) over all the seven years?

(1) 912
(2) 896
(3) 879
(4) 869

Options :

64635085471. 1

64635085472. 2

64635085473. 3

64635085474. 4

Question Number : 35 Question Id : 64635021776 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For which LED Television set is the total sales of all the seven years the minimum?

(1) 22-inch Television
(2) 24-inch Television
(3) 49-inch Television
(4) 40-inch Television

Options :

64635085475. 1

64635085476. 2

64635085477. 3

64635085478. 4

Question Id : 64635021771 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (31 to 35)

Question Label : Comprehension

निम्नलिखित तालिका में वर्ष 2012 से 2018 तक पिछले सात वर्षों के दौरान किसी कंपनी द्वारा बेचे गए विभिन्न आकार के एल ई डी टेलीविजन सेट की संख्या (लाख में) दर्शाई गई है। तालिका में दिए गए आँकड़ों के आधार पर प्रश्न के उत्तर दें :

विभिन्न आकार (इंच में) के एल ई डी टेलीविजन सेटों की बिक्री (लाख में)

वर्ष	एल ई डी टेलीविजन सेट का आकार (इंच में)				
	22"	24"	32"	40"	49"
2012	85	154	124	112	118
2013	100	136	112	94	136
2014	106	124	85	115	145
2015	115	100	160	100	85
2016	100	85	145	85	100
2017	115	70	175	55	130
2018	125	95	170	110	155

Sub questions

Question Number : 31 Question Id : 64635021772 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

वर्ष 2013 की तुलना में वर्ष 2017 के दौरान 32 इंच के एल ई डी टेलीविजन सेट की बिक्री में लगभग कितने प्रतिशत वृद्धि/कमी हुई?

(1) 36%

(2) 56%

(3) 57%

(4) 64%

Options :

64635085459. 1

64635085460. 2

64635085461. 3

64635085462. 4

Question Number : 32 Question Id : 64635021773 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

सभी सात वर्षों की कुल बिक्री किस आकार के एल ई डी टेलीविजन सेट की सर्वाधिक हुई?

(1) 22-इंच टेलीविजन

(2) 24-इंच टेलीविजन

(3) 32-इंच टेलीविजन

(4) 49-इंच टेलीविजन

Options :

64635085463. 1

64635085464. 2

64635085465. 3

64635085466. 4

Question Number : 33 Question Id : 64635021774 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

वर्ष 2013 और 2018 में बेचे गए 40-इंच के टेलीविजन सेट की संख्या में कितना अंतर है?

(1) 1,600,000 (2) 1,500,000

(3) 15,000,000 (4) 16,000,000

Options :

64635085467. 1

64635085468. 2

64635085469. 3

64635085470. 4

Question Number : 34 Question Id : 64635021775 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

सभी सात वर्षों में 49-इंच आकार के टेलीविजन सेट की कुल बिक्री (लाख में) कितनी है?

(1) 912 (2) 896

(3) 879 (4) 869

Options :

64635085471. 1

64635085472. 2

64635085473. 3

64635085474. 4

Question Number : 35 Question Id : 64635021776 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

सभी सात वर्षों की किस आकार के एल ई डी टेलीविजन सेट की कुल बिक्री न्यूनतम हुई?

(1) 22-इंच टेलीविजन (2) 24-इंच टेलीविजन

(3) 49-इंच टेलीविजन (4) 40-इंच टेलीविजन

Options :

64635085475. 1

64635085476. 2

64635085477. 3

64635085478. 4

Sub-Section Number: 5

Sub-Section Id: 6463501077

Question Shuffling Allowed : Yes

Question Number : 36 Question Id : 64635021777 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is a type of malware intentionally inserted into a software system that will setoff a malicious function when specified conditions are met?

(1) Worm
(2) Trojan
(3) Spyware
(4) Logic bomb

Options :

64635085479. 1

64635085480. 2

64635085481. 3

64635085482. 4

Question Number : 36 Question Id : 64635021777 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा एक प्रकार का मालवेयर है जिसे सॉफ्टवेयर सिस्टम में जानबूझ कर डाल दिया जाता है जो पूर्वनिर्धारित स्थितियां उत्पन्न होने पर दुराग्रहपूर्ण प्रकार्य शुरू कर देता है?

(1) वॉर्म
(2) ट्रोजन
(3) स्पाईवेयर
(4) लॉजिक बम

Options :

64635085479. 1

64635085480. 2

64635085481. 3

64635085482. 4

Question Number : 37 Question Id : 64635021778 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Select the true statement about an Operating System (OS)?

(1) An OS controls peripherals, allocates memory and organises data into fields and records
(2) An OS provides protection against viruses and controls peripherals
(3) An OS controls peripheral, and allocates memory and processor time
(4) An OS controls the processor and peripherals and allows the user to connect to the Internet

Options :

64635085483. 1

64635085484. 2

64635085485. 3

64635085486. 4

Question Number : 37 Question Id : 64635021778 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

एक ऑपरेटिंग सिस्टम (ओ एस) के बारे में कौन सा कथन सही है?

(1) ओ एस पेरिफेरल्स को नियंत्रित करता है, मेमोरी आवंटित करता है तथा फील्ड्स एवं रिकॉर्ड्स में डेटा संगठित करता है।

(2) ओ एस वाइरस के प्रति सुरक्षा प्रदान करता है और पेरिफेरल्स को नियंत्रित करता है

(3) ओ एस पेरिफेरल्स को नियंत्रित करता है तथा मेमोरी और प्रोसेसर टाइम का आबंटन करता है

(4) ओ एस प्रोसेसर और पेरिफेरल्स को नियंत्रित करता है तथा यूजर को इंटरनेट से जुड़ने की अनुमति देता है

Options :

64635085483. 1

64635085484. 2

64635085485. 3

64635085486. 4

Question Number : 38 Question Id : 64635021779 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Select the option that shows the storage devices in order of capacity from lowest to highest

(1) CD-ROM, DVD-ROM, Blu-ray

(2) Blu-ray, CD-ROM, DVD-ROM

(3) DVD-ROM, Blu-ray, CD-ROM

(4) DVD-ROM, CD-ROM, Blu-ray

Options :

64635085487. 1

64635085488. 2

64635085489. 3

64635085490. 4

Question Number : 38 Question Id : 64635021779 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

संग्राहक युक्तियों को न्यूनतम से अधिकतम क्षमता के सही क्रम में दर्शाने वाले विकल्प को चुनिये

(1) सी डी - आर ओ एम, डी वी डी - आर ओ एम, ब्ल्यू-रे

(2) ब्ल्यू-रे, सीडी-आर ओ एम, डी वी डी - आर ओ एम

(3) डी वी डी - आर ओ एम, ब्ल्यू-रे, सी डी - आर ओ एम

(4) डी वी डी - आर ओ एम, सी डी - आर ओ एम, ब्ल्यू-रे

Options :

64635085487. 1

64635085488. 2

64635085489. 3

64635085490. 4

Question Number : 39 Question Id : 64635021780 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements(s) is/are True in respect of Wireless Technology?

P : Bluetooth is a wireless technology which can be used to connect a headset to a mobile phone.

Q : Bluetooth is a long range wireless technology and is a low cost means of data transfer.

(1) P only

(2) Q only

(3) Both P and Q

(4) Neither P nor Q

Options :

64635085491. 1

64635085492. 2

64635085493. 3

64635085494. 4

Question Number : 39 Question Id : 64635021780 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

वायरलेस टेक्नोलॉजी के संबंध में निम्नलिखित में से कौन सा/से कथन सही है/हैं?

P : ब्ल्यूटूथ एक वायरलेस टेक्नोलॉजी है जिसका उपयोग मोबाइल फोन से हैडसेट कनेक्ट करने के लिए किया जा सकता है

Q : ब्ल्यूटूथ एक लम्बी रेंज वाली वायरलेस टेक्नोलॉजी है और इसका उपयोग डेटा अंतरण के सस्ते साधन के रूप में किया जाता है

(1) केवल P

(2) केवल Q

(3) P और Q दोनों

(4) न तो P न Q

Options :

64635085491. 1

64635085492. 2

64635085493. 3

64635085494. 4

Question Number : 40 Question Id : 64635021781 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following pairs LEAST matches in respect of computers?

(1) 1 Giga Byte : $(1024) \times (1024) \times (1024) \times 8$ bits

(2) CRT : Cathode Ray Tube

(3) ROM : Rapid Online Memory

(4) CPU : Central Processing Unit

Options :

64635085495. 1

64635085496. 2

64635085497. 3

64635085498. 4

Question Number : 40 Question Id : 64635021781 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कम्प्यूटरों के संबंध में निम्नलिखित में से कौन सा युग्म सुमेलित **नहीं** है?

(1) 1 गीगाबाइट : $(1024) \times (1024) \times (1024) \times 8$ बिट्स

(2) सी आर टी : कैथोड रे ट्यूब

(3) आर ओ एम : रेपिड ऑनलाइन मेमोरी

(4) सी पी यू : सेंट्रल प्रोसेसिंग यूनिट

Options :

64635085495. 1

64635085496. 2

64635085497. 3

64635085498. 4

Question Number : 41 Question Id : 64635021782 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the last few years, India has been affected by which of the following tropical cyclones?

(1) Gaja, Hudhud, Bhima

(2) Hudhud, Bhima, Ockhi

(3) Gaja, Hudhud, Ockhi

(4) Gaja, Bhima, Ockhi

Options :

64635085499. 1

64635085500. 2

64635085501. 3

64635085502. 4

Question Number : 41 Question Id : 64635021782 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

पिछले पाँच वर्षों के दौरान भारत निम्नलिखित में से कौन से उष्णकटिबंधीय चक्रवातों से प्रभावित हुआ है?

(1) गाजा, हुदहुद, भीमा

(2) हुदहुद, भीम, ओखी

(3) गाजा, हुदहुद, ओखी

(4) गाजा, भीम, ओखी

Options :

64635085499. 1

64635085500. 2

64635085501. 3

64635085502. 4

Question Number : 42 Question Id : 64635021783 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following are priority areas in relation to the Sustainable Development Goals?

(a) No poverty

(b) Zero hunger

(c) Reducing urbanization

(d) Peace, justice and strong institutions

Choose the correct answer from the options given below :

(1) (a), (b), (c)

(2) (a), (c), (d)

(3) (b), (c), (d)

(4) (a), (b), (d)

Options :

64635085503. 1

64635085504. 2

64635085505. 3

64635085506. 4

Question Number : 42 Question Id : 64635021783 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित विकल्पों में से संपोषनीय विकास लक्ष्यों के संबंध में कौन से प्राथमिकता क्षेत्र हैं?

(a) गरीबी से मुक्ति

(b) क्षुधा शून्यता

(c) शहरीकरण में कमी करना

(d) शांति, न्याय और सुदृढ़ संस्थाएं

नीचे दिए गए विकल्पों से सही उत्तर का चयन करें

(1) (a), (b), (c)

(2) (a), (c), (d)

(3) (b), (c), (d)

(4) (a), (b), (d)

Options :

64635085503. 1

64635085504. 2

64635085505. 3

64635085506. 4

Question Number : 43 Question Id : 64635021784 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Assertion (A) : Methemoglobinemia is a condition in which blood is not able to carry and deliver enough oxygen to the body.

Reason (R) : Consuming drinking water with high nitrate levels may cause methemoglobinemia.

Choose the correct answer from the options given below :

(1) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) Both (A) and (R) are true but (R) is not the correct explanation of (A)

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

Options :

64635085507. 1

64635085508. 2

64635085509. 3

64635085510. 4

Question Number : 43 Question Id : 64635021784 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अभिकथन (A) : मेथेमोग्लोबिनीमिया एक ऐसी स्थिति है जिसमें रक्त शरीर के विभिन्न भागों तक पर्याप्त ऑक्सीजन की आपूर्ति नहीं कर पाता है।

तर्क (R) : नाइट्रेट की उच्च मात्रा वाले पेयजल का उपयोग करने से मेथेमोग्लोबिनीमिया होता है

नीचे दिए गए विकल्पों से सही उत्तर का चयन करें :

(1) (A) और (R) दोनों सही हैं तथा (R), (A) की सही व्याख्या है

(2) (A) और (R) दोनों सहीं हैं, किन्तु (R), (A) की सही व्याख्या नहीं है

(3) (A) सही है, किन्तु (R) गलत है

(4) (A) गलत है, किन्तु (R) सही है

Options :

64635085507. 1

64635085508. 2

64635085509. 3

64635085510. 4

Question Number : 44 Question Id : 64635021785 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Assertion (A) : High concentration of ozone in the lower troposphere is desirable.

Reasons (R) : Ozone present in the atmosphere protects the living organisms on the surface of earth from the harmful ultra-violet radiation of the sun.

Choose the correct answer from the optons given below :

(1) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) Both (A) and (R) are true but (R) is not the correct explanation of (A)

(3) (A) is true but (R) is false

(4) (A) is false but (R) is true

Options :

64635085511. 1

64635085512. 2

64635085513. 3

64635085514. 4

Question Number : 44 Question Id : 64635021785 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अभिकथन (A) : निम्न क्षोभ मंडल में ओजोन का उच्च सांद्रण वांछनीय है।

तर्क (R) : वायुमंडल में उपस्थित ओजोन सूर्य के हानिकारक परा बैंगनी विकिरण से पृथ्वी तल पर जीव जंतुओं की रक्षा करती है।

नीचे दिए गए विकल्पों से सही उत्तर का चयन करें :

(1) (A) और (R) दोनों सही हैं तथा (R), (A) की सही व्याख्या है

(2) (A) और (R) दोनों सहीं हैं, किन्तु (R), (A) की सही व्याख्या नहीं है

(3) (A) सही है, किन्तु (R) गलत है

(4) (A) गलत है, किन्तु (R) सही है

Options :

64635085511. 1

64635085512. 2

64635085513. 3

64635085514. 4

Question Number : 45 Question Id : 64635021786 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Algal blooms in oligotrophic lakes are

(1) very frequent (2) frequent

(3) very rare (4) widespread

Options :

64635085515. 1

64635085516. 2

64635085517. 3

64635085518. 4

Question Number : 45 Question Id : 64635021786 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

ऑलिगोट्रॉफिक झीलों में शैवाल फुल्लिकायें होती हैं :

(1) अति बारम्बार
(2) बारम्बार
(3) बहुत कम बार
(4) व्यापक तौर पर

Options :

64635085515. 1

64635085516. 2

64635085517. 3

64635085518. 4

Question Number : 46 Question Id : 64635021787 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In post independence India, which one of the following Committee/Commission's report deals with all levels of education in India?

(1) Sargeant Commission
(2) Hartog Committee
(3) Kothari Commission
(4) Radhakrishnan Commission

Options :

64635085519. 1

64635085520. 2

64635085521. 3

64635085522. 4

Question Number : 46 Question Id : 64635021787 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

स्वतंत्रता प्राप्ति के बाद निम्नलिखित में से कौन सी समिति/आयोग की रिपोर्ट भारत में शिक्षा के सभी स्तरों पर विकास से संबंधित है?

(1) सार्जेंट आयोग
(2) हर्टोग समिति रिपोर्ट
(3) कोठारी आयोग रिपोर्ट
(4) राधाकृष्णन आयोग

Options :

64635085519. 1

64635085520. 2

64635085521. 3

64635085522. 4

Question Number : 47 Question Id : 64635021788 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The Education Commission of India that first took serious note of the problem of Brain Drain was

(1) The Education Commission of India
(2) The University Education Commission
(3) The Calcutta University Commission
(4) The Sargeant Commission

Options :

64635085523. 1

64635085524. 2

64635085525. 3

64635085526. 4

Question Number : 47 Question Id : 64635021788 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कौन से भारतीय शिक्षा आयोग ने सबसे पहले प्रतिभा पलायन की समस्या पर ध्यान दिया?

(1) भारतीय शिक्षा आयोग
(2) विश्वविद्यालय शिक्षा आयोग
(3) कलकत्ता विश्वविद्यालय आयोग
(4) सार्जेंट आयोग

Options :

64635085523. 1

64635085524. 2

64635085525. 3

64635085526. 4

Question Number : 48 Question Id : 64635021789 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The present form of Inter University Board that was previously established for promoting cooperation and coordination among Universities is

(1) UGC
(2) AIU
(3) NUEPA
(4) ICSSR

Options :

64635085527. 1

64635085528. 2

64635085529. 3

64635085530. 4

Question Number : 48 Question Id : 64635021789 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

विश्वविद्यालयों के बीच सहयोग और समन्वय को बढ़ावा देने के लिए स्थापित अंतर-विश्वविद्यालय बोर्ड का वर्तमान स्वरूप है:

(1) यू जी सी
(2) ए आई यू
(3) एन यू ई पी ए
(4) आई सी एस एस आर

Options :

64635085527. 1

64635085528. 2

64635085529. 3

64635085530. 4

Question Number : 49 Question Id : 64635021790 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following instructional designs is not a part of SWAYAM launched by Government of India?

(1) E-tutorial
(2) E-Content
(3) Physical interaction
(4) Discussion Forum

Options :

64635085531. 1

64635085532. 2

64635085533. 3

64635085534. 4

Question Number : 49 Question Id : 64635021790 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा अनुदेशात्मक अभिकल्प भारत सरकार द्वारा शुरू किए गए एस डब्ल्यू ए वाई ए एम (स्वयम) में शामिल नहीं है?

(1) ई - ट्युटोरियल
(2) ई - कन्टेंट
(3) भौतिक अन्तःक्रिया
(4) चर्चा मंच

Options :

64635085531. 1

64635085532. 2

64635085533. 3

64635085534. 4

Question Number : 50 Question Id : 64635021791 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following NOT correctly matched?

(i) Gyan darshan – Satellite based educational T.V. Channel
(ii) Gyan vani – Educational FM Radio network
(iii) MOOCs – Massive Open Online Credits

Choose the correct answer from the options given below :

(1) Only (i) and (ii)
(2) Only (ii) and (iii)
(3) Only (iii)
(4) Only (i) and (iii)

Options :

64635085535. 1

64635085536. 2

64635085537. 3

64635085538. 4

Question Number : 50 Question Id : 64635021791 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा युग्म सुमेलित **नहीं** है?

(i) ज्ञान दर्शन – उपग्रह आधारित शैक्षिक टी वी चैनल
(ii) ज्ञान वाणी – शैक्षिक एफ एम रेडियो नेटवर्क
(iii) एम ओ ओ सी – मैसिव ओपन ऑनलाइन क्रेडिट्स

नीचे दिए गए विकल्पों से सही उत्तर का चयन करें।

(1) केवल (i) और (ii)
(2) केवल (ii) और (iii)
(3) केवल (iii)
(4) केवल (i) और (iii)

Options :

64635085535. 1

64635085536. 2

64635085537. 3

64635085538. 4

PART II Computer Science and Applications

Section Id :	646350460
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	100
Number of Questions to be attempted:	100
Section Marks:	200
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number: 1
Sub-Section Id: 6463501078
Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 64635021792 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Consider the poset $(\{3, 5, 9, 15, 24, 45\}, |)$.

Which of the following is correct for the given poset?

1. There exists a greatest element and a least element
2. There exists a greatest element but not a least element
3. There exists a least element but not a greatest element
4. There does not exist a greatest element and a least element

Options :
64635085539. 1
64635085540. 2
64635085541. 3
64635085542. 4

Question Number : 51 Question Id : 64635021792 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Consider the poset $(\{3, 5, 9, 15, 24, 45\}, |)$.

Which of the following is correct for the given poset?

1. There exists a greatest element and a least element
2. There exists a greatest element but not a least element
3. There exists a least element but not a greatest element
4. There does not exist a greatest element and a least element

Options :
64635085539. 1
64635085540. 2
64635085541. 3
64635085542. 4

Question Number : 52 Question Id : 64635021793 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

How many ways are there to place 8 indistinguishable balls into four distinguishable bins?

1. 70
2. 165
3. ${}^{8}C_{4}$
4. ${}^{8}P_{4}$

Options :

64635085543. 1

64635085544. 2

64635085545. 3

64635085546. 4

Question Number : 52 Question Id : 64635021793 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many ways are there to place 8 indistinguishable balls into four distinguishable bins?

1. 70
2. 165
3. ${}^{8}C_{4}$
4. ${}^{8}P_{4}$

Options :

64635085543. 1

64635085544. 2

64635085545. 3

64635085546. 4

Question Number : 53 Question Id : 64635021794 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many bit strings of length ten either start with a 1 bit or end with two bits 00?

1. 320
2. 480
3. 640
4. 768

Options :

64635085547. 1

64635085548. 2

64635085549. 3

64635085550. 4

Question Number : 53 Question Id : 64635021794 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many bit strings of length ten either start with a 1 bit or end with two bits 00?

1. 320
2. 480
3. 640
4. 768

Options :

64635085547. 1

64635085548. 2

64635085549. 3

64635085550. 4

Question Number : 54 Question Id : 64635021795 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that a connected planar graph has six vertices, each of degree four. Into how many regions is the plane divided by a planar representation of this graph?

1. 6
2. 8
3. 12
4. 20

Options :

64635085551. 1
64635085552. 2
64635085553. 3
64635085554. 4

Question Number : 54 Question Id : 64635021795 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that a connected planar graph has six vertices, each of degree four. Into how many regions is the plane divided by a planar representation of this graph?

1. 6
2. 8
3. 12
4. 20

Options :

64635085551. 1
64635085552. 2
64635085553. 3
64635085554. 4

Question Number : 55 Question Id : 64635021796 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For which values of m and n does the complete bipartite graph $k_{m,n}$ have a Hamilton circuit?

1. $m \neq n,\ m, n \geq 2$
2. $m \neq n,\ m, n \geq 3$
3. $m = n,\ m, n \geq 2$
4. $m = n,\ m, n \geq 3$

Options :

64635085555. 1
64635085556. 2
64635085557. 3
64635085558. 4

Question Number : 55 Question Id : 64635021796 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For which values of m and n does the complete bipartite graph $k_{m,n}$ have a Hamilton circuit?

1. $m \neq n,\ m, n \geq 2$

2. $m \neq n,\ m, n \geq 3$

3. $m = n,\ m, n \geq 2$

4. $m = n,\ m, n \geq 3$

Options :

64635085555. 1

64635085556. 2

64635085557. 3

64635085558. 4

Question Number : 56 Question Id : 64635021797 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is principal conjunctive normal form for $[(p \vee q) \wedge \neg p \rightarrow \neg q]$?

1. $p \vee \neg q$

2. $p \vee q$

3. $\neg p \vee q$

4. $\neg p \vee \neg q$

Options :

64635085559. 1

64635085560. 2

64635085561. 3

64635085562. 4

Question Number : 56 Question Id : 64635021797 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is principal conjunctive normal form for $[(p \vee q) \wedge \neg p \rightarrow \neg q]$?

1. $p \vee \neg q$
2. $p \vee q$
3. $\neg p \vee q$
4. $\neg p \vee \neg q$

Options :

64635085559. 1

64635085560. 2

64635085561. 3

64635085562. 4

Question Number : 57 Question Id : 64635021798 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many cards must be selected from a standard deck of 52 cards to guarantee that at least three hearts are present among them?

1. 9
2. 13
3. 17
4. 42

Options :

64635085563. 1

64635085564. 2

64635085565. 3

64635085566. 4

Question Number : 57 Question Id : 64635021798 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many cards must be selected from a standard deck of 52 cards to guarantee that at least three hearts are present among them?

1. 9

2. 13

3. 17

4. 42

Options :

64635085563. 1

64635085564. 2

64635085565. 3

64635085566. 4

Question Number : 58 Question Id : 64635021799 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	$p \to q$	(i)	$\neg(q \to \neg p)$
(b)	$p \vee q$	(ii)	$p \wedge \neg q$
(c)	$p \wedge q$	(iii)	$\neg p \to q$
(d)	$\neg(p \to q)$	(iv)	$\neg p \vee q$

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iii); (c)–(i); (d)–(iv)

2. (a)–(ii); (b)–(i); (c)–(iii); (d)–(iv)

3. (a)–(iv); (b)–(i); (c)–(iii); (d)–(ii)

4. (a)–(iv); (b)–(iii); (c)–(i); (d)–(ii)

Options :

64635085567. 1

64635085568. 2

64635085569. 3

64635085570. 4

Question Number : 58 Question Id : 64635021799 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	$p \to q$	(i)	$\neg(q \to \neg p)$
(b)	$p \vee q$	(ii)	$p \wedge \neg q$
(c)	$p \wedge q$	(iii)	$\neg p \to q$
(d)	$\neg(p \to q)$	(iv)	$\neg p \vee q$

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iii); (c)–(i); (d)–(iv)
2. (a)–(ii); (b)–(i); (c)–(iii); (d)–(iv)
3. (a)–(iv); (b)–(i); (c)–(iii); (d)–(ii)
4. (a)–(iv); (b)–(iii); (c)–(i); (d)–(ii)

Options :

64635085567. 1

64635085568. 2

64635085569. 3

64635085570. 4

Question Number : 59 Question Id : 64635021800 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Find the zero-one matrix of the transitive closure of the relation given by the matrix A :

$$A = \begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 0 \end{bmatrix}$$

1. $\begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 1 \end{bmatrix}$

2. $\begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 0 \end{bmatrix}$

3. $\begin{bmatrix} 1 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$

4. $\begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$

Options :

64635085571. 1

64635085572. 2

64635085573. 3

64635085574. 4

Question Number : 59 Question Id : 64635021800 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Find the zero-one matrix of the transitive closure of the relation given by the matrix A :

$$A=\begin{bmatrix}1 & 0 & 1\\ 0 & 1 & 0\\ 1 & 1 & 0\end{bmatrix}$$

1. $\begin{bmatrix}1 & 1 & 1\\ 0 & 1 & 0\\ 1 & 1 & 1\end{bmatrix}$

2. $\begin{bmatrix}1 & 0 & 1\\ 0 & 1 & 0\\ 1 & 1 & 0\end{bmatrix}$

3. $\begin{bmatrix}1 & 0 & 1\\ 0 & 1 & 0\\ 1 & 0 & 1\end{bmatrix}$

4. $\begin{bmatrix}1 & 1 & 1\\ 0 & 1 & 0\\ 1 & 0 & 1\end{bmatrix}$

Options :

64635085571. 1

64635085572. 2

64635085573. 3

64635085574. 4

Question Number : 60 Question Id : 64635021801 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider an LPP given as

$$\text{Max } Z = 2x_1 - x_2 + 2x_3$$

subject to the constraints

$$2x_1 + x_2 \le 10$$
$$x_1 + 2x_2 - 2x_3 \le 20$$
$$x_1 + 2x_3 \le 5$$
$$x_1, x_2, x_3 \ge 0$$

What shall be the solution of the LPP after applying first iteration of the Simplex Method?

1. $x_1 = \frac{5}{2}, x_2 = 0, x_3 = 0, Z = 5$
2. $x_1 = 0, x_2 = 0, x_3 = \frac{5}{2}, Z = 5$
3. $x_1 = 0, x_2 = \frac{5}{2}, x_3 = 0, Z = -\frac{5}{2}$
4. $x_1 = 0, x_2 = 0, x_3 = 10, Z = 20$

Options :

64635085575. 1

64635085576. 2

64635085577. 3

64635085578. 4

Question Number : 60 Question Id : 64635021801 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider an LPP given as

$$\text{Max } Z = 2x_1 - x_2 + 2x_3$$

subject to the constraints

$$2x_1 + x_2 \le 10$$
$$x_1 + 2x_2 - 2x_3 \le 20$$
$$x_1 + 2x_3 \le 5$$
$$x_1, x_2, x_3 \ge 0$$

What shall be the solution of the LPP after applying first iteration of the Simplex Method?

1. $x_1 = \frac{5}{2}, x_2 = 0, x_3 = 0, Z = 5$
2. $x_1 = 0, x_2 = 0, x_3 = \frac{5}{2}, Z = 5$
3. $x_1 = 0, x_2 = \frac{5}{2}, x_3 = 0, Z = -\frac{5}{2}$
4. $x_1 = 0, x_2 = 0, x_3 = 10, Z = 20$

Options :

64635085575. 1

64635085576. 2

64635085577. 3

64635085578. 4

Question Number : 61 Question Id : 64635021802 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which type of addressing mode, less number of memory references are required?

1. Immediate
2. Implied
3. Register
4. Indexed

Options :

64635085579. 1

64635085580. 2

64635085581. 3

64635085582. 4

Question Number : 61 Question Id : 64635021802 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which type of addressing mode, less number of memory references are required?

1. Immediate
2. Implied
3. Register
4. Indexed

Options :

64635085579. 1

64635085580. 2

64635085581. 3

64635085582. 4

Question Number : 62 Question Id : 64635021803 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that the register *A* and the register *K* have the bit configuration. Only the three leftmost bits of *A* are compared with memory words because *K* has 1's in these positions. Because of its organization, this type of memory is uniquely suited to parallel searches by data association. This type of memory is known as

1. RAM
2. ROM
3. content addressable memory
4. secondary memory

Options :

64635085583. 1

64635085584. 2

64635085585. 3

64635085586. 4

Question Number : 62 Question Id : 64635021803 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that the register A and the register K have the bit configuration. Only the three leftmost bits of A are compared with memory words because K has 1's in these positions. Because of its organization, this type of memory is uniquely suited to parallel searches by data association. This type of memory is known as

1. RAM
2. ROM
3. content addressable memory
4. secondary memory

Options :

64635085583. 1

64635085584. 2

64635085585. 3

64635085586. 4

Question Number : 63 Question Id : 64635021804 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many different Boolean functions of degree n are there?

1. 2^{2^n}
2. $(2^2)^n$
3. $2^{2^n}-1$
4. 2^n

Options :

64635085587. 1

64635085588. 2

64635085589. 3

64635085590. 4

Question Number : 63 Question Id : 64635021804 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many different Boolean functions of degree n are there?

1. 2^{2^n}
2. $(2^2)^n$
3. $2^{2^n} - 1$
4. 2^n

Options :

64635085587. 1

64635085588. 2

64635085589. 3

64635085590. 4

Question Number : 64 Question Id : 64635021805 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The fault can be easily diagnosed in the micro-program control unit using diagnostic tools by maintaining the contents of

1. flags and counters
2. registers and counters
3. flags and registers
4. flags, registers and counters

Options :

64635085591. 1

64635085592. 2

64635085593. 3

64635085594. 4

Question Number : 64 Question Id : 64635021805 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The fault can be easily diagnosed in the micro-program control unit using diagnostic tools by maintaining the contents of

1. flags and counters
2. registers and counters
3. flags and registers
4. flags, registers and counters

Options :

64635085591. 1

64635085592. 2

64635085593. 3

64635085594. 4

Question Number : 65 Question Id : 64635021806 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What will be the number of states when a MOD-2 counter is followed by a MOD-5 counter?

1. 5
2. 10
3. 15
4. 20

Options :

64635085595. 1

64635085596. 2

64635085597. 3

64635085598. 4

Question Number : 65 Question Id : 64635021806 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What will be the number of states when a MOD-2 counter is followed by a MOD-5 counter?

1. 5
2. 10
3. 15
4. 20

Options :

64635085595. 1

64635085596. 2

64635085597. 3

64635085598. 4

Question Number : 66 Question Id : 64635021807 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a magnetic disk with concentric circular tracks, the seek latency is not linearly proportional to the seek distance due to

1. non-uniform distribution of requests
2. arm starting or stopping inertia
3. higher capacity of tracks on the periphery of the platter
4. use of unfair arm scheduling policies

Options :

64635085599. 1

64635085600. 2

64635085601. 3

64635085602. 4

Question Number : 66 Question Id : 64635021807 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a magnetic disk with concentric circular tracks, the seek latency is not linearly proportional to the seek distance due to

1. non-uniform distribution of requests
2. arm starting or stopping inertia
3. higher capacity of tracks on the periphery of the platter
4. use of unfair arm scheduling policies

Options :

64635085599. 1

64635085600. 2

64635085601. 3

64635085602. 4

Question Number : 67 Question Id : 64635021808 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The parallel bus arbitration technique uses an external priority encoder and a decoder. Suppose, a parallel arbiter has 5 bus arbiters. What will be the size of priority encoder and decoder respectively?

1. 4×2, 2×4
2. 2×4, 4×2
3. 3×8, 8×3
4. 8×3, 3×8

Options :

64635085603. 1

64635085604. 2

64635085605. 3

64635085606. 4

Question Number : 67 Question Id : 64635021808 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The parallel bus arbitration technique uses an external priority encoder and a decoder. Suppose, a parallel arbiter has 5 bus arbiters. What will be the size of priority encoder and decoder respectively?

1. 4×2, 2×4
2. 2×4, 4×2
3. 3×8, 8×3
4. 8×3, 3×8

Options :

64635085603. 1

64635085604. 2

64635085605. 3

64635085606. 4

Question Number : 68 Question Id : 64635021809 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the equation $(146)_b + (313)_{b-2} = (246)_8$. Which of the following is the value of b?

1. 8
2. 7
3. 10
4. 16

Options :

64635085607. 1

64635085608. 2

64635085609. 3

64635085610. 4

Question Number : 68 Question Id : 64635021809 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the equation $(146)_b + (313)_{b-2} = (246)_8$. Which of the following is the value of b?

1. 8
2. 7
3. 10
4. 16

Options :

64635085607. 1

64635085608. 2

64635085609. 3

64635085610. 4

Question Number : 69 Question Id : 64635021810 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many address lines and data lines are required to provide a memory capacity of 16K × 16?

1. 10, 4
2. 16, 16
3. 14, 16
4. 4, 16

Options :

64635085611. 1

64635085612. 2

64635085613. 3

64635085614. 4

Question Number : 69 Question Id : 64635021810 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many address lines and data lines are required to provide a memory capacity of 16K × 16?

1. 10, 4
2. 16, 16
3. 14, 16
4. 4, 16

Options :

64635085611. 1

64635085612. 2

64635085613. 3

64635085614. 4

Question Number : 70 Question Id : 64635021811 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that a computer program takes 100 seconds of execution time on a computer with multiplication operation responsible for 80 seconds of this time. How much do you have to improve the speed of multiplication operation if you are asked to execute this program four times faster?

1. 14 times faster
2. 15 times faster
3. 16 times faster
4. 17 times faster

Options :

64635085615. 1

64635085616. 2

64635085617. 3

64635085618. 4

Question Number : 70 Question Id : 64635021811 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Suppose that a computer program takes 100 seconds of execution time on a computer with multiplication operation responsible for 80 seconds of this time. How much do you have to improve the speed of multiplication operation if you are asked to execute this program four times faster?

1. 14 times faster
2. 15 times faster
3. 16 times faster
4. 17 times faster

Options :

64635085615. 1

64635085616. 2

64635085617. 3

64635085618. 4

Question Number : 71 Question Id : 64635021812 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following pseudo-code fragment in which an invariant for the loop is " $m*x^k = p^n$ and $k \geq 0$" (here, p and n are integer variables that have been initialized) :

```
/* Pre-conditions : p ≥ 1 ∧ n ≥ 0 */
/* Assume that overflow never occurs */
int x=p; int k=n; int m=1;
while (k< >0){
    if (k is odd) then m=m*x;
    x=x*x;
    k = ⌊k / 2⌋;        /*floor(k/2)*/
}
```

Which of the following must be true at the end of the while loop?

1. $x = p^n$
2. $m = p^n$
3. $p = x^n$
4. $p = m^n$

Options :

64635085619. 1
64635085620. 2
64635085621. 3
64635085622. 4

Question Number : 71 Question Id : 64635021812 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following pseudo-code fragment in which an invariant for the loop is " $m*x^k = p^n$ and $k \geq 0$" (here, p and n are integer variables that have been initialized) :

```
/* Pre-conditions : p ≥ 1 ∧ n ≥ 0 */
/* Assume that overflow never occurs */
int x=p; int k=n; int m=1;
while (k< >0){
    if (k is odd) then m=m*x;
    x=x*x;
    k = ⌊k / 2⌋;        /*floor(k/2)*/
}
```

Which of the following must be true at the end of the while loop?

1. $x = p^n$
2. $m = p^n$
3. $p = x^n$
4. $p = m^n$

Options :

64635085619. 1

64635085620. 2

64635085621. 3

64635085622. 4

Question Number : 72 Question Id : 64635021813 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following C-code fragment running on a 32-bit x86 machine :

```
typedef struct {
        union {
                unsigned char a;
                unsigned short b;
        }U;
        unsigned char c;
}S;
```

```
        S    B[10];
        S*p=&B[4];
        S*q=&B[5];
        p → U · b = 0x1234;
/* structure S takes 32-bits */
```

If M is the value of $q - p$ and N is the value of $((int)\ \&\ (p \rightarrow c)) - ((int)p)$, then (M, N) is

1. (1, 1)
2. (3, 2)
3. (1, 2)
4. (4, 4)

Options :

64635085623. 1

64635085624. 2

64635085625. 3

64635085626. 4

Question Number : 72 Question Id : 64635021813 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following C-code fragment running on a 32-bit x86 machine :

```
typedef struct {
        union {
                unsigned char a;
                unsigned short b;
        }U;
        unsigned char c;
}S;
```

```
        S   B[10];
        S*p=&B[4];
        S*q=&B[5];
        p → U · b = 0x1234;
/* structure S takes 32-bits */
```

If M is the value of $q - p$ and N is the value of $((int)\ \&\ (p \rightarrow c)) - ((int)p)$, then (M, N) is

1. (1, 1)
2. (3, 2)
3. (1, 2)
4. (4, 4)

Options :

64635085623. 1

64635085624. 2

64635085625. 3

64635085626. 4

Question Number : 73 Question Id : 64635021814 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the output of the following JAVA program?

```
public class Good {
    private int m;
    public Good (int m){this· m=m;}
    public Boolean equals (Good n){return n· m==m;}
    public static void main (string args []){
        Good m1 = new Good (22);
        Good m2 = new Good (22);
        Object s1 = new Good (22);
        Object s2 = new Good (22);
        System· out· println (m1 · equals (m2));
        System· out· println (s1 · equals (s2));
        System· out· println (m1 · equals (s2));
        System· out· println (s1 · equals (m2));
    }
}
```

1. True, True, False, False
2. True, False, True, False
3. True, True, False, True
4. True, False, False, False

Options :

64635085627. 1

64635085628. 2

64635085629. 3

64635085630. 4

Question Number : 73 Question Id : 64635021814 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the output of the following JAVA program?

```
public class Good {
    private int m;
    public Good (int m){this· m=m;}
    public Boolean equals (Good n){return n· m==m;}
    public static void main (string args []){
        Good m1 = new Good (22);
        Good m2 = new Good (22);
        Object s1 = new Good (22);
        Object s2 = new Good (22);
        System· out· println (m1 · equals (m2));
        System· out· println (s1 · equals (s2));
        System· out· println (m1 · equals (s2));
        System· out· println (s1 · equals (m2));
    }
}
```

1. True, True, False, False
2. True, False, True, False
3. True, True, False, True
4. True, False, False, False

Options :

64635085627. 1

64635085628. 2

64635085629. 3

64635085630. 4

Question Number : 74 Question Id : 64635021815 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following C++ function f() :

```
unsigned int f (unsigned int n){
    unsigned int b=0;
    while (n){
        b += n & 1;
        n>>=1;
    }
    return b;
}
```

The function f() returns the int that represents the ___P___ in the binary representation of positive integer n, where P is

1. number of 0's
2. number of bits
3. number of consecutive 1's
4. number of 1's

Options :

64635085631. 1

64635085632. 2

64635085633. 3

64635085634. 4

Question Number : 74 Question Id : 64635021815 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following C++ function f() :

```
unsigned int f (unsigned int n){
    unsigned int b=0;
    while (n){
        b += n & 1;
        n>>=1;
    }
    return b;
}
```

The function f() returns the int that represents the ___P___ in the binary representation of positive integer n, where P is

1. number of 0's
2. number of bits
3. number of consecutive 1's
4. number of 1's

Options :

64635085631. 1

64635085632. 2

64635085633. 3

64635085634. 4

Question Number : 75 Question Id : 64635021816 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : In a scripting language like JavaScript, types are typically associated with values, not variables.

Q : It is not possible to show images on a web page without the <img> tag of HTML.

Select the correct answer from the options given below :

1. P only
2. Q only
3. Both P and Q
4. Neither P nor Q

Options :

64635085635. 1

64635085636. 2

64635085637. 3

64635085638. 4

Question Number : 75 Question Id : 64635021816 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : In a scripting language like JavaScript, types are typically associated with values, not variables.

Q : It is not possible to show images on a web page without the <img> tag of HTML.

Select the correct answer from the options given below :

1. P only
2. Q only
3. Both P and Q
4. Neither P nor Q

Options :

64635085635. 1

64635085636. 2

64635085637. 3

64635085638. 4

Question Number : 76 Question Id : 64635021817 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : An XML document with correct syntax as specified by W3C is called "Well Formed".

Q : An XML documented validated against a DTD is both "Well formed" and "Valid".

R : <xml version="1·0" encoding="UTF-8">

is syntactly correct declaration for the version of an XML document.

Select the correct answer from the options given below :

1. P and Q only
2. P and R only
3. Q and R only
4. All of P, Q and R

Options :

64635085639. 1

64635085640. 2

64635085641. 3

64635085642. 4

Question Number : 76 Question Id : 64635021817 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : An XML document with correct syntax as specified by W3C is called "Well Formed".

Q : An XML documented validated against a DTD is both "Well formed" and "Valid".

R : <xml version="1·0" encoding="UTF-8">

is syntactly correct declaration for the version of an XML document.

Select the correct answer from the options given below :

1. P and Q only
2. P and R only
3. Q and R only
4. All of P, Q and R

Options :

64635085639. 1

64635085640. 2

64635085641. 3

64635085642. 4

Question Number : 77 Question Id : 64635021818 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider a raster system with resolution 640 by 480. What size is frame buffer (in bytes) for this system to store 12 bits per pixel?

1. 450 kilobytes
2. 500 kilobytes
3. 350 kilobytes
4. 400 kilobytes

Options :

64635085643. 1

64635085644. 2

64635085645. 3

64635085646. 4

Question Number : 77 Question Id : 64635021818 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider a raster system with resolution 640 by 480. What size is frame buffer (in bytes) for this system to store 12 bits per pixel?

1. 450 kilobytes
2. 500 kilobytes
3. 350 kilobytes
4. 400 kilobytes

Options :

64635085643. 1

64635085644. 2

64635085645. 3

64635085646. 4

Question Number : 78 Question Id : 64635021819 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding 2D transforms in computer graphics :

S1 : $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ is a 2×2 matrix that reflects (mirrors) only 2D point about the X-axis.

S2 : A 2×2 matrix which mirrors any 2D point about the X-axis, is a rotation matrix.

What can you say about the statements S1 and S2?

1. Both S1 and S2 are true
2. Only S1 is true
3. Only S2 is true
4. Both S1 and S2 are false

Options :

64635085647. 1

64635085648. 2

64635085649. 3

64635085650. 4

Question Number : 78 Question Id : 64635021819 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding 2D transforms in computer graphics :

S1 : $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ is a 2×2 matrix that reflects (mirrors) only 2D point about the X-axis.

S2 : A 2×2 matrix which mirrors any 2D point about the X-axis, is a rotation matrix.

What can you say about the statements S1 and S2?

1. Both S1 and S2 are true
2. Only S1 is true
3. Only S2 is true
4. Both S1 and S2 are false

Options :

64635085647. 1

64635085648. 2

64635085649. 3

64635085650. 4

Question Number : 79 Question Id : 64635021820 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the context of 3D computer graphics, which of the following statements is/are true?

P : Orthographic transformations keep parallel lines parallel.

Q : Orthographic transformations are affine transformations.

Select the correct answer from the options given below :

1. Both P and Q

2. Neither P nor Q

3. Only P

4. Only Q

Options :

64635085651. 1

64635085652. 2

64635085653. 3

64635085654. 4

Question Number : 79 Question Id : 64635021820 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the context of 3D computer graphics, which of the following statements is/are true?

P : Orthographic transformations keep parallel lines parallel.

Q : Orthographic transformations are affine transformations.

Select the correct answer from the options given below :

1. Both P and Q

2. Neither P nor Q

3. Only P

4. Only Q

Options :

64635085651. 1

64635085652. 2

64635085653. 3

64635085654. 4

Question Number : 80 Question Id : 64635021821 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Using the phong reflectance model, the strength of the specular highlight is determined by the angle between

1. the view vector and the normal vector

2. the light vector and the normal vector

3. the light vector and the reflected vector

4. the reflected vector and the view vector

Options :

64635085655. 1

64635085656. 2

64635085657. 3

64635085658. 4

Question Number : 80 Question Id : 64635021821 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Using the phong reflectance model, the strength of the specular highlight is determined by the angle between

1. the view vector and the normal vector
2. the light vector and the normal vector
3. the light vector and the reflected vector
4. the reflected vector and the view vector

Options :

64635085655. 1

64635085656. 2

64635085657. 3

64635085658. 4

Question Number : 81 Question Id : 64635021822 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following has same expressive power with regard to relational query language?

(a) Relational algebra and domain relational calculus

(b) Relational algebra and tuples relational calculus

(c) Relational algebra and domain relational calculus restricted to safe expression

(d) Relational algebra and tuples relational calculus restricted to safe expression

1. (a) and (b) only
2. (c) and (d) only
3. (a) and (c) only
4. (b) and (d) only

Options :

64635085659. 1

64635085660. 2

64635085661. 3

64635085662. 4

Question Number : 81 Question Id : 64635021822 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following has same expressive power with regard to relational query language?

(a) Relational algebra and domain relational calculus

(b) Relational algebra and tuples relational calculus

(c) Relational algebra and domain relational calculus restricted to safe expression

(d) Relational algebra and tuples relational calculus restricted to safe expression

1. (a) and (b) only

2. (c) and (d) only

3. (a) and (c) only

4. (b) and (d) only

Options :

64635085659. 1

64635085660. 2

64635085661. 3

64635085662. 4

Question Number : 82 Question Id : 64635021823 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following features is supported in the relational database model?

1. Complex data-types

2. Multivalued attributes

3. Associations with multiplicities

4. Generalization relationships

Options :

64635085663. 1

64635085664. 2

64635085665. 3

64635085666. 4

Question Number : 82 Question Id : 64635021823 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following features is supported in the relational database model?

1. Complex data-types
2. Multivalued attributes
3. Associations with multiplicities
4. Generalization relationships

Options :

64635085663. 1

64635085664. 2

64635085665. 3

64635085666. 4

Question Number : 83 Question Id : 64635021824 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

With respect to relational algebra, which of the following operations are included from mathematical set theory?

(a) Join

(b) Intersection

(c) Cartisian product

(d) Project

1. (a) and (d)
2. (b) and (c)
3. (c) and (d)
4. (b) and (d)

Options :

64635085667. 1

64635085668. 2

64635085669. 3

64635085670. 4

Question Number : 83 Question Id : 64635021824 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

With respect to relational algebra, which of the following operations are included from mathematical set theory?

(a) Join

(b) Intersection

(c) Cartisian product

(d) Project

1. (a) and (d)
2. (b) and (c)
3. (c) and (d)
4. (b) and (d)

Options :

64635085667. 1

64635085668. 2

64635085669. 3

64635085670. 4

Question Number : 84 Question Id : 64635021825 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In relational databases, if relation R is in BCNF, then which of the following is true about relation R?

1. R is in 4NF
2. R is not in 1NF
3. R is in 2NF and not in 3NF
4. R is in 2NF and 3NF

Options :

64635085671. 1

64635085672. 2

64635085673. 3

64635085674. 4

Question Number : 84 Question Id : 64635021825 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In relational databases, if relation R is in BCNF, then which of the following is true about relation R?

1. R is in 4NF
2. R is not in 1NF
3. R is in 2NF and not in 3NF
4. R is in 2NF and 3NF

Options :

64635085671. 1

64635085672. 2

64635085673. 3

64635085674. 4

Question Number : 85 Question Id : 64635021826 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following key constraints is required for functioning of foreign key in the context of relational databases?

1. Unique key
2. Primary key
3. Candidate key
4. Check key

Options :

64635085675. 1

64635085676. 2

64635085677. 3

64635085678. 4

Question Number : 85 Question Id : 64635021826 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following key constraints is required for functioning of foreign key in the context of relational databases?

1. Unique key
2. Primary key
3. Candidate key
4. Check key

Options :

64635085675. 1

64635085676. 2

64635085677. 3

64635085678. 4

Question Number : 86 Question Id : 64635021827 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In relational database management, which of the following is/are property/properties of candidate key?

P : Uniqueness

Q : Irreducibility

1. P only
2. Q only
3. Both P and Q
4. Neither P nor Q

Options :

64635085679. 1

64635085680. 2

64635085681. 3

64635085682. 4

Question Number : 86 Question Id : 64635021827 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In relational database management, which of the following is/are property/properties of candidate key?

P : Uniqueness

Q : Irreducibility

1. P only
2. Q only
3. Both P and Q
4. Neither P nor Q

Options :

64635085679. 1

64635085680. 2

64635085681. 3

64635085682. 4

Question Number : 87 Question Id : 64635021828 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements are DML statements?

(a) Update [tablename]
Set [columnname] = VALUE

(b) Delete [tablename]

(c) Select * from [tablename]

1. (a) and (b)
2. (a) and (d)
3. (a), (b) and (c)
4. (b) and (c)

Options :

64635085683. 1

64635085684. 2

64635085685. 3

64635085686. 4

Question Number : 87 Question Id : 64635021828 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements are DML statements?

(a) Update [tablename]
Set [columnname] = VALUE

(b) Delete [tablename]

(c) Select * from [tablename]

1. (a) and (b)
2. (a) and (d)
3. (a), (b) and (c)
4. (b) and (c)

Options :

64635085683. 1

64635085684. 2

64635085685. 3

64635085686. 4

Question Number : 88 Question Id : 64635021829 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Hadoop (a big data tool) works with number of related tools. Choose from the following, the common tools included into Hadoop :

1. MySQL, Google API and Map reduce
2. Map reduce, Scala and Hummer
3. Map reduce, H Base and Hive
4. Map reduce, Hummer and Heron

Options :

64635085687. 1

64635085688. 2

64635085689. 3

64635085690. 4

Question Number : 88 Question Id : 64635021829 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Hadoop (a big data tool) works with number of related tools. Choose from the following, the common tools included into Hadoop :

1. MySQL, Google API and Map reduce
2. Map reduce, Scala and Hummer
3. Map reduce, H Base and Hive
4. Map reduce, Hummer and Heron

Options :

64635085687. 1

64635085688. 2

64635085689. 3

64635085690. 4

Question Number : 89 Question Id : 64635021830 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Following table has two attributes Employee_id and Manager_id, where Employee_id is a primary key and manager_id is a foreign key referencing Employee_id with on-delete cascade :

Employee_id	Manager_id
20	40
25	40
30	35
35	20
40	45
45	25

On deleting the table (20, 40), the set of other tuples that must be deleted to maintain the referential integrity of table is

1. (30, 35) only
2. (30, 35) and (35, 20) only
3. (35, 20) only
4. (40, 45) and (25, 40) only

Options :

64635085691. 1

64635085692. 2

64635085693. 3

64635085694. 4

Question Number : 89 Question Id : 64635021830 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Following table has two attributes Employee_id and Manager_id, where Employee_id is a primary key and manager_id is a foreign key referencing Employee_id with on-delete cascade :

Employee_id	Manager_id
20	40
25	40
30	35
35	20
40	45
45	25

On deleting the table (20, 40), the set of other tuples that must be deleted to maintain the referential integrity of table is

1. (30, 35) only
2. (30, 35) and (35, 20) only
3. (35, 20) only
4. (40, 45) and (25, 40) only

Options :

64635085691. 1

64635085692. 2

64635085693. 3

64635085694. 4

Question Number : 90 Question Id : 64635021831 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

K-mean clustering algorithm has clustered the given 8 observations into 3 clusters after 1st iteration as follows :

C1 : {(3, 3), (5, 5), (7, 7)}

C2 : {(0, 6), (6, 0), (3, 0)}

C3 : {(8, 8), (4, 4)}

What will be the Manhattan distance for observation (4, 4) from cluster centroid C1 in second iteration?

1. 2
2. $\sqrt{2}$
3. 0
4. 18

Options :

64635085695. 1

64635085696. 2

64635085697. 3

64635085698. 4

Question Number : 90 Question Id : 64635021831 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

K-mean clustering algorithm has clustered the given 8 observations into 3 clusters after 1st iteration as follows :

C1 : {(3, 3), (5, 5), (7, 7)}

C2 : {(0, 6), (6, 0), (3, 0)}

C3 : {(8, 8), (4, 4)}

What will be the Manhattan distance for observation (4, 4) from cluster centroid C1 in second iteration?

1. 2
2. $\sqrt{2}$
3. 0
4. 18

Options :

64635085695. 1

64635085696. 2

64635085697. 3

64635085698. 4

Question Number : 91 Question Id : 64635021832 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider a disk system with 100 cylinders. The requests to access the cylinders occur in the following sequence :

4, 34, 10, 7, 19, 73, 2, 15, 6, 20

Assuming that the head is currently at cylinder 50, what is the time taken to satisfy all requests if it takes 1ms to move from the cylinder to adjacent one and the shortest seek time first policy is used?

1. 357 ms
2. 238 ms
3. 276 ms
4. 119 ms

Options :

64635085699. 1

64635085700. 2

64635085701. 3

64635085702. 4

Question Number : 91 Question Id : 64635021832 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider a disk system with 100 cylinders. The requests to access the cylinders occur in the following sequence :

4, 34, 10, 7, 19, 73, 2, 15, 6, 20

Assuming that the head is currently at cylinder 50, what is the time taken to satisfy all requests if it takes 1ms to move from the cylinder to adjacent one and the shortest seek time first policy is used?

1. 357 ms
2. 238 ms
3. 276 ms
4. 119 ms

Options :

64635085699. 1

64635085700. 2

64635085701. 3

64635085702. 4

Question Number : 92 Question Id : 64635021833 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

	List–I		List–II
(a)	Disk	(i)	Thread
(b)	CPU	(ii)	Signal
(c)	Memory	(iii)	File system
(d)	Interrupt	(iv)	Virtual address space

Choose the correct option from those given below :

1. (a)–(i); (b)–(ii); (c)–(iii); (d)–(iv)

2. (a)–(iii); (b)–(i); (c)–(iv); (d)–(ii)

3. (a)–(ii); (b)–(i); (c)–(iv); (d)–(iii)

4. (a)–(ii); (b)–(iv); (c)–(iii); (d)–(i)

Options :

64635085703. 1

64635085704. 2

64635085705. 3

64635085706. 4

Question Number : 92 Question Id : 64635021833 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	Disk	(i)	Thread
(b)	CPU	(ii)	Signal
(c)	Memory	(iii)	File system
(d)	Interrupt	(iv)	Virtual address space

Choose the correct option from those given below :

1. (a)–(i); (b)–(ii); (c)–(iii); (d)–(iv)

2. (a)–(iii); (b)–(i); (c)–(iv); (d)–(ii)

3. (a)–(ii); (b)–(i); (c)–(iv); (d)–(iii)

4. (a)–(ii); (b)–(iv); (c)–(iii); (d)–(i)

Options :

64635085703. 1

64635085704. 2

64635085705. 3

64635085706. 4

Question Number : 93 Question Id : 64635021834 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider that a process has been allocated 3 frames and has a sequence of page referencing as 1, 2, 1, 3, 7, 4, 5, 6, 3, 1.

What shall be the difference in page faults for the above string using the algorithms of LRU and optimal page replacement for referencing the string?

1. 2
2. 0
3. 1
4. 3

Options :

64635085707. 1

64635085708. 2

64635085709. 3

64635085710. 4

Question Number : 93 Question Id : 64635021834 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider that a process has been allocated 3 frames and has a sequence of page referencing as 1, 2, 1, 3, 7, 4, 5, 6, 3, 1.

What shall be the difference in page faults for the above string using the algorithms of LRU and optimal page replacement for referencing the string?

1. 2
2. 0
3. 1
4. 3

Options :

64635085707. 1

64635085708. 2

64635085709. 3

64635085710. 4

Question Number : 94 Question Id : 64635021835 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following are NOT shared by the threads of the same process?

(a) Stack

(b) Registers

(c) Address space

(d) Message queue

1. (a) and (d)
2. (b) and (c)
3. (a) and (b)
4. (a), (b) and (c)

Options :

64635085711. 1

64635085712. 2

64635085713. 3

64635085714. 4

Question Number : 94 Question Id : 64635021835 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following are NOT shared by the threads of the same process?

(a) Stack

(b) Registers

(c) Address space

(d) Message queue

1. (a) and (d)
2. (b) and (c)
3. (a) and (b)
4. (a), (b) and (c)

Options :

64635085711. 1

64635085712. 2

64635085713. 3

64635085714. 4

Question Number : 95 Question Id : 64635021836 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider three CPU intensive processes, which require 10, 20 and 30 units of time and arrive at times 0, 2 and 6 respectively. How many context switches are needed if the operating system implements a shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end.

1. 4
2. 2
3. 3
4. 1

Options :

64635085715. 1

64635085716. 2

64635085717. 3

64635085718. 4

Question Number : 95 Question Id : 64635021836 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider three CPU intensive processes, which require 10, 20 and 30 units of time and arrive at times 0, 2 and 6 respectively. How many context switches are needed if the operating system implements a shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end.

1. 4
2. 2
3. 3
4. 1

Options :

64635085715. 1

64635085716. 2

64635085717. 3

64635085718. 4

Question Number : 96 Question Id : 64635021837 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

At a particular time of computation, the value of a counting semaphore is 7. Then 20 P (wait) operations and 15 V (signal) operations are completed on this semaphore. What is the resulting value of the semaphore?

1. 28
2. 12
3. 2
4. 42

Options :

64635085719. 1

64635085720. 2

64635085721. 3

64635085722. 4

Question Number : 96 Question Id : 64635021837 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

At a particular time of computation, the value of a counting semaphore is 7. Then 20 P (wait) operations and 15 V (signal) operations are completed on this semaphore. What is the resulting value of the semaphore?

1. 28
2. 12
3. 2
4. 42

Options :

64635085719. 1

64635085720. 2

64635085721. 3

64635085722. 4

Question Number : 97 Question Id : 64635021838 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by

1. page size
2. physical size of memory
3. the instruction set architecture
4. number of processes in memory

Options :

64635085723. 1

64635085724. 2

64635085725. 3

64635085726. 4

Question Number : 97 Question Id : 64635021838 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by

1. page size
2. physical size of memory
3. the instruction set architecture
4. number of processes in memory

Options :

64635085723. 1

64635085724. 2

64635085725. 3

64635085726. 4

Question Number : 98 Question Id : 64635021839 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A computer has six tape drives with *n* processes competing for them. Each process may need two drives. What is the maximum value of *n* for the system to be deadlock free?

1. 5

2. 4

3. 3

4. 6

Options :

64635085727. 1

64635085728. 2

64635085729. 3

64635085730. 4

Question Number : 98 Question Id : 64635021839 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A computer has six tape drives with *n* processes competing for them. Each process may need two drives. What is the maximum value of *n* for the system to be deadlock free?

1. 5

2. 4

3. 3

4. 6

Options :

64635085727. 1

64635085728. 2

64635085729. 3

64635085730. 4

Question Number : 99 Question Id : 64635021840 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A processor can support a maximum memory of 4 GB where memory is word addressable and a word is 2 bytes. What will be the size of the address bus of the processor?

1. At least 28 bits
2. At least 2 bytes
3. At least 31 bits
4. Minimum 4 bytes

Options :

64635085731. 1

64635085732. 2

64635085733. 3

64635085734. 4

Question Number : 99 Question Id : 64635021840 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A processor can support a maximum memory of 4 GB where memory is word addressable and a word is 2 bytes. What will be the size of the address bus of the processor?

1. At least 28 bits
2. At least 2 bytes
3. At least 31 bits
4. Minimum 4 bytes

Options :

64635085731. 1

64635085732. 2

64635085733. 3

64635085734. 4

Question Number : 100 Question Id : 64635021841 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following UNIX/Linux pipes will count the number of lines in all the files having ·c and ·h as their extension in the current working directory?

1. cat *·ch¦wc–l
2. cat *·[c–h]¦wc–l
3. cat *·[ch]¦ls–l
4. cat *·[ch]¦wc–l

Options :

64635085735. 1

64635085736. 2

64635085737. 3

64635085738. 4

Question Number : 100 Question Id : 64635021841 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following UNIX/Linux pipes will count the number of lines in all the files having ·c and ·h as their extension in the current working directory?

1. cat *·ch¦wc–l
2. cat *·[c–h]¦wc–l
3. cat *·[ch]¦ls–l
4. cat *·[ch]¦wc–l

Options :

64635085735. 1

64635085736. 2

64635085737. 3

64635085738. 4

Question Number : 101 Question Id : 64635021842 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : In software engineering, defects that are discovered earlier are more expensive to fix.

Q : A software design is said to be a good design, if the components are strongly cohesive and weakly coupled.

Select the correct answer from the options given below :

1. P only

2. Q only

3. P and Q

4. Neither P nor Q

Options :

64635085739. 1

64635085740. 2

64635085741. 3

64635085742. 4

Question Number : 101 Question Id : 64635021842 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true?

P : In software engineering, defects that are discovered earlier are more expensive to fix.

Q : A software design is said to be a good design, if the components are strongly cohesive and weakly coupled.

Select the correct answer from the options given below :

1. P only

2. Q only

3. P and Q

4. Neither P nor Q

Options :

64635085739. 1

64635085740. 2

64635085741. 3

64635085742. 4

Question Number : 102 Question Id : 64635021843 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The M components in MVC are responsible for

1. user interface

2. security of the system

3. business logic and domain objects

4. translating between user interface actions/events and operations on the domain objects

Options :

64635085743. 1

64635085744. 2

64635085745. 3

64635085746. 4

Question Number : 102 Question Id : 64635021843 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The M components in MVC are responsible for

1. user interface
2. security of the system
3. business logic and domain objects
4. translating between user interface actions/events and operations on the domain objects

Options :

64635085743. 1

64635085744. 2

64635085745. 3

64635085746. 4

Question Number : 103 Question Id : 64635021844 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the context of software testing, which of the following statements is/are NOT correct?

P : A minimal test set that achieves 100% path coverage will also achieve 100% statement coverage.

Q : A minimal test set that achieves 100% path coverage will generally detect more faults than one that achieves 100% statement coverage.

R : A minimal test set that achieves 100% statement coverage will generally detect more faults than one that achieves 100% branch coverage.

1. R only
2. Q only
3. P and Q only
4. Q and R only

Options :

64635085747. 1

64635085748. 2

64635085749. 3

64635085750. 4

Question Number : 103 Question Id : 64635021844 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the context of software testing, which of the following statements is/are NOT correct?

P : A minimal test set that achieves 100% path coverage will also achieve 100% statement coverage.

Q : A minimal test set that achieves 100% path coverage will generally detect more faults than one that achieves 100% statement coverage.

R : A minimal test set that achieves 100% statement coverage will generally detect more faults than one that achieves 100% branch coverage.

1. R only

2. Q only

3. P and Q only

4. Q and R only

Options :

64635085747. 1

64635085748. 2

64635085749. 3

64635085750. 4

Question Number : 104 Question Id : 64635021845 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software reuse is

1. the process of analysing software with the objective of recovering its design and specification
2. the process of using existing software artifacts and knowledge to build new software
3. concerned with reimplementing legacy system to make them more maintainable
4. the process of analysing software to create a representation of a higher level of abstraction and breaking software down into its parts to see how it works

Options :

64635085751. 1

64635085752. 2

64635085753. 3

64635085754. 4

Question Number : 104 Question Id : 64635021845 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software reuse is

1. the process of analysing software with the objective of recovering its design and specification
2. the process of using existing software artifacts and knowledge to build new software
3. concerned with reimplementing legacy system to make them more maintainable
4. the process of analysing software to create a representation of a higher level of abstraction and breaking software down into its parts to see how it works

Options :

64635085751. 1

64635085752. 2

64635085753. 3

64635085754. 4

Question Number : 105 Question Id : 64635021846 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following terms best describes Git?

1. Issue Tracking System
2. Integrated Development Environment
3. Distributed Version Control System
4. Web-based Repository Hosting Service

Options :

64635085755. 1

64635085756. 2

64635085757. 3

64635085758. 4

Question Number : 105 Question Id : 64635021846 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following terms best describes Git?

1. Issue Tracking System
2. Integrated Development Environment
3. Distributed Version Control System
4. Web-based Repository Hosting Service

Options :

64635085755. 1

64635085756. 2

64635085757. 3

64635085758. 4

Question Number : 106 Question Id : 64635021847 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A Web application and its support environment has not been fully fortified against attack. Web engineers estimate that the likelihood of repelling an attack is only 30 percent. The application does not contain sensitive or controversial information, so the threat probability is 25 percent. What is the integrity of the web application?

1. 0·625
2. 0·725
3. 0·775
4. 0·825

Options :

64635085759. 1

64635085760. 2

64635085761. 3

64635085762. 4

Question Number : 106 Question Id : 64635021847 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A Web application and its support environment has not been fully fortified against attack. Web engineers estimate that the likelihood of repelling an attack is only 30 percent. The application does not contain sensitive or controversial information, so the threat probability is 25 percent. What is the integrity of the web application?

1. 0·625
2. 0·725
3. 0·775
4. 0·825

Options :

64635085759. 1

64635085760. 2

64635085761. 3

64635085762. 4

Question Number : 107 Question Id : 64635021848 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

	List–I (Software Process Models)		List–II (Software Systems)
(a)	Waterfall model	(i)	e-business software that starts with only the basic functionalities and then moves on to more advanced features
(b)	Incremental development	(ii)	An inventory control system for a super-market to be developed within three months
(c)	Prototyping	(iii)	A virtual reality system for simulating vehicle navigation in a highway
(d)	RAD	(iv)	Automate the manual system for student record maintenance in a school

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iv); (c)–(i); (d)–(iii)
2. (a)–(i); (b)–(iii); (c)–(iv); (d)–(ii)
3. (a)–(iii); (b)–(ii); (c)–(iv); (d)–(i)
4. (a)–(iv); (b)–(i); (c)–(iii); (d)–(ii)

Options :

64635085763. 1

64635085764. 2

64635085765. 3

64635085766. 4

Question Number : 107 Question Id : 64635021848 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

	List–I (Software Process Models)		List–II (Software Systems)
(a)	Waterfall model	(i)	e-business software that starts with only the basic functionalities and then moves on to more advanced features
(b)	Incremental development	(ii)	An inventory control system for a super-market to be developed within three months
(c)	Prototyping	(iii)	A virtual reality system for simulating vehicle navigation in a highway
(d)	RAD	(iv)	Automate the manual system for student record maintenance in a school

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iv); (c)–(i); (d)–(iii)
2. (a)–(i); (b)–(iii); (c)–(iv); (d)–(ii)
3. (a)–(iii); (b)–(ii); (c)–(iv); (d)–(i)
4. (a)–(iv); (b)–(i); (c)–(iii); (d)–(ii)

Options :

64635085763. 1

64635085764. 2

64635085765. 3

64635085766. 4

Question Number : 108 Question Id : 64635021849 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software products need adaptive maintenance for which of the following reasons?

1. To rectify bugs observed while the system is in use
2. When the customers need the product to run on new platforms
3. To support the new features that users want it to support
4. To overcome wear and tear caused by the repeated use of the software

Options :

64635085767. 1

64635085768. 2

64635085769. 3

64635085770. 4

Question Number : 108 Question Id : 64635021849 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software products need adaptive maintenance for which of the following reasons?

1. To rectify bugs observed while the system is in use
2. When the customers need the product to run on new platforms
3. To support the new features that users want it to support
4. To overcome wear and tear caused by the repeated use of the software

Options :

64635085767. 1

64635085768. 2

64635085769. 3

64635085770. 4

Question Number : 109 Question Id : 64635021850 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following are the primary objectives of risk monitoring in software project tracking?

P : To assess whether predicted risks do, in fact, occur

Q : To ensure that risk aversion steps defined for the risk are being properly applied

R : To collect information that can be used for future risk analysis

1. Only P and Q

2. Only P and R

3. Only Q and R

4. All of P, Q, R

Options :

64635085771. 1

64635085772. 2

64635085773. 3

64635085774. 4

Question Number : 109 Question Id : 64635021850 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following are the primary objectives of risk monitoring in software project tracking?

P : To assess whether predicted risks do, in fact, occur

Q : To ensure that risk aversion steps defined for the risk are being properly applied

R : To collect information that can be used for future risk analysis

1. Only P and Q

2. Only P and R

3. Only Q and R

4. All of P, Q, R

Options :

64635085771. 1

64635085772. 2

64635085773. 3

64635085774. 4

Question Number : 110 Question Id : 64635021851 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software validation mainly checks for inconsistencies between

1. use cases and user requirements

2. implementation and system design blueprints

3. detailed specifications and user requirements

4. functional specifications and use cases

Options :

64635085775. 1

64635085776. 2

64635085777. 3

64635085778. 4

Question Number : 110 Question Id : 64635021851 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Software validation mainly checks for inconsistencies between

1. use cases and user requirements
2. implementation and system design blueprints
3. detailed specifications and user requirements
4. functional specifications and use cases

Options :

64635085775. 1

64635085776. 2

64635085777. 3

64635085778. 4

Question Number : 111 Question Id : 64635021852 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	Prim's algorithm	(i)	$O(V^3 \log V)$
(b)	Dijkstra's algorithm	(ii)	$O(VE^2)$
(c)	Faster all-pairs shortest path	(iii)	$O(E \lg V)$
(d)	Edmonds-Karp algorithm	(iv)	$O(V^2)$

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iv); (c)–(i); (d)–(iii)
2. (a)–(iii); (b)–(iv); (c)–(i); (d)–(ii)
3. (a)–(ii); (b)–(i); (c)–(iv); (d)–(iii)
4. (a)–(iii); (b)–(i); (c)–(iv); (d)–(ii)

Options :

64635085779. 1

64635085780. 2

64635085781. 3

64635085782. 4

Question Number : 111 Question Id : 64635021852 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	Prim's algorithm	(i)	$O(V^3 \log V)$
(b)	Dijkstra's algorithm	(ii)	$O(VE^2)$
(c)	Faster all-pairs shortest path	(iii)	$O(E \lg V)$
(d)	Edmonds-Karp algorithm	(iv)	$O(V^2)$

Choose the correct option from those given below :

1. (a)–(ii); (b)–(iv); (c)–(i); (d)–(iii)
2. (a)–(iii); (b)–(iv); (c)–(i); (d)–(ii)
3. (a)–(ii); (b)–(i); (c)–(iv); (d)–(iii)
4. (a)–(iii); (b)–(i); (c)–(iv); (d)–(ii)

Options :

64635085779. 1

64635085780. 2

64635085781. 3

64635085782. 4

Question Number : 112 Question Id : 64635021853 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

There are many sorting algorithms based on comparison. The running time of heapsort algorithm is $O(n \lg n)$. Like P, but unlike Q, heapsort sorts in place where (P, Q) is equal to

1. Merge sort, Quick sort
2. Quick sort, insertion sort
3. Insertion sort, Quick sort
4. Insertion sort, Merge sort

Options :

64635085783. 1

64635085784. 2

64635085785. 3

64635085786. 4

Question Number : 112 Question Id : 64635021853 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

There are many sorting algorithms based on comparison. The running time of heapsort algorithm is $O(n \lg n)$. Like P, but unlike Q, heapsort sorts in place where (P, Q) is equal to

1. Merge sort, Quick sort
2. Quick sort, insertion sort
3. Insertion sort, Quick sort
4. Insertion sort, Merge sort

Options :

64635085783. 1

64635085784. 2

64635085785. 3

64635085786. 4

Question Number : 113 Question Id : 64635021854 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the Euler's phi function given by

$$\phi(n) = n \prod_{p|n} \left(1 - \frac{1}{p}\right)$$

where p runs over all the primes dividing n. What is the value of $\phi(45)$?

1. 3
2. 12
3. 6
4. 24

Options :

64635085787. 1

64635085788. 2

64635085789. 3

64635085790. 4

Question Number : 113 Question Id : 64635021854 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the Euler's phi function given by

$$\phi(n) = n \prod_{p|n} \left(1 - \frac{1}{p}\right)$$

where p runs over all the primes dividing n. What is the value of $\phi(45)$?

1. 3
2. 12
3. 6
4. 24

Options :

64635085787. 1
64635085788. 2
64635085789. 3
64635085790. 4

Question Number : 114 Question Id : 64635021855 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is best running time to sort n integers in the range 0 to $n^2 - 1$?

1. $O(\lg n)$
2. $O(n)$
3. $O(n \lg n)$
4. $O(n^2)$

Options :

64635085791. 1
64635085792. 2
64635085793. 3
64635085794. 4

Question Number : 114 Question Id : 64635021855 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is best running time to sort n integers in the range 0 to $n^2 - 1$?

1. $O(\lg n)$
2. $O(n)$
3. $O(n \lg n)$
4. $O(n^2)$

Options :

64635085791. 1
64635085792. 2
64635085793. 3
64635085794. 4

Question Number : 115 Question Id : 64635021856 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is application of depth-first search?

1. Only topological sort
2. Only strongly connected components
3. Both topological sort and strongly connected components
4. Neither topological sort nor strongly connected components

Options :

64635085795. 1

64635085796. 2

64635085797. 3

64635085798. 4

Question Number : 115 Question Id : 64635021856 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is application of depth-first search?

1. Only topological sort
2. Only strongly connected components
3. Both topological sort and strongly connected components
4. Neither topological sort nor strongly connected components

Options :

64635085795. 1

64635085796. 2

64635085797. 3

64635085798. 4

Question Number : 116 Question Id : 64635021857 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider double hashing of the form

$$h(k, i) = (h_1(k) + ih_2(k)) \bmod m$$

where $h_1(k) = k \bmod m$

$$h_2(k) = 1 + (k \bmod n)$$

where $n = m - 1$ and $m = 701$

For $k = 123456$, what is the difference between first and second probes in terms of slots?

1. 255
2. 256
3. 257
4. 258

Options :

64635085799. 1

64635085800. 2

64635085801. 3

64635085802. 4

Question Number : 116 Question Id : 64635021857 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider double hashing of the form

$$h(k, i) = (h_1(k) + ih_2(k)) \bmod m$$

where $h_1(k) = k \bmod m$

$$h_2(k) = 1 + (k \bmod n)$$

where $n = m - 1$ and $m = 701$

For $k = 123456$, what is the difference between first and second probes in terms of slots?

1. 255
2. 256
3. 257
4. 258

Options :

64635085799. 1

64635085800. 2

64635085801. 3

64635085802. 4

Question Number : 117 Question Id : 64635021858 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the complexity class $CO - NP$ as the set of languages L such that $\bar{L} \in NP$, and the following two statements :

S_1 : $P \subseteq CO - NP$

S_2 : If $NP \neq CO - NP$, then $P \neq NP$

Which of the following is/are correct?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085803. 1

64635085804. 2

64635085805. 3

64635085806. 4

Question Number : 117 Question Id : 64635021858 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the complexity class $CO - NP$ as the set of languages L such that $\bar{L} \in NP$, and the following two statements :

S_1 : $P \subseteq CO - NP$

S_2 : If $NP \neq CO - NP$, then $P \neq NP$

Which of the following is/are correct?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085803. 1

64635085804. 2

64635085805. 3

64635085806. 4

Question Number : 118 Question Id : 64635021859 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following steps :

S_1 : Characterize the structure of an optimal solution

S_2 : Compute the value of an optimal solution in bottom-up fashion

Which of the step(s) is/are common to both dynamic programming and greedy algorithms?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085807. 1

64635085808. 2

64635085809. 3

64635085810. 4

Question Number : 118 Question Id : 64635021859 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following steps :

S_1 : Characterize the structure of an optimal solution

S_2 : Compute the value of an optimal solution in bottom-up fashion

Which of the step(s) is/are common to both dynamic programming and greedy algorithms?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085807. 1

64635085808. 2

64635085809. 3

64635085810. 4

Question Number : 119 Question Id : 64635021860 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following properties with respect to a flow network $G=(V,E)$ in which a flow is a real-valued function $f:V\times V\rightarrow R$:

P_1 : For all $u,v\in V$, $f(u,v)=-f(v,u)$

P_2 : $\sum_{v\in V} f(u,v)=0$ for all $u\in V$

Which one of the following is/are correct?

1. Only P_1
2. Only P_2
3. Both P_1 and P_2
4. Neither P_1 nor P_2

Options :

64635085811. 1
64635085812. 2
64635085813. 3
64635085814. 4

Question Number : 119 Question Id : 64635021860 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Consider the following properties with respect to a flow network $G=(V,E)$ in which a flow is a real-valued function $f:V\times V\to R$:

P_1 : For all $u,v\in V$, $f(u,v)=-f(v,u)$

P_2 : $\sum_{v\in V} f(u,v)=0$ for all $u\in V$

Which one of the following is/are correct?

1. Only P_1
2. Only P_2
3. Both P_1 and P_2
4. Neither P_1 nor P_2

Options :
64635085811. 1
64635085812. 2
64635085813. 3
64635085814. 4

Question Number : 120 Question Id : 64635021861 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Consider the following statements :

S_1 : For any integer $n>1$, $a^{\phi(n)}\equiv 1(\mathrm{mod}\, n)$ for all $a\in Z_n^*$, where $\phi(n)$ is Euler's phi function.

S_2 : If p is prime, then $a^p\equiv 1(\mathrm{mod}\, p)$ for all $a\in Z_p^*$.

Which one of the following is/are correct?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085815. 1

64635085816. 2

64635085817. 3

64635085818. 4

Question Number : 120 Question Id : 64635021861 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements :

S_1 : For any integer $n > 1$, $a^{\phi(n)} \equiv 1 (\mathrm{mod}\, n)$ for all $a \in Z_n^*$, where $\phi(n)$ is Euler's phi function.

S_2 : If p is prime, then $a^p \equiv 1 (\mathrm{mod}\, p)$ for all $a \in Z_p^*$.

Which one of the following is/are correct?

1. Only S_1
2. Only S_2
3. Both S_1 and S_2
4. Neither S_1 nor S_2

Options :

64635085815. 1

64635085816. 2

64635085817. 3

64635085818. 4

Question Number : 121 Question Id : 64635021862 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which data structure is used by the compiler for managing variables and their attributes?

1. Binary tree
2. Link list
3. Symbol table
4. Parse table

Options :

64635085819. 1

64635085820. 2

64635085821. 3

64635085822. 4

Question Number : 121 Question Id : 64635021862 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which data structure is used by the compiler for managing variables and their attributes?

1. Binary tree

2. Link list

3. Symbol table

4. Parse table

Options :

64635085819. 1

64635085820. 2

64635085821. 3

64635085822. 4

Question Number : 122 Question Id : 64635021863 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

On translating the expression given below into quadruple representation, how many operations are required?

$$(i*j)+(e+f)*(a*b+c)$$

1. 5
2. 6
3. 3
4. 7

Options :

64635085823. 1

64635085824. 2

64635085825. 3

64635085826. 4

Question Number : 122 Question Id : 64635021863 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

On translating the expression given below into quadruple representation, how many operations are required?

$$(i*j)+(e+f)*(a*b+c)$$

1. 5
2. 6
3. 3
4. 7

Options :

64635085823. 1

64635085824. 2

64635085825. 3

64635085826. 4

Question Number : 123 Question Id : 64635021864 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Replacing the expression $4*2\cdot14$ by $8\cdot56$ is known as

1. constant folding
2. induction variable
3. strength reduction
4. code reduction

Options :

64635085827. 1

64635085828. 2

64635085829. 3

64635085830. 4

Question Number : 123 Question Id : 64635021864 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Replacing the expression $4*2\cdot14$ by $8\cdot56$ is known as

1. constant folding
2. induction variable
3. strength reduction
4. code reduction

Options :

64635085827. 1

64635085828. 2

64635085829. 3

64635085830. 4

Question Number : 124 Question Id : 64635021865 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Shift-reduce parser consists of

(a) input buffer

(b) stack

(c) parse table

Choose the correct option from those give below :

1. (a) and (b) only

2. (a) and (c) only

3. (c) only

4. (a), (b) and (c)

Options :

64635085831. 1

64635085832. 2

64635085833. 3

64635085834. 4

Question Number : 124 Question Id : 64635021865 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Shift-reduce parser consists of

(a) input buffer

(b) stack

(c) parse table

Choose the correct option from those give below :

1. (a) and (b) only

2. (a) and (c) only

3. (c) only

4. (a), (b) and (c)

Options :

64635085831. 1

64635085832. 2

64635085833. 3

64635085834. 4

Question Number : 125 Question Id : 64635021866 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many states are there in a minimum state automata equivalent to regular expression given below?

Regular expression is $a*b(a+b)$

1. 1

2. 2

3. 3

4. 4

Options :

64635085835. 1

64635085836. 2

64635085837. 3

64635085838. 4

Question Number : 125 Question Id : 64635021866 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many states are there in a minimum state automata equivalent to regular expression given below?

Regular expression is $a*b(a+b)$

1. 1

2. 2

3. 3

4. 4

Options :

64635085835. 1

64635085836. 2

64635085837. 3

64635085838. 4

Question Number : 126 Question Id : 64635021867 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

where L_1 : Regular language

L_2 : Context-free language

L_3 : Recursive language

L_4 : Recursively enumerable language

List–I	List–II
(a) $\overline{L}_3 \cup L_4$	(i) Context-free language
(b) $\overline{L}_2 \cup L_3$	(ii) Recursively enumerable language
(c) $L_1^* \cap L_2$	(iii) Recursive language

Choose the correct option from those given below :

1. (a)–(ii); (b)–(i); (c)–(iii)
2. (a)–(ii); (b)–(iii); (c)–(i)
3. (a)–(iii); (b)–(i); (c)–(ii)
4. (a)–(i); (b)–(ii); (c)–(iii)

Options :

64635085839. 1

64635085840. 2

64635085841. 3

64635085842. 4

Question Number : 126 Question Id : 64635021867 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

where L_1 : Regular language

L_2 : Context-free language

L_3 : Recursive language

L_4 : Recursively enumerable language

List–I	List–II
(a) $\overline{L}_3 \cup L_4$	(i) Context-free language
(b) $\overline{L}_2 \cup L_3$	(ii) Recursively enumerable language
(c) $L_1^* \cap L_2$	(iii) Recursive language

Choose the correct option from those given below :

1. (a)–(ii); (b)–(i); (c)–(iii)
2. (a)–(ii); (b)–(iii); (c)–(i)
3. (a)–(iii); (b)–(i); (c)–(ii)
4. (a)–(i); (b)–(ii); (c)–(iii)

Options :

64635085839. 1

64635085840. 2

64635085841. 3

64635085842. 4

Question Number : 127 Question Id : 64635021868 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How can the decision algorithm be constructed for deciding whether context-free language L is finite?

(a) By constructing redundant CFG G in CNF generating language $\underline{L}$

(b) By constructing non-redundant CFG G in CNF generating language L

(c) By constructing non-redundant CFG G in CNF generating language $L - \{\wedge\}$ ($\wedge$ stands for null)

Which of the following is correct?

1. (a) only
2. (b) only
3. (c) only
4. None of (a), (b) and (c)

Options :

64635085843. 1

64635085844. 2

64635085845. 3

64635085846. 4

Question Number : 127 Question Id : 64635021868 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How can the decision algorithm be constructed for deciding whether context-free language L is finite?

(a) By constructing redundant CFG G in CNF generating language $\underline{L}$

(b) By constructing non-redundant CFG G in CNF generating language L

(c) By constructing non-redundant CFG G in CNF generating language $L - \{\wedge\}$ ($\wedge$ stands for null)

Which of the following is correct?

1. (a) only
2. (b) only
3. (c) only
4. None of (a), (b) and (c)

Options :

64635085843. 1

64635085844. 2

64635085845. 3

64635085846. 4

Question Number : 128 Question Id : 64635021869 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following grammar :

$S \rightarrow XY$

$X \rightarrow YaY \mid a$ and $Y \rightarrow bbX$

Which of the following statements is/are true about the above grammar?

(a) Strings produced by the grammar can have consecutive three a's.

(b) Every string produced by the grammar have alternate a and b.

(c) Every string produced by the grammar have at least two a's.

(d) Every string produced by the grammar have b's in multiple of 2.

1. (a) only

2. (b) and (c) only

3. (d) only

4. (c) and (d) only

Options :

64635085847. 1

64635085848. 2

64635085849. 3

64635085850. 4

Question Number : 128 Question Id : 64635021869 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following grammar :

$S \rightarrow XY$

$X \rightarrow YaY \mid a$ and $Y \rightarrow bbX$

Which of the following statements is/are true about the above grammar?

(a) Strings produced by the grammar can have consecutive three *a*'s.

(b) Every string produced by the grammar have alternate *a* and *b*.

(c) Every string produced by the grammar have at least two *a*'s.

(d) Every string produced by the grammar have *b*'s in multiple of 2.

1. (a) only

2. (b) and (c) only

3. (d) only

4. (c) and (d) only

Options :

64635085847. 1

64635085848. 2

64635085849. 3

64635085850. 4

Question Number : 129 Question Id : 64635021870 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following problems is/are decidable problem(s) (recursively enumerable) on turing machine M ?

(a) G is a CFG with $L(G)=\phi$

(b) There exist two TMs M_1 and M_2 such that $L(M) \subseteq \{L(M_1) \cup L(M_2)\}$ = language of all TMs

(c) M is a TM that accepts ω using at most $2^{|\omega|}$ cells of tape

1. (a) and (b) only
2. (a) only
3. (a), (b) and (c)
4. (c) only

Options :

64635085851. 1

64635085852. 2

64635085853. 3

64635085854. 4

Question Number : 129 Question Id : 64635021870 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following problems is/are decidable problem(s) (recursively enumerable) on turing machine M ?

(a) G is a CFG with $L(G)=\phi$

(b) There exist two TMs M_1 and M_2 such that $L(M) \subseteq \{L(M_1) \cup L(M_2)\}$ = language of all TMs

(c) M is a TM that accepts ω using at most $2^{|\omega|}$ cells of tape

1. (a) and (b) only
2. (a) only
3. (a), (b) and (c)
4. (c) only

Options :

64635085851. 1

64635085852. 2

64635085853. 3

64635085854. 4

Question Number : 130 Question Id : 64635021871 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a statement

A language $L \subseteq \Sigma^*$ is recursive if there exists some turing machine M.

Which of the following conditions is satisfied for any string ω?

1. If $\omega \in L$, then M accepts ω and M will not halt
2. If $\omega \notin L$, then M accepts ω and M will halt by reaching at final state
3. If $\omega \notin L$, then M halts without reaching to acceptable state
4. If $\omega \in L$, then M halts without reaching to an acceptable state

Options :

64635085855. 1

64635085856. 2

64635085857. 3

64635085858. 4

Question Number : 130 Question Id : 64635021871 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a statement

A language $L \subseteq \Sigma^*$ is recursive if there exists some turing machine M.

Which of the following conditions is satisfied for any string ω?

1. If $\omega \in L$, then M accepts ω and M will not halt
2. If $\omega \notin L$, then M accepts ω and M will halt by reaching at final state
3. If $\omega \notin L$, then M halts without reaching to acceptable state
4. If $\omega \in L$, then M halts without reaching to an acceptable state

Options :

64635085855. 1

64635085856. 2

64635085857. 3

64635085858. 4

Question Number : 131 Question Id : 64635021872 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A fully connected network topology is a topology in which there is a direct link between all pairs of nodes. Given a fully connected network with n nodes, the number of direct links as a function of n can be expressed as

1. $\frac{n(n+1)}{2}$
2. $\frac{(n+1)}{2}$
3. $\frac{n}{2}$
4. $\frac{n(n-1)}{2}$

Options :

64635085859. 1

64635085860. 2

64635085861. 3

64635085862. 4

Question Number : 131 Question Id : 64635021872 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A fully connected network topology is a topology in which there is a direct link between all pairs of nodes. Given a fully connected network with n nodes, the number of direct links as a function of n can be expressed as

1. $\frac{n(n+1)}{2}$
2. $\frac{(n+1)}{2}$
3. $\frac{n}{2}$
4. $\frac{n(n-1)}{2}$

Options :

64635085859. 1

64635085860. 2

64635085861. 3

64635085862. 4

Question Number : 132 Question Id : 64635021873 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the name of the protocol that allows a client to send a broadcast message with its MAC address and receive an IP address in reply?

1. ARP
2. DNS
3. RARP
4. ICMP

Options :

64635085863. 1

64635085864. 2

64635085865. 3

64635085866. 4

Question Number : 132 Question Id : 64635021873 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the name of the protocol that allows a client to send a broadcast message with its MAC address and receive an IP address in reply?

1. ARP
2. DNS
3. RARP
4. ICMP

Options :

64635085863. 1

64635085864. 2

64635085865. 3

64635085866. 4

Question Number : 133 Question Id : 64635021874 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

You are designing a link layer protocol for a link with bandwidth of 1 Gbps (10^9 bits/second) over a fiber link with length of 800 km. Assume the speed of light in this medium is 200000 km/second. What is the propagation delay in this link?

1. 1 millisecond

2. 2 milliseconds

3. 3 milliseconds

4. 4 milliseconds

Options :

64635085867. 1

64635085868. 2

64635085869. 3

64635085870. 4

Question Number : 133 Question Id : 64635021874 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

You are designing a link layer protocol for a link with bandwidth of 1 Gbps (10^9 bits/second) over a fiber link with length of 800 km. Assume the speed of light in this medium is 200000 km/second. What is the propagation delay in this link?

1. 1 millisecond

2. 2 milliseconds

3. 3 milliseconds

4. 4 milliseconds

Options :

64635085867. 1

64635085868. 2

64635085869. 3

64635085870. 4

Question Number : 134 Question Id : 64635021875 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

You need 500 subnets, each with about 100 usable host addresses per subnet. What network mask will you assign using a class B network address?

1. 255·255·255·252
2. 255·255·255·128
3. 255·255·255·0
4. 255·255·254·0

Options :

64635085871. 1

64635085872. 2

64635085873. 3

64635085874. 4

Question Number : 134 Question Id : 64635021875 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

You need 500 subnets, each with about 100 usable host addresses per subnet. What network mask will you assign using a class B network address?

1. 255·255·255·252
2. 255·255·255·128
3. 255·255·255·0
4. 255·255·254·0

Options :

64635085871. 1

64635085872. 2

64635085873. 3

64635085874. 4

Question Number : 135 Question Id : 64635021876 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following two statements with respect to IPv4 in computer networking :

P : The loopback (IP) address is a member of class B network.

Q : The loopback (IP) address is used to send a packet from host to itself.

What can you say about the statements P and Q?

1. P–True; Q–False

2. P–False; Q–True

3. P–True; Q–True

4. P–False; Q–False

Options :

64635085875. 1

64635085876. 2

64635085877. 3

64635085878. 4

Question Number : 135 Question Id : 64635021876 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following two statements with respect to IPv4 in computer networking :

P : The loopback (IP) address is a member of class B network.

Q : The loopback (IP) address is used to send a packet from host to itself.

What can you say about the statements P and Q?

1. P–True; Q–False

2. P–False; Q–True

3. P–True; Q–True

4. P–False; Q–False

Options :

64635085875. 1

64635085876. 2

64635085877. 3

64635085878. 4

Question Number : 136 Question Id : 64635021877 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the TCP/IP model, encryption and decryption are functions of _____ layer.

1. data link
2. network
3. transport
4. application

Options :

64635085879. 1

64635085880. 2

64635085881. 3

64635085882. 4

Question Number : 136 Question Id : 64635021877 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the TCP/IP model, encryption and decryption are functions of _____ layer.

1. data link
2. network
3. transport
4. application

Options :

64635085879. 1

64635085880. 2

64635085881. 3

64635085882. 4

Question Number : 137 Question Id : 64635021878 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true with regard to various layers in the Internet stack?

P : At the link layer, a packet of transmitted information is called a frame.

Q : At the network layer, a packet of transmitted information is called a segment.

1. P only

2. Q only

3. P and Q

4. Neither P nor Q

Options :

64635085883. 1

64635085884. 2

64635085885. 3

64635085886. 4

Question Number : 137 Question Id : 64635021878 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is/are true with regard to various layers in the Internet stack?

P : At the link layer, a packet of transmitted information is called a frame.

Q : At the network layer, a packet of transmitted information is called a segment.

1. P only

2. Q only

3. P and Q

4. Neither P nor Q

Options :

64635085883. 1
64635085884. 2
64635085885. 3
64635085886. 4

Question Number : 138 Question Id : 64635021879 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What percentage (%) of the IPv4, IP address space do all class C addresses consume?

1. 12·5%
2. 25%
3. 37·5%
4. 50%

Options :

64635085887. 1
64635085888. 2
64635085889. 3
64635085890. 4

Question Number : 138 Question Id : 64635021879 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What percentage (%) of the IPv4, IP address space do all class C addresses consume?

1. 12·5%
2. 25%
3. 37·5%
4. 50%

Options :

64635085887. 1
64635085888. 2

64635085889. 3

64635085890. 4

Question Number : 139 Question Id : 64635021880 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The ability to inject packets into the Internet with a false source address is known as

1. Man-in-the-middle attack
2. IP phishing
3. IP sniffing
4. IP spoofing

Options :

64635085891. 1

64635085892. 2

64635085893. 3

64635085894. 4

Question Number : 139 Question Id : 64635021880 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The ability to inject packets into the Internet with a false source address is known as

1. Man-in-the-middle attack
2. IP phishing
3. IP sniffing
4. IP spoofing

Options :

64635085891. 1

64635085892. 2

64635085893. 3

64635085894. 4

Question Number : 140 Question Id : 64635021881 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The RSA encryption algorithm also works in reverse, that is, you can encrypt a message with the private key and decrypt it using the public key. This property is used in

1. intrusion detection systems
2. digital signatures
3. data compression
4. certification

Options :

64635085895. 1

64635085896. 2

64635085897. 3

64635085898. 4

Question Number : 140 Question Id : 64635021881 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The RSA encryption algorithm also works in reverse, that is, you can encrypt a message with the private key and decrypt it using the public key. This property is used in

1. intrusion detection systems
2. digital signatures
3. data compression
4. certification

Options :

64635085895. 1

64635085896. 2

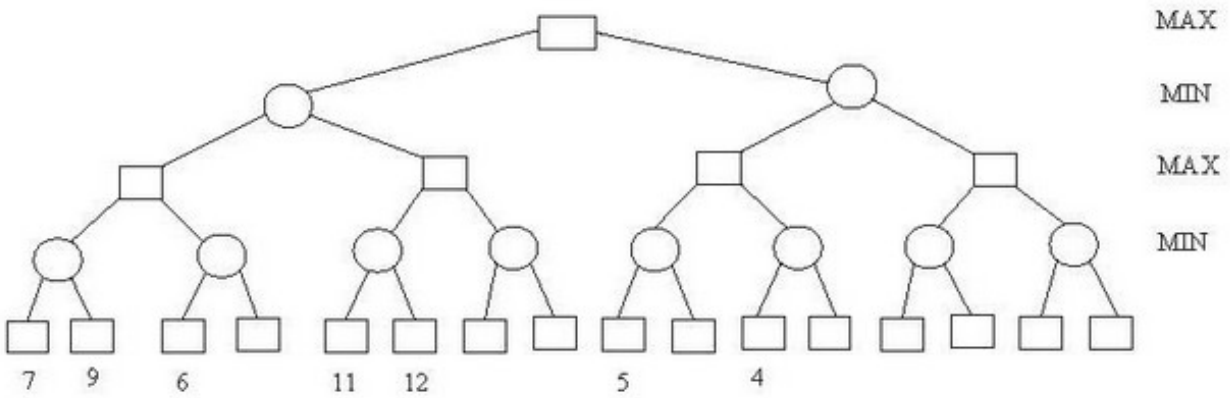
64635085897. 3

64635085898. 4

Question Number : 141 Question Id : 64635021882 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the game tree given below :



Here ○ and □ represents MIN and MAX nodes respectively. The value of the root node of the game tree is

1. 4
2. 7
3. 11
4. 12

Options :

64635085899. 1

64635085900. 2

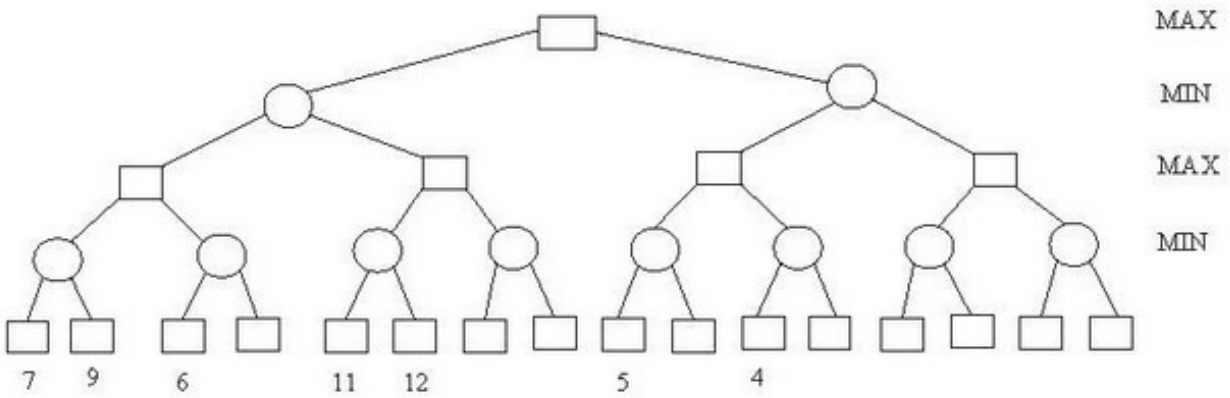
64635085901. 3

64635085902. 4

Question Number : 141 Question Id : 64635021882 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the game tree given below :



Here ○ and □ represents MIN and MAX nodes respectively. The value of the root node of the game tree is

1. 4
2. 7
3. 11
4. 12

Options :

64635085899. 1

64635085900. 2

64635085901. 3

64635085902. 4

Question Number : 142 Question Id : 64635021883 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	Greedy best-first	(i)	Minimal cost $(p)+h(p)$
(b)	Lowest cost-first	(ii)	Minimal $h(p)$
(c)	A^* algorithm	(iii)	Minimal cost (p)

Choose the correct option from those given below :

1. (a)–(i); (b)–(ii); (c)–(iii)
2. (a)–(iii); (b)–(ii); (c)–(i)
3. (a)–(i); (b)–(iii); (c)–(ii)
4. (a)–(ii); (b)–(iii); (c)–(i)

Options :

64635085903. 1

64635085904. 2

64635085905. 3

64635085906. 4

Question Number : 142 Question Id : 64635021883 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Match List–I with List–II :

List–I		List–II	
(a)	Greedy best-first	(i)	Minimal cost $(p)+h(p)$
(b)	Lowest cost-first	(ii)	Minimal $h(p)$
(c)	A^* algorithm	(iii)	Minimal cost (p)

Choose the correct option from those given below :

1. (a)–(i); (b)–(ii); (c)–(iii)
2. (a)–(iii); (b)–(ii); (c)–(i)
3. (a)–(i); (b)–(iii); (c)–(ii)
4. (a)–(ii); (b)–(iii); (c)–(i)

Options :

64635085903. 1

64635085904. 2

64635085905. 3

64635085906. 4

Question Number : 143 Question Id : 64635021884 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The STRIPS representation is

1. a feature-centric representation
2. an action-centric representation
3. a combination of feature-centric and action-centric representations
4. a hierarchical feature-centric representation

Options :

64635085907. 1

64635085908. 2

64635085909. 3

64635085910. 4

Question Number : 143 Question Id : 64635021884 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The STRIPS representation is

1. a feature-centric representation
2. an action-centric representation
3. a combination of feature-centric and action-centric representations
4. a hierarchical feature-centric representation

Options :

64635085907. 1

64635085908. 2

64635085909. 3

64635085910. 4

Question Number : 144 Question Id : 64635021885 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A fuzzy conjunction operator denoted as $t(x, y)$ and a fuzzy disjunction operator denoted as $s(x, y)$ form a dual pair if they satisfy the condition :

1. $t(x, y) = 1 - s(x, y)$
2. $t(x, y) = s(1 - x, 1 - y)$
3. $t(x, y) = 1 - s(1 - x, 1 - y)$
4. $t(x, y) = s(1 + x, 1 + y)$

Options :

64635085911. 1

64635085912. 2

64635085913. 3

64635085914. 4

Question Number : 144 Question Id : 64635021885 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A fuzzy conjunction operator denoted as $t(x, y)$ and a fuzzy disjunction operator denoted as $s(x, y)$ form a dual pair if they satisfy the condition :

1. $t(x, y) = 1 - s(x, y)$
2. $t(x, y) = s(1 - x, 1 - y)$
3. $t(x, y) = 1 - s(1 - x, 1 - y)$
4. $t(x, y) = s(1 + x, 1 + y)$

Options :

64635085911. 1

64635085912. 2

64635085913. 3

64635085914. 4

Question Number : 145 Question Id : 64635021886 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Let A_{α_0} denotes the α-cut of a fuzzy set A at α_0. If $\alpha_1 < \alpha_2$, then

1. $A_{\alpha_1} \supseteq A_{\alpha_2}$
2. $A_{\alpha_1} \supset A_{\alpha_2}$
3. $A_{\alpha_1} \subseteq A_{\alpha_2}$
4. $A_{\alpha_1} \subset A_{\alpha_2}$

Options :

64635085915. 1

64635085916. 2

64635085917. 3

64635085918. 4

Question Number : 145 Question Id : 64635021886 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Let A_{α_0} denotes the α-cut of a fuzzy set A at α_0. If $\alpha_1 < \alpha_2$, then

1. $A_{\alpha_1} \supseteq A_{\alpha_2}$
2. $A_{\alpha_1} \supset A_{\alpha_2}$
3. $A_{\alpha_1} \subseteq A_{\alpha_2}$
4. $A_{\alpha_1} \subset A_{\alpha_2}$

Options :

64635085915. 1

64635085916. 2

64635085917. 3

64635085918. 4

Question Number : 146 Question Id : 64635021887 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following methods :

M_1 : Mean of maximum

M_2 : Centre of area

M_3 : Height method

Which of the following is/are defuzzification method(s)?

1. Only M_2
2. Only M_1 and M_2
3. Only M_2 and M_3
4. M_1, M_2 and M_3

Options :

64635085919. 1

64635085920. 2

64635085921. 3

64635085922. 4

Question Number : 146 Question Id : 64635021887 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following methods :

M_1 : Mean of maximum

M_2 : Centre of area

M_3 : Height method

Which of the following is/are defuzzification method(s)?

1. Only M_2
2. Only M_1 and M_2
3. Only M_2 and M_3
4. M_1, M_2 and M_3

Options :

64635085919. 1

64635085920. 2

64635085921. 3

64635085922. 4

Question Number : 147 Question Id : 64635021888 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following :

(a) Evolution

(b) Selection

(c) Reproduction

(d) Mutation

Which of the following are found in genetic algorithms?

1. (b), (c) and (d) only
2. (b) and (d) only
3. (a), (b), (c) and (d)
4. (a), (b) and (d) only

Options :

64635085923. 1

64635085924. 2

64635085925. 3

64635085926. 4

Question Number : 147 Question Id : 64635021888 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following :

(a) Evolution

(b) Selection

(c) Reproduction

(d) Mutation

Which of the following are found in genetic algorithms?

1. (b), (c) and (d) only
2. (b) and (d) only
3. (a), (b), (c) and (d)
4. (a), (b) and (d) only

Options :

64635085923. 1

64635085924. 2

64635085925. 3

64635085926. 4

Question Number : 148 Question Id : 64635021889 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of unsupervised neural network?

1. Back-propagation network
2. Hebb network
3. Associative memory network
4. Self-organizing feature map

Options :

64635085927. 1

64635085928. 2

64635085929. 3

64635085930. 4

Question Number : 148 Question Id : 64635021889 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of unsupervised neural network?

1. Back-propagation network
2. Hebb network
3. Associative memory network
4. Self-organizing feature map

Options :

64635085927. 1

64635085928. 2

64635085929. 3

64635085930. 4

Question Number : 149 Question Id : 64635021890 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The value of the derivative of Sigmoid function given by

$$f(x) = \frac{1}{1+e^{-2x}}$$

at $x = 0$ is

1. 0
2. $\frac{1}{2}$
3. $\frac{1}{4}$
4. ∞

Options :

64635085931. 1

64635085932. 2

64635085933. 3

64635085934. 4

Question Number : 149 Question Id : 64635021890 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The value of the derivative of Sigmoid function given by

$$f(x) = \frac{1}{1+e^{-2x}}$$

at $x = 0$ is

1. 0
2. $\frac{1}{2}$
3. $\frac{1}{4}$
4. ∞

Options :

64635085931. 1

64635085932. 2

64635085933. 3

64635085934. 4

Question Number : 150 Question Id : 64635021891 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Reinforcement learning can be formalized in terms of _____ in which the agent initially only knows the set of possible _____ and the set of possible actions.

1. Markov decision processes, objects
2. Hidden states, objects
3. Markov decision processes, states
4. objects, states

Options :

64635085935. 1

64635085936. 2

64635085937. 3

64635085938. 4

Question Number : 150 Question Id : 64635021891 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Reinforcement learning can be formalized in terms of _____ in which the agent initially only knows the set of possible _____ and the set of possible actions.

1. Markov decision processes, objects
2. Hidden states, objects
3. Markov decision processes, states
4. objects, states

Options :

64635085935. 1

64635085936. 2

64635085937. 3

64635085938. 4