National Testing Agency

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87 Computer Science and Applications

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PART I General Paper

Section Id :	615475139
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Sub-Section Number:	1
Sub-Section Id:	615475452
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 61547510439 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 learning outcomes are intended in teaching organized at understanding level?

(1) Longer recall and retention of facts

(2) Seeking of relationships and patterns among facts

(3) Creative construction and critical interpretation of ideas

(4) Mastery of facts and information

Options :

61547540701. 1

61547540702. 2

61547540703. 3

61547540704. 4

Question Number : 1 Question Id : 61547510439 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 निम्नांकित में से कौन-से अधिगम परिणाम अवबोध स्तर पर प्रयुक्त होते हैं?

(1) तथ्यों को लंबे समय तक प्रत्यास्मरण और धारण रखना

(2) तथ्यों के मध्य संबंध और स्वरूप देखना

(3) विचारों का रचनात्मक निर्माण और आलोचनात्मक व्याख्या

(4) तथ्यों और सूचना पर प्रभुत्व

Options :

61547540701. 1

61547540702. 2

61547540703. 3

61547540704. 4

Question Number : 2 Question Id : 61547510440 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 differentiate teaching from learning?

(a) Teaching is a social act while learning is a personal act

(b) Teaching implies learning

(c) Teaching is like selling while learning is like buying

(d) Teaching can occur without learning taking place

(e) In teaching, influence is directed towards learning and learner, while in learning it is usually towards oneself

Choose the correct answer from the following options :

(1) (a), (c) and (e)

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

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

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

Options :

61547540705. 1

61547540706. 2

61547540707. 3

61547540708. 4

Question Number : 2 Question Id : 61547510440 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित में से कौन-से कथन शिक्षण और अधिगम के मध्य अंतर करते हैं?

(a) शिक्षण एक सामाजिक कृत्य है जबकि अधिगम एक निजी कृत्य है

(b) शिक्षण में अधिगम समाविष्ट है

(c) शिक्षण बेचने के समान है, जबकि अधिगम खरीदने के समान है

(d) शिक्षण बिना अधिगम प्राप्ति के हो सकती है

(e) शिक्षण अधिगम और शिक्षार्थी की ओर लक्षित है, जबकि अधिगम प्रायः स्वयं के लिए होता है

निम्नांकित विकल्पों में से सही उत्तर चुनिए :

(1) (a), (c) और (e)

(2) (a), (b) और (c)

(3) (b), (c) और (d)

(4) (c), (d) और (e)

Options :

61547540705. 1

61547540706. 2

61547540707. 3

61547540708. 4

Question Number : 3 Question Id : 61547510441 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 classroom related factors that influence effectiveness of teaching?

(a) Prior task related behaviour of students

(b) Adherence to linear pattern of communication by the teacher

(c) Socio-economic status of the family to which learners belong

(d) Inappropriate use of technological resources by the teacher

(e) Cultural background of students

Choose your answer from the following options :

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

(2) (b), (c) and (d)

(3) (a), (b) and (d)

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

Options :

61547540709. 1

61547540710. 2

61547540711. 3

61547540712. 4

Question Number : 3 Question Id : 61547510441 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित में से कौन-से कक्षा संबंधी कारक शिक्षण की प्रभाविता को प्रभावित करते हैं?

(a) विद्यार्थियों का कार्य से पहले का व्यवहार

(b) अध्यापक द्वारा संप्रेषण के सरेखीय पैटर्न का पालन

(c) शिक्षार्थी के परिवार की सामाजिक-आर्थिक स्थिति

(d) अध्यापक द्वारा प्रौद्योगिकीय संसाधनों का अनुचित प्रयोग

(e) विद्यार्थियों की सांस्कृतिक पृष्ठभूमि

निम्नांकित विकल्पों में से सही उत्तर चुनिए :

(1) (a), (b) और (c)

(2) (b), (c) और (d)

(3) (a), (b) और (d)

(4) (c), (d) और (e)

Options :

61547540709. 1

61547540710. 2

61547540711. 3

61547540712. 4

Question Number : 4 Question Id : 61547510442 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 types of learning materials, the presentations are highly structured and individualised?

(1) Textbooks prescribed by the universities

(2) Journals and the articles recommended for readings

(3) Writings of great thinkers selected for reflective readings

(4) Programmed instructional and modular learning material

Options :

61547540713. 1

61547540714. 2

61547540715. 3

61547540716. 4

Question Number : 4 Question Id : 61547510442 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित में से किस अधिगम सामगी प्रकारता में प्रस्तुति अत्यधिक संरचनाबद्ध और व्यक्तिपरक होती है?

(1) विश्वविद्यालयों द्वारा निर्धारित पाठ्यपुस्तकें

(2) पठन हेतु सिफारिश की गई पत्रिकाएं और लेख

(3) विमर्शक पठन हेतु चयनित महान् चिन्तकों के लेख

(4) अभिक्रमित अनुदेशात्मक और माडयुलर अधिगम साम्रगी

Options :

61547540713. 1

61547540714. 2

61547540715. 3

61547540716. 4

Question Number : 5 Question Id : 61547510443 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 types of assessment is conducted periodically with an eye on standards?

(1) Formative assessment

(2) Summative assessment

(3) Portfolio assessment

(4) Performance assessment

Options :

61547540717. 1

61547540718. 2

61547540719. 3

61547540720. 4

Question Number : 5 Question Id : 61547510443 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित में से आंकलन का कौन-सा प्रकार मानकों पर नजर रखते हुए आवधिक आधार पर किया जाता है?

(1) रचनात्मक आंकलन

(2) संकलनात्मक आंकलन

(3) पोर्टफोलियो आंकलन

(4) निष्पादन आंकलन

Options :

61547540717. 1

61547540718. 2

61547540719. 3

61547540720. 4

Question Number : 6 Question Id : 61547510444 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 university teacher plans to improve the study habits of students in his/her class. Which type of research paradigm will be helpful in this regard?

(1) Evaluative research paradigm
(2) Fundamental research paradigm
(3) Applied research paradigm
(4) Action research paradigm

Options :

61547540721. 1

61547540722. 2

61547540723. 3

61547540724. 4

Question Number : 6 Question Id : 61547510444 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 विश्वविद्यालय शिक्षक, अपनी कक्षा में विद्यार्थियों की अध्ययन आदतों में सुधार की योजना बनाता है। इस संबंध में किस प्रकार का शोध स्वरूप मददगार होगा?

(1) मूल्यांकनात्मक शोध रूप
(2) मौलिक शोध रूप
(3) व्यवहृत शोध रूप
(4) क्रियात्मक शोध रूप

Options :

61547540721. 1

61547540722. 2

61547540723. 3

61547540724. 4

Question Number : 7 Question Id : 61547510445 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 researcher intends to make use of ICT in his/her research. What considerations should weigh most in such a decision?

(a) Appropriateness of the tool used
(b) Cost involved in procuring it
(c) Availability of tools in the department where research is to be undertaken
(d) Willingness of his/her supervisor to offer help
(e) The company from which the ICT equipment has been procured

Choose your answer from the following options :

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

Options :

61547540725. 1

61547540726. 2

61547540727. 3

61547540728. 4

Question Number : 7 Question Id : 61547510445 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 शोधकर्ता अपने शोध में आई सी टी का प्रयोग करना चाहता है। ऐसे निर्णय में सबसे महत्वपूर्ण विचार क्या होगा?

(a) प्रयुक्त साधन की उपयुक्तता

(b) इसे प्राप्त करने में निहित लागत

(c) जहां अनुसंधान किया जा रहा हो, वहां के विभाग में साधनों की उपलब्धता

(d) उसके पर्यवेक्षक द्वारा मदद करने की इच्छा

(e) जिस कंपनी से आई सी टी उपकरण अधिप्राप्त किए गए हों

निम्नांकित विकल्पों में से सही उत्तर चुनिए :

(1) (a), (b) और (c)

(2) (c), (d) और (e)

(3) (a), (c) और (d)

(4) (b), (c) और (e)

Options :

61547540725. 1

61547540726. 2

61547540727. 3

61547540728. 4

Question Number : 8 Question Id : 61547510446 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 sampling procedures will be appropriate for conducting researches with empirico-inductive research paradigm?

(1) Simple random sampling procedure

(2) Systematic sampling procedure

(3) Stratified sampling procedure

(4) Any of the non-probability sampling procedures

Options :

61547540729. 1

61547540730. 2

61547540731. 3

61547540732. 4

Question Number : 8 Question Id : 61547510446 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित में से कौन-सी प्रतिदर्श-प्रतिचयन की प्रक्रिया आनुभविक-आगमनात्मक प्रतिमान वाले शोध रूप के लिए उपयुक्त होगी?

(1) सामान्य यादृच्छिक प्रतिदर्श-प्रतिचयन प्रक्रिया

(2) व्यवस्थित प्रतिदर्श-प्रतिचयन प्रक्रिया

(3) स्तरित प्रतिदर्श प्रतिचयन प्रक्रिया

(4) कोई भी गैर-संभाव्यता आधारित प्रतिदर्श प्रतिचयन प्रक्रियाएं

Options :

61547540729. 1

61547540730. 2

61547540731. 3

61547540732. 4

Question Number : 9 Question Id : 61547510447 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 formats 'Chapter Scheme' of the document has to be formally approved by a research degree committee in the university?

(1) Thesis/dissertation

(2) Seminar papers

(3) Research articles

(4) Research monographs

Options :

61547540733. 1

61547540734. 2

61547540735. 3

61547540736. 4

Question Number : 9 Question Id : 61547510447 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 प्रबन्ध के अध्यायों की योजना या प्रलेख को निम्नांकित में से किस फॉर्मेट में विश्वविद्यालय में शोध डिग्री समिति द्वारा औपचारिक रूप से स्वीकृत कराना होता है?

(1) शोध-प्रबंध/लघु शोध प्रबन्ध

(2) सेमिनार पत्र

(3) शोध लेख

(4) शोध विनिबंध (मोनोग्राफ)

Options :

61547540733. 1

61547540734. 2

61547540735. 3

61547540736. 4

Question Number : 10 Question Id : 61547510448 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 research scholar while submitting his/her thesis, did not acknowledge in the preface the help and support of the respondents of questionnaires used. This will be called an instance of

(1) Technical lapse

(2) Wilful negligence

(3) Unethical act

(4) Lack of respect

Options :

61547540737. 1

61547540738. 2

61547540739. 3

61547540740. 4

Question Number : 10 Question Id : 61547510448 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 शोधकर्त्ता ने अपने शोध प्रबंध को प्रस्तुत करते समय प्रश्नावली पर प्रतिक्रिया देने वालों की मदद और सहायता को प्रस्तावना में स्थान नहीं दिया। इसे कहा जाएगा

(1) तकनीकी चूक

(2) स्वेच्छा से अनदेखी

(3) अनैतिक कृत्य

(4) सम्मान की कमी

Options :

61547540737. 1

61547540738. 2

61547540739. 3

61547540740. 4

Question Number : 11 Question Id : 61547510449 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

When there is an animated discussion between a teacher and his or her students in the classroom, it can be classified as :

(1) Horizontal communication

(2) Mechanical communication

(3) Linear communication

(4) Categorical communication

Options :

61547540741. 1

61547540742. 2

61547540743. 3

61547540744. 4

Question Number : 11 Question Id : 61547510449 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

जब एक अध्यापक और उसके विद्यार्थियों के मध्य कक्षा में जीवंत चर्चा होती है, तो इसे वर्गीकृत किया जा सकता है :

(1) समस्तरीय संप्रेषण

(2) यांत्रिक संप्रेषण

(3) रेखीय संप्रेषण

(4) सुस्पष्ट संप्रेषण

Options :

61547540741. 1

61547540742. 2

61547540743. 3

61547540744. 4

Question Number : 12 Question Id : 61547510450 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Information overload in a classroom evnironment by a teacher will lead to

(1) High level participation

(2) Semantic precision

(3) Effective impression

(4) Delayed feedback

Options :

61547540745. 1

61547540746. 2

61547540747. 3

61547540748. 4

Question Number : 12 Question Id : 61547510450 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कक्षा परिवेश में अध्यापक द्वारा सूचना-आधिक्य के परिणामस्वरूप होगी

(1) उच्च स्तरीय सहभागिता

(2) शब्दार्थ सम्बन्धी स्पष्टता

(3) प्रभावी प्रभाव

(4) विलम्बित प्रतिपुष्टि

Options :

61547540745. 1

61547540746. 2

61547540747. 3

61547540748. 4

Question Number : 13 Question Id : 61547510451 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 verbal communication technique used in teaching is

(1) Slow expression of words
(2) Varying the speed of voice and tone
(3) Presentation without pause
(4) Resorting to semantic jugglery

Options :

61547540749. 1

61547540750. 2

61547540751. 3

61547540752. 4

Question Number : 13 Question Id : 61547510451 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 प्रयुक्त मौखिक संप्रेषण तकनीक है

(1) शब्दों की मन्द अभिव्यक्ति
(2) वाणी और ध्वनि की गति में अंतर
(3) बिना विराम की प्रस्तुति
(4) शब्दार्थ सम्बन्धी वितंडाबाद का सहारा

Options :

61547540749. 1

61547540750. 2

61547540751. 3

61547540752. 4

Question Number : 14 Question Id : 61547510452 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 modes of communication can be employed in a classroom for effective teaching?

(a) Top-down
(b) Iconic
(c) Associational
(d) Dissociational
(e) Symbolic
(f) Abstract

Choose the most appropriate option from the following :

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

Options :

61547540753. 1

61547540754. 2

61547540755. 3

61547540756. 4

Question Number : 14 Question Id : 61547510452 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

प्रभावी शिक्षण हेतु कक्षा में संप्रेषण की निम्नांकित में से किस विधि का प्रयोग किया जाना चाहिए?

(a) टॉप-डाउन

(b) अनुसंकेतक

(c) साहचर्यात्मक

(d) विच्छेदात्मक

(e) सांकेतिक

(f) अमूर्त

निम्नांकित में से सबसे उपयुक्त विकल्प चुनिए :

(1) (a), (b) और (f)

(2) (c), (e) और (f)

(3) (b), (c) और (e)

(4) (a), (c) और (d)

Options :

61547540753. 1

61547540754. 2

61547540755. 3

61547540756. 4

Question Number : 15 Question Id : 61547510453 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 Statements – One is labelled as Assertion (A) and other is labelled as Reason (R) :

Assertion (A) : Use of slang in formal teaching makes communication lively and interesting.

Reasons (R) : Academic decency demands the avoidance of slang in the classroom environment.

In the light of the above statements, choose the correct option :

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

(2) Both (A) and (R) are true and (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 :

61547540757. 1

61547540758. 2

61547540759. 3

61547540760. 4

Question Number : 15 Question Id : 61547510453 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 अभिकथन (A) और तर्क कथन (R) के रूप में दो कथन दिए गए हैं :

अभिकथन (A) : औपचारिक शिक्षण में अनौपचारिक भाषा का प्रयोग संप्रेषण को जीवंत और आकर्षक बनाता है।

तर्क कथन (R) : शैक्षिक मर्यादा कक्षा परिवेश में अनौपचारिक भाषा के प्रयोग से बचने की मांग करती है।

उपरोक्त कथनों के आलोक में सही विकल्प चुनिए :

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

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

(3) (A) सही है, परन्तु (R) गलत है

(4) (A) गलत है, परन्तु (R) सही है

Options :

61547540757. 1

61547540758. 2

61547540759. 3

61547540760. 4

Question Number : 16 Question Id : 61547510454 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 certain coding language, 'AEIOU' is written as 'TNHDZ'. Using the same coding language, 'BFJPV' will be written as

(1) UOIEA (2) AEIOU

(3) CGKQW (4) WQKGC

Options :

61547540761. 1

61547540762. 2

61547540763. 3

61547540764. 4

Question Number : 16 Question Id : 61547510454 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 कूट भाषा में 'AEIOU' को 'TNHDZ' के रूप में लिखा जाता है। उसी कूट भाषा का प्रयोग कर 'BFJPV' को किस रूप में लिखा जाएगा?

(1) UOIEA (2) AEIOU

(3) CGKQW (4) WQKGC

Options :

61547540761. 1

61547540762. 2

61547540763. 3

61547540764. 4

Question Number : 17 Question Id : 61547510455 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 3% of $(a+b)$ = 7% of (ab)

and 5% of $(a-b)$ = 4% of (ab),

then what percentage of b is a?

(1) $\frac{47}{23}\%$ (2) $\frac{23}{47}\%$

(3) $\frac{4700}{23}\%$ (4) $\frac{2300}{47}\%$

Options :

61547540765. 1

61547540766. 2

61547540767. 3

61547540768. 4

Question Number : 17 Question Id : 61547510455 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 $(a+b)$ का $3\% = (ab)$ का 7% है

और $(a-b)$ का $5\% = (ab)$ का 4% है

तो b का a कितना प्रतिशत है?

(1) $\frac{47}{23}\%$ (2) $\frac{23}{47}\%$

(3) $\frac{4700}{23}\%$ (4) $\frac{2300}{47}\%$

Options :

61547540765. 1

61547540766. 2

61547540767. 3

61547540768. 4

Question Number : 18 Question Id : 61547510456 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 sum of a number and its inverse is –4. The sum of their cubes is :

(1) –52 (2) 52

(3) 64 (4) –64

Options :

61547540769. 1

61547540770. 2

61547540771. 3

61547540772. 4

Question Number : 18 Question Id : 61547510456 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 संख्या और उसके प्रतिलोम का योग –4 है। उनके घनफल का योग है :

(1) –52 (2) 52

(3) 64 (4) –64

Options :

61547540769. 1

61547540770. 2

61547540771. 3

61547540772. 4

Question Number : 19 Question Id : 61547510457 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 certain principal invested at compound interest payable yearly amounts to Rs. 10816.00 in 3 years and Rs. 11248.64 in 4 years. What is the rate of interest?

(1) 3% (2) 4%

(3) 4.5% (4) 5.5%

Options :

61547540773. 1

61547540774. 2

61547540775. 3

61547540776. 4

Question Number : 19 Question Id : 61547510457 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 धनराशि चक्रवृद्धि ब्याज पर निवेशित है और ब्याज की अदायगी वार्षिक है। यह राशि 3 वर्ष में 101816 रुपये और 4 वर्ष में 11248.64 रुपये हो जाती है। ब्याज दर क्या है?

(1) 3% (2) 4%

(3) 4.5% (4) 5.5%

Options :

61547540773. 1

61547540774. 2

61547540775. 3

61547540776. 4

Question Number : 20 Question Id : 61547510458 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 exact equivalent discount of three successive discounts of 10%, 15% and 20% by sale of an article?

(1) 35.8% (2) 38.5%

(3) 35.5% (4) 38.8%

Options :

61547540777. 1

61547540778. 2

61547540779. 3

61547540780. 4

Question Number : 20 Question Id : 61547510458 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

किसी वस्तु की बिक्री पर 10%, 15% और 20% की तीन उत्तरवर्ती छूट की सही समतुल्य छूट कितनी होगी?

(1) 35.8%
(2) 38.5%
(3) 35.5%
(4) 38.8%

Options :

61547540777. 1

61547540778. 2

61547540779. 3

61547540780. 4

Question Number : 21 Question Id : 61547510459 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 hetwabhasa (fallacy) is involved in the argument, "Sound is element because it is caused"?

(1) Viruddha or contradictory middle
(2) Satpratipaksa or inferentially contradicted middle
(3) S̄adhyasama or the unproved middle
(4) B̄adhita or non-inferentially contradicted middle

Options :

61547540781. 1

61547540782. 2

61547540783. 3

61547540784. 4

Question Number : 21 Question Id : 61547510459 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

"ध्वनि एक तत्व है क्योंकि यह सह उत्पन्न होती है," – इस तर्क में निम्नलिखित में से कौनसा हेत्वाभास निहित है?

(1) विरूद्ध या विरोधी हेतु
(2) सत्प्रतिपक्ष या आनुमानिक तौर पर विरोधी हेतु
(3) साध्यसम या असिद्ध हेतु
(4) बाधित या अनानुमिक विरोधी हेतु

Options :

61547540781. 1

61547540782. 2

61547540783. 3

61547540784. 4

Question Number : 22 Question Id : 61547510460 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 argument :

Statements : Some chairs are curtains.

All curtains are bedsheets.

Conclusion : Some chairs are bedsheets.

What is the Mood of the above proposition?

(1) IAI (2) IAA

(3) IIA (4) AII

Options :

61547540785. 1

61547540786. 2

61547540787. 3

61547540788. 4

Question Number : 22 Question Id : 61547510460 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 पर विचार कीजिए :

कथन : कुछ कुर्सियां पर्दे हैं।

सभी पर्दे बिछौना हैं।

निष्कर्ष : कुछ कुर्सियां बिछौना हैं।

उपरोक्त तर्क-वाक्य का विन्यास क्या है?

(1) IAI (2) IAA

(3) IIA (4) AII

Options :

61547540785. 1

61547540786. 2

61547540787. 3

61547540788. 4

Question Number : 23 Question Id : 61547510461 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 converse of 'Some S is P'?

(1) Some S is not P (2) Some P is not S

(3) Some P is S (4) No P is S

Options :

61547540789. 1

61547540790. 2

61547540791. 3

61547540792. 4

Question Number : 23 Question Id : 61547510461 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कुछ S, P हैं – इसका प्रतिलोम निम्नलिखित में से कौनसा है?

(1) कुछ S, P नहीं हैं

(2) कुछ P, S नहीं हैं

(3) कुछ P, S हैं

(4) कोई P, S नहीं है

Options :

61547540789. 1

61547540790. 2

61547540791. 3

61547540792. 4

Question Number : 24 Question Id : 61547510462 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 fallacious hetu (middle term) is not uniformly concomitant with the major term?

(1) Asatpratipaksa

(2) Auyatireki

(3) Anyonya-Asiddha

(4) Suyābhicāra

Options :

61547540793. 1

61547540794. 2

61547540795. 3

61547540796. 4

Question Number : 24 Question Id : 61547510462 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 कौनसा दोषपूर्ण हेतु साध्य पद के समान रूप से समानांतर नहीं है?

(1) असत् प्रतिपक्ष

(2) अव्यतिरेकी

(3) अन्योन्य असिद्ध

(4) सव्यभिचार

Options :

61547540793. 1

61547540794. 2

61547540795. 3

61547540796. 4

Question Number : 25 Question Id : 61547510463 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to classical Indian school of logic, what is the correct sequence of steps involved in Anumāna (influence)?

(1) Upanaya, Pratijn̄a , Hetu, Udāharaṇa , Nigmana

(2) Pratijn̄a , Hetu, Upanaya, Udāharaṇa , Nigmana

(3) Pratijn̄a , Upanaya, Hetu, Udāharaṇa , Nigmana

(4) Pratijn̄a , Hetu, Udāharaṇa , Upanaya, Nigmana

Options :

61547540797. 1

61547540798. 2

61547540799. 3

61547540800. 4

Question Number : 25 Question Id : 61547510463 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शास्त्रीय भारतीय तर्कशास्त्र की विचारधारा के अनुसार अनुमान में निहित सोपान-अनुक्रम को दर्शानेवाला निम्नलिखित में से कौनसा अनुक्रम सही है?

(1) उपनय, प्रतिज्ञा, हेतु, उदाहरण, निगमन

(2) प्रतिज्ञा, हेतु, उपनय, उदाहरण, निगमन

(3) प्रतिज्ञा, उपनय, हेतु, उदाहरण, निगमन

(4) प्रतिज्ञा, हेतु, उदाहरण, उपनय, निगमन

Options :

61547540797. 1

61547540798. 2

61547540799. 3

61547540800. 4

Sub-Section Number: 2

Sub-Section Id: 615475453

Question Shuffling Allowed : Yes

Question Id : 61547510464 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (26 to 30)

Question Label : Comprehension

The following table gives the percentage of marks obtained by 6 students in 5 different subjects in an examination. The numbers in the parenthesis give the maximum marks in each subject. Answer the given questions based on the table :

Subject (Max. Marks) / Name of student	Percentage (%) of marks obtained				
	Maths (150)	Chemistry (130)	Physics (120)	Biology (100)	English (100)
Ankit	90	50	80	60	70
Amar	100	60	70	40	80
Sanya	90	60	85	80	60
Rahul	80	75	65	90	90
Puneet	80	80	70	85	50
Pooja	70	75	50	80	40

Sub questions

Question Number : 26 Question Id : 61547510465 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 overall percentage of marks obtained by Amar?

(1) 70% (2) 72%

(3) 60% (4) 58.33%

Options :

61547540801. 1

61547540802. 2

61547540803. 3

61547540804. 4

Question Number : 27 Question Id : 61547510466 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 aggregate of marks obtained by Sanya in all the five subjects?

(1) 375 (2) 395

(3) 455 (4) 475

Options :

61547540805. 1

61547540806. 2

61547540807. 3

61547540808. 4

Question Number : 28 Question Id : 61547510467 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 average marks obtained by all the six students in Chemistry?

(1) 86.66 (2) 76.66

(3) 66.66 (4) 60.00

Options :

61547540809. 1

61547540810. 2

61547540811. 3

61547540812. 4

Question Number : 29 Question Id : 61547510468 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 students obtained 60% and above marks in all the subjects?

(1) Three (2) Two

(3) One (4) Zero

Options :

61547540813. 1

61547540814. 2

61547540815. 3

61547540816. 4

Question Number : 30 Question Id : 61547510469 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 subject the performance of the students is worst in terms of percentage of marks?

(1) Chemistry (2) Physics

(3) Biology (4) English

Options :

61547540817. 1

61547540818. 2

61547540819. 3

61547540820. 4

Question Id : 61547510464 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (26 to 30)

Question Label : Comprehension

निम्नलिखित तालिका के माध्यम से किसी परीक्षा में छः छात्रों द्वारा 5 भिन्न-भिन्न विषयों में प्राप्तकों की प्रतिशतता को दर्शाया गया है। कोष्ठक में दी गई संख्या प्रत्येक विषय के अधिकतम अंक को दर्शाती है। तालिका के आधार पर दिए गए प्रश्नों के उत्तर दें।

विषय (अधिकतम अंक) / छात्र का नाम	प्राप्त अंकों की प्रतिशतता (%)				
	गणित (150)	रसायन (130)	भौतिकी (120)	जीव-विज्ञान (100)	अंग्रेजी (100)
अंकित	90	50	80	60	70
अमर	100	60	70	40	80
सान्या	90	60	85	80	60
राहुल	80	75	65	90	90
पुनीत	80	80	70	85	50
पूजा	70	75	50	80	40

Sub questions

Question Number : 26 Question Id : 61547510465 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अमर द्वारा प्राप्त अंकों की कुल प्रतिशतता कितनी है?

(1) 70%

(2) 72%

(3) 60%

(4) 58.33%

Options :

61547540801. 1

61547540802. 2

61547540803. 3

61547540804. 4

Question Number : 27 Question Id : 61547510466 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 पांच विषयों में सान्या के प्राप्ताकों का पूर्ण योग कितना है?

(1) 375

(2) 395

(3) 455

(4) 475

Options :

61547540805. 1

61547540806. 2

61547540807. 3

61547540808. 4

Question Number : 28 Question Id : 61547510467 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

रसायन विज्ञान में सभी छः छात्रों का औसत प्राप्त क्या अंक है?

(1) 86.66 (2) 76.66

(3) 66.66 (4) 60.00

Options :

61547540809. 1

61547540810. 2

61547540811. 3

61547540812. 4

Question Number : 29 Question Id : 61547510468 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 विषयों में कितने छात्रों ने 60% या इससे अधिक अंक प्राप्त हुए हैं?

(1) तीन (2) दो

(3) एक (4) शून्य

Options :

61547540813. 1

61547540814. 2

61547540815. 3

61547540816. 4

Question Number : 30 Question Id : 61547510469 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अंकों की प्रतिशतता की दृष्टि से किस विषय में छात्रों का निष्पादन सबसे खराब रहा है?

(1) रसायन विज्ञान (2) भौतिक-विज्ञान

(3) जीव विज्ञान (4) अंग्रेजी

Options :

61547540817. 1

61547540818. 2

61547540819. 3

61547540820. 4

Sub-Section Number: 3

Sub-Section Id: 615475454

Question Shuffling Allowed : Yes

Question Number : 31 Question Id : 61547510470 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 tasks is associated with changing appearance of a document in word processing?

(1) Editing

(2) Formatting

(3) Writing

(4) Printing

Options :

61547540821. 1

61547540822. 2

61547540823. 3

61547540824. 4

Question Number : 31 Question Id : 61547510470 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 कार्यों में से कौन-सा कार्य वर्ड प्रासेसिंग में डॉक्यूमेंट के स्वरूप में बदलाव से जुड़ा है?

(1) संपादन (एडिटिंग)

(2) फॉर्मेटिंग

(3) लेखन (राईटिंग)

(4) मुद्रण (प्रिंटिंग)

Options :

61547540821. 1

61547540822. 2

61547540823. 3

61547540824. 4

Question Number : 32 Question Id : 61547510471 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 term one gigabyte refers to :

(1) 1024 petabytes

(2) 1024 megabytes

(3) 1024 kilobytes

(4) 1024 bytes

Options :

61547540825. 1

61547540826. 2

61547540827. 3

61547540828. 4

Question Number : 32 Question Id : 61547510471 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 गिगाबाइट पद किससे संबंधित है?

(1) 1024 पेटाबाइट्स

(2) 1024 मेगाबाइट

(3) 1024 किलोबाइट्स

(4) 1024 बाइट्स

Options :

61547540825. 1

61547540826. 2

61547540827. 3

61547540828. 4

Question Number : 33 Question Id : 61547510472 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

_____ is a wireless technology built in electronic gadgets for transferring data over short distance

(1) WiFi

(2) Bluetooth

(3) Modem

(4) USB

Options :

61547540829. 1

61547540830. 2

61547540831. 3

61547540832. 4

Question Number : 33 Question Id : 61547510472 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 वायरलेस प्रौद्योगिकी है जो कम दूरी तक डाटा के अंतरण के लिए इलेक्ट्रॉनिक यंत्र में निर्मित होता है

(1) वाई फाई

(2) ब्लूटूथ

(3) मॉडेम

(4) यूएसबी

Options :

61547540829. 1

61547540830. 2

61547540831. 3

61547540832. 4

Question Number : 34 Question Id : 61547510473 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

PCI stands for

(1) Partial Component Interconnect
(2) Partial Component Interaction
(3) Peripheral Component Interconnect
(4) Peripheral Component Interaction

Options :

61547540833. 1

61547540834. 2

61547540835. 3

61547540836. 4

Question Number : 34 Question Id : 61547510473 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

पी सी आई किसका संक्षिप्त रूप है

(1) पार्शियल कंपोनेंट इंटरकनेक्ट
(2) पार्शियल कंपोनेंट इंटरैक्शन
(3) पेरिफेरल कंपोनेंट इंटरकनेक्ट
(4) पेरिफेरल कंपोनेंट इंटरैक्शन

Options :

61547540833. 1

61547540834. 2

61547540835. 3

61547540836. 4

Question Number : 35 Question Id : 61547510474 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 national agency for responding to computer security incidents as and when they occur, is

(1) CAT
(2) CDAC
(3) CCA
(4) ICERT

Options :

61547540837. 1

61547540838. 2

61547540839. 3

61547540840. 4

Question Number : 35 Question Id : 61547510474 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

_____ राष्ट्रीय एजेंसी है जो कंप्यूटर सुरक्षा से संबंधित घटनाओं पर अनुक्रिया करती है :

(1) सी ए टी

(2) सी डी ए सी

(3) सी सी ए

(4) आई सी ई आर टी

Options :

61547540837. 1

61547540838. 2

61547540839. 3

61547540840. 4

Question Number : 36 Question Id : 61547510475 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 from the options given below, the co-benefit of Montreal Protocol

(1) Impetus to development of energy efficient systems

(2) Reduction in carbon dioxide (equivalent) emissions

(3) Convergence of efforts of international community in addressing air pollution

(4) Control of transboundary movement of hazardous waste

Options :

61547540841. 1

61547540842. 2

61547540843. 3

61547540844. 4

Question Number : 36 Question Id : 61547510475 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नांकित विकल्पों में से मॉन्ट्रियल प्रोटोकॉल के सह-लाभ को चिन्हित करें:

(1) ऊर्जा क्षम प्रणालियों के विकास को प्रोत्साहन

(2) कार्बन डाइऑक्साइड (समतुल्य) उत्सर्जन में कमी

(3) वायु प्रदूषण से निजात पाने में अन्तर्राष्ट्रीय समुदाय के प्रयासों का अभिसरण

(4) खतरनाक अपशिष्ट के सीमा के बाहर संचलन पर नियंत्रण

Options :

61547540841. 1

61547540842. 2

61547540843. 3
61547540844. 4

Question Number : 37 Question Id : 61547510476 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Under Green India Mission, how many hectares of degraded forest land is to be brought under afforestation?

(1) 02 million hectares
(2) 06 million hectares
(3) 08 million hectares
(4) 20 million hectares

Options :
61547540845. 1
61547540846. 2
61547540847. 3
61547540848. 4

Question Number : 37 Question Id : 61547510476 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

हरित भारत मिशन के अधीन कितने हेक्टेयर निम्नीकृत वन भूमि को वनरोपण के अंतर्गत लाया जाना है?

(1) 02 मिलियन हेक्टेयर
(2) 06 मिलियन हेक्टेयर
(3) 08 मिलियन हेक्टेयर
(4) 20 मिलियन हेक्टेयर

Options :
61547540845. 1
61547540846. 2
61547540847. 3
61547540848. 4

Question Number : 38 Question Id : 61547510477 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 themes of some Sustainable Development Goals are

(a) Climate action

(b) Sustainable cities and communities

(c) Peace, justice and strong institutions

(d) Skill development and decent employment

(e) Green agriculture

(f) Responsible consumption and production

Choose the most appropriate from those given below :

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

(2) (b), (c), (e) and (f)

(3) (b), (c), (d), (e) and (f)

(4) (a), (b), (c) and (f)

Options :

61547540849. 1

61547540850. 2

61547540851. 3

61547540852. 4

Question Number : 38 Question Id : 61547510477 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कतिपय संधारणीय विकास लक्ष्यों के प्रकरण हैं :-

(a) जलवायु कार्य

(b) संधारणीय नगर और समुदाय

(c) शांति, न्याय और सुदृढ़ संस्थान

(d) कौशल विकास और उत्तम नियोजन

(e) हरित कृषि

(f) उत्तरदायी खपत और उपभोग

सबसे उपयुक्त विकल्प का चयन कीजिए :

(1) (a), (b), (c), (e) और (f)

(2) (b), (c), (e) और (f)

(3) (b), (c), (d), (e) और (f)

(4) (a), (b), (c) और (f)

Options :

61547540849. 1

61547540850. 2

61547540851. 3

61547540852. 4

Question Number : 39 Question Id : 61547510478 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 most dominant source of Benzene emissions in ambient air is

(1) Cement industry (2) Cigarettes

(3) Car exhausts (4) Paints and varnish

Options :

61547540853. 1

61547540854. 2

61547540855. 3

61547540856. 4

Question Number : 39 Question Id : 61547510478 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

आसपास (परिवेशी) की हवा में बेंजीन उत्सर्जन का सर्वाधिक प्रमुख स्रोत है

(1) सीमेन्ट उद्योग
(2) सिगरेट
(3) कार निसर्जक
(4) पेंट और वार्निश

Options :

61547540853. 1

61547540854. 2

61547540855. 3

61547540856. 4

Question Number : 40 Question Id : 61547510479 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 most important pollutants that cause degradation of water quality in rivers and streams are

(a) Bacteria
(b) Nutrients
(c) Metals
(d) Total dissolved solids
(e) Algae

Choose the most appropriate answer from the options given below :

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

Options :

61547540857. 1

61547540858. 2

61547540859. 3

61547540860. 4

Question Number : 40 Question Id : 61547510479 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

सर्वाधिक महत्वपूर्ण प्रदूषक जो नदियों और झरनों में जल की गुणवत्ता को निम्नीकृत करते हैं :

(a) जीवाणु

(b) पोषक तत्व

(c) धातु

(d) कुल घुले हुए ठोस

(e) शैवाल

निम्नलिखित विकल्पों में से सर्वाधिक उपयुक्त उत्तर का चयन कीजिए :

(1) (a), (b) और (c)
(2) (a), (b) और (d)
(3) (a), (b), (d) और (e)
(4) (a), (b), (c), (d) और (e)

Options :

61547540857. 1

61547540858. 2

61547540859. 3

61547540860. 4

Question Number : 41 Question Id : 61547510480 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Database WOS stands for

(1) Web of Science
(2) Web of Sources
(3) World of Science
(4) Web of Service

Options :

61547540861. 1

61547540862. 2

61547540863. 3

61547540864. 4

Question Number : 41 Question Id : 61547510480 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

डाटाबेस डब्ल्यू ओ एस है

(1) वेब ऑफ सांइस
(2) वेब ऑफ सोर्सेज
(3) वर्ल्ड ऑफ साइंस
(4) वेब ऑफ सर्विस

Options :

61547540861. 1

61547540862. 2

61547540863. 3

61547540864. 4

Question Number : 42 Question Id : 61547510481 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 major barriers for access to higher education in India are :

(a) more opportunities of employment for less educated
(b) government policies
(c) language of instruction
(d) economic status
(e) competition from foreign universities
(f) gender discrimination in society

Choose the correct answer from the options given below :

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

Options :

61547540865. 1

61547540866. 2

61547540867. 3

61547540868. 4

Question Number : 42 Question Id : 61547510481 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

भारत में उच्च शिक्षा की अभिगम्यता में मुख्य अवरोधक हैं :

(a) कम शिक्षित व्यक्तियों को रोजगार के अधिक अवसर
(b) सरकारी नीतियां
(c) अनुदेशन की भाषा
(d) आर्थिक स्थिति
(e) विदेशी विश्वविद्यालयों से प्रतिस्पर्धा
(f) समाज में महिला संबंधी भेदभाव

नीचे दिए गए विकल्पों में से सही विकल्प चुनिए :

(1) (a), (b) और (c)
(2) (b), (c) और (e)
(3) (c), (d) और (f)
(4) (d), (e) और (f)

Options :

61547540865. 1

61547540866. 2

61547540867. 3

61547540868. 4

Question Number : 43 Question Id : 61547510482 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to GATS (General Agreement on Trade and Services), higher education should be a commodity in the

(1) domestic public sector

(2) domestic private sector

(3) non-trading sector

(4) global marketplace

Options :

61547540869. 1

61547540870. 2

61547540871. 3

61547540872. 4

Question Number : 43 Question Id : 61547510482 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

जी ए टी एस (व्यापार और सेवाओं संबंधी सामान्य समझौता) के अनुसार उच्च शिक्षा विषय किसके अंतर्गत होना चाहिए?

(1) घरेलू सरकारी क्षेत्र

(2) घरेलू निजी क्षेत्र

(3) गैर-व्यापारिक क्षेत्र

(4) वैश्विक बाजार स्थल

Options :

61547540869. 1

61547540870. 2

61547540871. 3

61547540872. 4

Question Number : 44 Question Id : 61547510483 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 true in the Indian context?

(1) Autonomous colleges can grant degrees independent of universities

(2) Autonomous colleges can grant only bachelor's degree independent of universities

(3) Except doctoral degrees, all other degrees and diplomas can be granted by autonomous colleges

(4) Whatever may be the degree or diploma, autonomous colleges can grant them under their own name but under the seal of an affiliated university

Options :

61547540873. 1

61547540874. 2

61547540875. 3

61547540876. 4

Question Number : 44 Question Id : 61547510483 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

भारतीय परिप्रेक्ष्य में निम्नांकित में से कौन-सा कथन सही है?

(1) स्वायत्त महाविद्यालय विश्वविद्यालयों से स्वतंत्र होकर उपाधियाँ प्रदान कर सकते हैं

(2) स्वायत्त महाविद्यालय विश्वविद्यालयों से स्वतंत्र होकर केवल स्नातक उपाधियाँ प्रदान कर सकते हैं

(3) स्वायत्त महाविद्यालयों द्वारा डाक्टरेट उपाधियाँ के अतिरिक्त अन्य सभी उपाधियाँ और डिप्लोमा प्रदान किए जा सकते हैं

(4) चाहे कोई भी उपाधि या डिप्लोमा हो स्वायत्त महाविद्यालय इसे अपने नाम के अंतर्गत प्रदान कर सकते हैं परन्तु मुहर संबद्ध विश्वविद्यालय की होगी

Options :

61547540873. 1

61547540874. 2

61547540875. 3

61547540876. 4

Question Number : 45 Question Id : 61547510484 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Rashtriya Uchhatar Shiksha Abhiyan (RUSA) aims to achieve the following in Higher Education System :

(a) Equity

(b) Access

(c) 50% GER

(d) Excellence

Choose the correct option from those given below :

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

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

(3) (a), (b) and (d)

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

Options :

61547540877. 1

61547540878. 2

61547540879. 3

61547540880. 4

Question Number : 45 Question Id : 61547510484 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उच्चतर शिक्षा प्रणाली में राष्ट्रीय उच्चतर शिक्षा अभियान (आर यू एस ए) निम्नलिखित को प्राप्त करने का लक्ष्य रखता है :

(a) समता

(b) अभिगम्यता

(c) 50 % जी ई आर

(d) उत्कृष्टता

नीचे दिए गए विकल्पों में से सही विकल्प चुनिए :

(1) (a), (b) और (c)

(2) (a), (c) और (d)

(3) (a), (b) और (d)

(4) (b), (c) और (d)

Options :

61547540877. 1

61547540878. 2

61547540879. 3

61547540880. 4

Sub-Section Number:	4
Sub-Section Id:	615475455
Question Shuffling Allowed :	Yes

Question Id : 61547510485 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (46 to 50)

Question Label : Comprehension

Read the passage carefully and answer questions that follow :

There is no doubt that the market as a reality and political economy as a theory played an important role in the liberal critique. But liberalism is neither the consequence nor the development of these; rather, the market played, in the liberal critique, the role of a "test", a locus of privileged experience where one can identify the effects of excessive governmentality and even weigh their significance; the analysis of the mechanisms of "dearth" or more generally, of the grain trade in the middle of the eighteenth century, was meant to show the point at which governing was always governing too much. Therefore, an anlaysis to make visible, in the form of evidence, the formation of the value and circulation of wealth–or, on the contrary, an analysis pre-supposing the intrinsic invisibility of the connection between individual profit-seeking and the growth of collective wealth–economics, in any case, shows a basic incompatibility between the optimal development of the economic process and maximisation of government procedures. It is by this, more than the play of ideas, the French or English economists broke away from mercantilism and commercialism; they freed reflection on economic practice from the hegemony of the "reason of state" and from the saturation of governmental intervention. By using it as a measure of "governing too much", they placed it at the limit of governmental action. Liberalism does not derive from juridical thought any more than it does from an economic analysis. It is not the idea of a political society, but the result of search for a liberal technology of government.

Sub questions

Question Number : 46 Question Id : 61547510486 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 played a role in the liberal critique?

(1) Liberalism as a consequence of market forces
(2) Liberalism as an offshoot of political economy
(3) Reality of market
(4) Political economy as a practice

Options :

61547540881. 1

61547540882. 2

61547540883. 3

61547540884. 4

Question Number : 47 Question Id : 61547510487 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 liberal critique examined the implications of

(1) market expansion
(2) too much governance
(3) growth of political economy
(4) politics of marketisation

Options :

61547540885. 1

61547540886. 2

61547540887. 3

61547540888. 4

Question Number : 48 Question Id : 61547510488 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 kind of evidence was needed to make the liberal critique visible?

(1) Circulation of wealth

(2) Pre-supposing individual profit

(3) Dearth in supply of grain

(4) Incompatibility of growth

Options :

61547540889. 1

61547540890. 2

61547540891. 3

61547540892. 4

Question Number : 49 Question Id : 61547510489 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 incompatible with optimal economic development?

(1) Play of ideas

(2) Absence of commercialism

(3) Political society

(4) Excessive government procedures

Options :

61547540893. 1

61547540894. 2

61547540895. 3

61547540896. 4

Question Number : 50 Question Id : 61547510490 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 passage is indicative of the author's preference to

(1) economic hegemony of individuals

(2) limit government control of economics

(3) seek liberalism from juridical thought

(4) promote individual profits

Options :

61547540897. 1

61547540898. 2

61547540899. 3

61547540900. 4

Question Id : 61547510485 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (46 to 50)

Question Label : Comprehension

गद्यांश को ध्यानपूर्वक पढ़िए और दिए गए प्रश्नों के उत्तर दीजिए :

इसमें कोई संदेह नहीं है कि यथार्थ के रूप में बाजार और सिद्धांत के रूप में राजनीतिक अर्थव्यवस्था की उदारवादी स्थापना में महत्वपूर्ण भूमिका थी। परंतु उदारवाद न तो इनका परिणाम है और न ही इनका विकास। बल्कि उदारवादी स्थापना में बाजार ने "परीक्षण" – सुविधायुक्त अनुभव के अधिकेन्द्र जहाँ कोई सरकारी तंत्र की अत्यधिक भूमिका के परिणामों को चिह्नित कर सकता है और अपने महत्व का आंकलन भी कर सकता है, की भूमिका निभायी। अठारहवीं शताब्दी के मध्य में "अभाव" अथवा और अधिक सामान्य रूप से खाद्यान्न व्यापार के अभाव के तंत्र से सम्बन्धित विश्लेषण का उद्देश्य इस बिंतु को परिलक्षित करना था जिस पर सरकार हमेशा अत्यधिक नियमन कर रही थी। अंतः मूल्य निर्माण और धन के परिचालन को साक्ष्य के रूप में मूर्त रूप देने के लिए विश्लेषण या इसके विपरीत व्यक्तिगत लाभ चाहना और सामूहिक धन का विकास – किसी मामले में अर्थशास्त्र के मध्य संबंध की आन्तरिक अमूर्तता के पूर्वानुमान विषयक विश्लेषण के माध्यम से आर्थिक प्रक्रिया का इष्टतम विकास तथा सरकारी प्रक्रियाओं का अधिकतम नियमन के चलते मूलभूत असामंजस्य की अभिव्यक्ति विचारों की क्रीड़ा से अधिक इसके माध्यम से फ्रांसीसी और अंग्रेज अर्थशास्त्री वाणिज्यवाद और वाणिज्यीकरण की सोच से दूर हटे; उन्होंने अर्थशास्त्रीय परंपरा के विमर्श को राज्य की युक्ति, और सरकारी हस्तक्षेप की संतृप्तता के आधिपत्य से मुक्त किया। "अत्यधिक नियमन" के उपाय के रूप में इसका प्रयोग करते हुए उन्होंने इसे सरकारी कार्यवाही की सीमा के ऊपर रखा। स्पष्ट है कि उदारवाद का उद्भव आर्थिक विकास से अधिक न्यायिक विचार से नहीं हुआ। यह राजनीतिक समुदाय का विचार नहीं हैं, बल्कि सरकार की उदारवादी प्रौद्योगिकी के अन्वेषण सहज परिणति है।

Sub questions

Question Number : 46 Question Id : 61547510486 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उदारवादी स्थापना में निम्नलिखित में से किसकी भूमिका रही है?

(1) बाजारीकरण के परिणामस्वरूप उदारवाद

(2) राजनीतिक अर्थव्यवस्था के परिणामस्वरूप उदारवाद

(3) बाजार की वास्तविकता

(4) व्यवहार के रूप में राजनीतिक अर्थव्यवस्था

Options :

61547540881. 1

61547540882. 2

61547540883. 3

61547540884. 4

Question Number : 47 Question Id : 61547510487 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उदारवादी स्थापना में किसके निहितार्थों की समीक्षा की गयी

(1) बाजार का विस्तार

(2) अत्यधिक शासन

(3) राजनीतिक अर्थव्यवस्था का विकास

(4) बाजारीकरण की राजनीति

Options :

61547540885. 1

61547540886. 2

61547540887. 3

61547540888. 4

Question Number : 48 Question Id : 61547510488 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उदारवादी स्थापना को मूर्त रूप देने के लिए किस प्रकार के साक्ष्य की आवश्यकता थी?

(1) धन के परिचालन

(2) व्यक्तिगत लाभ का पूर्वानुमान

(3) खाद्यान्न की आपूर्ति में कमी

(4) विकास का बेमेल होना

Options :

61547540889. 1

61547540890. 2

61547540891. 3

61547540892. 4

Question Number : 49 Question Id : 61547510489 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

इष्टतम आर्थिक विकास के संदर्भ में निम्नांकित में से कौन-बेमेल हैं?

(1) विचारों से खेलना

(2) वाणिज्यिकरण का अभाव

(3) राजनीतिक समुदाय

(4) अत्यधिक सरकारी कार्यपद्धति

Options :

61547540893. 1

61547540894. 2

61547540895. 3

61547540896. 4

Question Number : 50 Question Id : 61547510490 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

यह गद्यांश लेखक की किसके प्रति वरीयता को दर्शाता है?

(1) व्यक्तियों का आर्थिक आधिपत्य

(2) अर्थशास्त्र पर सरकारी नियंत्रण को सीमित करना

(3) न्यायिक विचार से हट कर उदारवादिता की तलाश

(4) व्यक्तिगत लाभों को बढ़ावा देना

Options :

61547540897. 1

61547540898. 2

61547540899. 3

61547540900. 4

PART II Computer Science and Applications

Section Id :	615475140
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	92
Number of Questions to be attempted:	92
Section Marks:	200
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	615475456
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 61547510491 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 basic feasible solution of an $m \times n$ transportation problem is said to be non-degenerate, if basic feasible solution contains exactly ———— number of individual allocation in ———— positions.

(1) $m+n+1$, independent

(2) $m+n-1$, independent

(3) $m+n-1$, appropriate

(4) $m-n+1$, independent

Options :

61547540901. 1

61547540902. 2

61547540903. 3

61547540904. 4

Question Number : 51 Question Id : 61547510491 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 basic feasible solution of an $m \times n$ transportation problem is said to be non-degenerate, if basic feasible solution contains exactly ———— number of individual allocation in ———— positions.

(1) $m+n+1$, independent

(2) $m+n-1$, independent

(3) $m+n-1$, appropriate

(4) $m-n+1$, independent

Options :

61547540901. 1

61547540902. 2

61547540903. 3

61547540904. 4

Question Number : 52 Question Id : 61547510492 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 Linear programming problem (LPP) :

Maximize $z = x_1 + x_2$

Subject to the constraints:

$x_1 + 2x_2 \leq 2000$

$x_1 + x_2 \leq 1500$

$x_2 \leq 600$

$and\, x_1, x_2 \geq 0$

The solution of the above LPP is:

(1) $x_1 = 750,\ x_2 = 750, z = 1500$

(2) $x_1 = 500, x_2 = 1000, z = 1500$

(3) $x_1 = 1000,\ x_2 = 500,\ z = 1500$

(4) $x_1 = 900, x_2 = 600, z = 1500$

Options :

61547540905. 1

61547540906. 2

61547540907. 3

61547540908. 4

Question Number : 52 Question Id : 61547510492 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 Linear programming problem (LPP) :

Maximize $z = x_1 + x_2$

Subject to the constraints:

$x_1 + 2x_2 \leq 2000$
$x_1 + x_2 \leq 1500$
$x_2 \leq 600$
$and\, x_1, x_2 \geq 0$

The solution of the above LPP is:

(1) $x_1 = 750,\ x_2 = 750, z = 1500$ (2) $x_1 = 500, x_2 = 1000, z = 1500$

(3) $x_1 = 1000,\ x_2 = 500,\ z = 1500$ (4) $x_1 = 900, x_2 = 600, z = 1500$

Options :

61547540905. 1

61547540906. 2

61547540907. 3

61547540908. 4

Question Number : 53 Question Id : 61547510493 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 Boolean expression $AB + A\overline{B} + \overline{A}C + AC$ is unaffected by the value of the Boolean variable ————————.

(1) A (2) B

(3) C (4) A, B and C

Options :

61547540909. 1

61547540910. 2

61547540911. 3

61547540912. 4

Question Number : 53 Question Id : 61547510493 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 Boolean expression $AB + A\overline{B} + \overline{A}C + AC$ is unaffected by the value of the Boolean variable ————————.

(1) A (2) B

(3) C (4) A, B and C

Options :

61547540909. 1

61547540910. 2

61547540911. 3

61547540912. 4

Question Number : 54 Question Id : 61547510494 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 are the greatest lower bound (GLB) and the least upper bound (LUB) of the sets $A = \{3, 9, 12\}$ and $B = \{1, 2, 4, 5, 10\}$ if they exist in poset $(z^+, /)$?

(1) $A(GLB-3, LUB-36); B(GLB-1, LUB-20)$

(2) $A(GLB-3, LUB-12); B(GLB-1, LUB-10)$

(3) $A(GLB-1, LUB-36); B(GLB-2, LUB-20)$

(4) $A(GLB-1, LUB-12); B(GLB-2, LUB-10)$

Options :

61547540913. 1

61547540914. 2

61547540915. 3

61547540916. 4

Question Number : 54 Question Id : 61547510494 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 are the greatest lower bound (GLB) and the least upper bound (LUB) of the sets $A = \{3, 9, 12\}$ and $B = \{1, 2, 4, 5, 10\}$ if they exist in poset $(z^+, /)$?

(1) $A(GLB-3, LUB-36); B(GLB-1, LUB-20)$

(2) $A(GLB-3, LUB-12); B(GLB-1, LUB-10)$

(3) $A(GLB-1, LUB-36); B(GLB-2, LUB-20)$

(4) $A(GLB-1, LUB-12); B(GLB-2, LUB-10)$

Options :

61547540913. 1

61547540914. 2

61547540915. 3

61547540916. 4

Question Number : 55 Question Id : 61547510495 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 P be the set of all people. Let R be a binary relation on P such that (a, b) is in R if a is a brother of b. Is R symmetric transitive, an equivalence relation, a partial order relation?

(1) NO,NO,NO,NO

(2) NO,NO,YES,NO

(3) NO,YES,NO,NO

(4) NO,YES,YES,NO

Options :

61547540917. 1

61547540918. 2

61547540919. 3

61547540920. 4

Question Number : 55 Question Id : 61547510495 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 P be the set of all people. Let R be a binary relation on P such that (a, b) is in R if a is a brother of b. Is R symmetric transitive, an equivalence relation, a partial order relation?

(1) NO,NO,NO,NO

(2) NO,NO,YES,NO

(3) NO,YES,NO,NO

(4) NO,YES,YES,NO

Options :

61547540917. 1

61547540918. 2

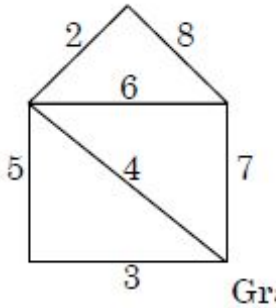
61547540919. 3

61547540920. 4

Question Number : 56 Question Id : 61547510496 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 weight of minimum spanning tree in graph G, calculated using Kruskal's algorithm is :



Graph G

(1) 14 (2) 15

(3) 17 (4) 18

Options :

61547540921. 1

61547540922. 2

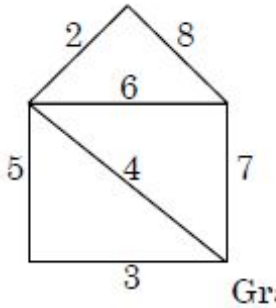
61547540923. 3

61547540924. 4

Question Number : 56 Question Id : 61547510496 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 weight of minimum spanning tree in graph G, calculated using Kruskal's algorithm is :



Graph G

(1) 14 (2) 15

(3) 17 (4) 18

Options :

61547540921. 1

61547540922. 2

61547540923. 3

61547540924. 4

Question Number : 57 Question Id : 61547510497 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 tree has $2n$ vertices of degree 1, $3n$ vertices of degree 2, n vertices of degree 3. Determine the number of vertices and edges in tree.

(1) 12,11 (2) 11,12

(3) 10,11 (4) 9,10

Options :

61547540925. 1

61547540926. 2

61547540927. 3

61547540928. 4

Question Number : 57 Question Id : 61547510497 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 tree has $2n$ vertices of degree 1, $3n$ vertices of degree 2, n vertices of degree 3. Determine the number of vertices and edges in tree.

(1) 12,11 (2) 11,12

(3) 10,11 (4) 9,10

Options :

61547540925. 1

61547540926. 2

61547540927. 3

61547540928. 4

Question Number : 58 Question Id : 61547510498 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 reflexive relations are there on a set with 4 elements?

(1) 2^4 (2) 2^{12}

(3) 4^2 (4) 2

Options :

61547540929. 1

61547540930. 2

61547540931. 3

61547540932. 4

Question Number : 58 Question Id : 61547510498 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 reflexive relations are there on a set with 4 elements?

(1) 2^4

(2) 2^{12}

(3) 4^2

(4) 2

Options :

61547540929. 1

61547540930. 2

61547540931. 3

61547540932. 4

Question Number : 59 Question Id : 61547510499 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 non-pipelined system takes 30ns to process a task. The same task can be processed in a four-segment pipeline with a clock cycle of 10ns. Determine the speed up of the pipeline for 100 tasks.

(1) 3

(2) 4

(3) 3.91

(4) 2.91

Options :

61547540933. 1

61547540934. 2

61547540935. 3

61547540936. 4

Question Number : 59 Question Id : 61547510499 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 non-pipelined system takes 30ns to process a task. The same task can be processed in a four-segment pipeline with a clock cycle of 10ns. Determine the speed up of the pipeline for 100 tasks.

(1) 3

(2) 4

(3) 3.91

(4) 2.91

Options :

61547540933. 1

61547540934. 2

61547540935. 3

61547540936. 4

Question Number : 60 Question Id : 61547510500 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 uses a memory unit of 512 K words of 32 bits each. A binary instruction code is stored in one word of the memory. The instruction has four parts: an addressing mode field to specify one of the two-addresssing mode (direct and indirect), an operation code, a register code part to specify one of the 256 registers and an address part. How many bits are there in addressing mode part, opcode part, register code part and the address part?

(1) 1, 3, 9, 19

(2) 1, 4, 9, 18

(3) 1, 4, 8, 19

(4) 1, 3, 8, 20

Options :

61547540937. 1

61547540938. 2

61547540939. 3

61547540940. 4

Question Number : 60 Question Id : 61547510500 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 uses a memory unit of 512 K words of 32 bits each. A binary instruction code is stored in one word of the memory. The instruction has four parts: an addressing mode field to specify one of the two-addresssing mode (direct and indirect), an operation code, a register code part to specify one of the 256 registers and an address part. How many bits are there in addressing mode part, opcode part, register code part and the address part?

(1) 1, 3, 9, 19

(2) 1, 4, 9, 18

(3) 1, 4, 8, 19

(4) 1, 3, 8, 20

Options :

61547540937. 1

61547540938. 2

61547540939. 3

61547540940. 4

Question Number : 61 Question Id : 61547510501 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 micro instruction format has microoperation field which is divided into 2 subfields F1 and F2, each having 15 distinct microoperations, condition field CD for four status bits, branch field BR having four options used in conjunction with address field AD. The address space is of 128 memory words. The size of micro instruction is :

(1) 19

(2) 18

(3) 17

(4) 20

Options :

61547540941. 1

61547540942. 2
61547540943. 3
61547540944. 4

Question Number : 61 Question Id : 61547510501 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 micro instruction format has microoperation field which is divided into 2 subfields F1 and F2, each having 15 distinct microoperations, condition field CD for four status bits, branch field BR having four options used in conjunction with address field AD. The address space is of 128 memory words. The size of micro instruction is :

(1) 19 (2) 18

(3) 17 (4) 20

Options :
61547540941. 1
61547540942. 2
61547540943. 3
61547540944. 4

Question Number : 62 Question Id : 61547510502 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 following equation:

$(142)_b + (112)_{b-2} = (75)_8$, find base b.

(1) 3 (2) 6

(3) 7 (4) 5

Options :
61547540945. 1
61547540946. 2
61547540947. 3
61547540948. 4

Question Number : 62 Question Id : 61547510502 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 following equation:

$(142)_b + (112)_{b-2} = (75)_8$, find base b.

(1) 3 (2) 6

(3) 7 (4) 5

Options :

61547540945. 1

61547540946. 2

61547540947. 3

61547540948. 4

Question Number : 63 Question Id : 61547510503 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 following program is stored in the memory unit of the basic computer. Give the content of accumulator register in hexadecimal after the execution of the program.

Location	Instruction
010	CLA
011	ADD 016
012	BUN 014
013	HLT
014	AND 017
015	BUN 013
016	C1A5
017	93C6

(1) A1B4

(2) 81B4

(3) A184

(4) 8184

Options :

61547540949. 1

61547540950. 2

61547540951. 3

61547540952. 4

Question Number : 63 Question Id : 61547510503 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 following program is stored in the memory unit of the basic computer. Give the content of accumulator register in hexadecimal after the execution of the program.

Location	Instruction
010	CLA
011	ADD 016
012	BUN 014
013	HLT
014	AND 017
015	BUN 013
016	C1A5
017	93C6

(1) A1B4

(2) 81B4

(3) A184

(4) 8184

Options :

61547540949. 1

61547540950. 2

61547540951. 3

61547540952. 4

Question Number : 64 Question Id : 61547510504 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 following C program?

```
# include <stdio.h>
main( )
{
        int i, j, x = 0;
        for (i = 0; i < 5; ++i)
        for (j = 0; j < i; ++j)
        {
        x + = (i + j – 1);
        break ;
        }
        printf ("%d", x) ;
}
```

(1) 6 (2) 5

(3) 4 (4) 3

Options :

61547540953. 1

61547540954. 2

61547540955. 3

61547540956. 4

Question Number : 64 Question Id : 61547510504 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 following C program?

```
# include <stdio.h>
main( )
{
        int i, j, x = 0;
        for (i = 0; i < 5; ++i)
        for (j = 0; j < i; ++j)
        {
        x + = (i + j – 1);
        break ;
        }
        printf ("%d", x) ;
}
```

(1) 6 (2) 5

(3) 4 (4) 3

Options :

61547540953. 1

61547540954. 2

61547540955. 3

61547540956. 4

Question Number : 65 Question Id : 61547510505 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 be the base class in C++ and B be the derived class from A with protected inheritance. Which of the following statement is false for class B?

(1) Member function of class B can access protected data of class A

(2) Member function of Class B can access public data of class A

(3) Member function of class B cannot access private data of class A

(4) Object of derived class B can access public base class data

Options :

61547540957. 1

61547540958. 2

61547540959. 3

61547540960. 4

Question Number : 65 Question Id : 61547510505 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 be the base class in C++ and B be the derived class from A with protected inheritance. Which of the following statement is false for class B?

(1) Member function of class B can access protected data of class A

(2) Member function of Class B can access public data of class A

(3) Member function of class B cannot access private data of class A

(4) Object of derived class B can access public base class data

Options :

61547540957. 1

61547540958. 2

61547540959. 3

61547540960. 4

Question Number : 66 Question Id : 61547510506 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 tag is used to enclose any number of javascript statements in HTML document?

(1) <code> (2) <script>

(3) <title> (4) <body>

Options :

61547540961. 1

61547540962. 2

61547540963. 3

61547540964. 4

Question Number : 66 Question Id : 61547510506 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 tag is used to enclose any number of javascript statements in HTML document?

(1) <code> (2) <script>

(3) <title> (4) <body>

Options :

61547540961. 1

61547540962. 2

61547540963. 3

61547540964. 4

Question Number : 67 Question Id : 61547510507 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 rectangle is bound by the lines $x = 0; y = 0; x = 5 \, and \, y = 3$. The line segment joining (–1, 0) and (4, 5), if clipped against this window will connect the points ————————.

(1) (0, 1) and (3, 3)
(2) (0, 1) and (2, 3)
(3) (0, 1) and (4, 5)
(4) (0, 1) and (3, 5)

Options :

61547540965. 1

61547540966. 2

61547540967. 3

61547540968. 4

Question Number : 67 Question Id : 61547510507 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 rectangle is bound by the lines $x = 0; y = 0; x = 5 \, and \, y = 3$. The line segment joining (–1, 0) and (4, 5), if clipped against this window will connect the points ————————.

(1) (0, 1) and (3, 3)
(2) (0, 1) and (2, 3)
(3) (0, 1) and (4, 5)
(4) (0, 1) and (3, 5)

Options :

61547540965. 1

61547540966. 2

61547540967. 3

61547540968. 4

Question Number : 68 Question Id : 61547510508 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 algorithms is not used for line clipping?

(1) Cohen-Sutherland algorithm
(2) Southerland-Hodgeman algorithm
(3) Liang-Barsky algorithm
(4) Nicholl-Lee-Nicholl algorithm

Options :

61547540969. 1

61547540970. 2

61547540971. 3

61547540972. 4

Question Number : 68 Question Id : 61547510508 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 algorithms is not used for line clipping?

(1) Cohen-Sutherland algorithm

(2) Southerland-Hodgeman algorithm

(3) Liang-Barsky algorithm

(4) Nicholl-Lee-Nicholl algorithm

Options :

61547540969. 1

61547540970. 2

61547540971. 3

61547540972. 4

Question Number : 69 Question Id : 61547510509 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 we want to resize a 1024 × 768 pixels image to one that is 640 pixels wide with the same aspect ratio, what would be the height of the resized image?

(1) 420 Pixels

(2) 460 Pixels

(3) 480 Pixels

(4) 540 Pixels

Options :

61547540973. 1

61547540974. 2

61547540975. 3

61547540976. 4

Question Number : 69 Question Id : 61547510509 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 we want to resize a 1024 × 768 pixels image to one that is 640 pixels wide with the same aspect ratio, what would be the height of the resized image?

(1) 420 Pixels

(2) 460 Pixels

(3) 480 Pixels

(4) 540 Pixels

Options :

61547540973. 1

61547540974. 2

61547540975. 3

61547540976. 4

Question Number : 70 Question Id : 61547510510 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 component module of DBMS does rearrangement and possible ordering of operations, eliminate redundancy in query and use efficient algorithms and indexes during the exceution of a query?

(1) query compiler
(2) query optimizer
(3) Stored data manager
(4) Database processor

Options :

61547540977. 1
61547540978. 2
61547540979. 3
61547540980. 4

Question Number : 70 Question Id : 61547510510 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 component module of DBMS does rearrangement and possible ordering of operations, eliminate redundancy in query and use efficient algorithms and indexes during the exceution of a query?

(1) query compiler
(2) query optimizer
(3) Stored data manager
(4) Database processor

Options :

61547540977. 1
61547540978. 2
61547540979. 3
61547540980. 4

Question Number : 71 Question Id : 61547510511 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 two tables $R1(x, y)$ and $R2(y, z)$ with 50 and 30 number of tuples respectively. Find maximum number of tuples in the output of natural join between tables $R1$ and $R2$ i.e. $R1$ * $R2$? (* - Natural Join)

(1) 30
(2) 20
(3) 50
(4) 1500

Options :

61547540981. 1
61547540982. 2
61547540983. 3
61547540984. 4

Question Number : 71 Question Id : 61547510511 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 two tables $R1(x, y)$ and $R2(y, z)$ with 50 and 30 number of tuples respectively. Find maximum number of tuples in the output of natural join between tables $R1$ and $R2$ i.e. $R1 * R2$? (* - Natural Join)

(1) 30

(2) 20

(3) 50

(4) 1500

Options :

61547540981. 1

61547540982. 2

61547540983. 3

61547540984. 4

Question Number : 72 Question Id : 61547510512 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 two tables EMPLOYEE (EID, ENAME, DEPTNO)

DEPARTMENT (DEPTNO, DEPTNAME)

Find the most appropriate statement of the given query :

```
Select count (*) 'total'
from EMPLOYEE
where DEPTNO IN (D1, D2)
group by DEPTNO
having count (*) >5
```

(1) Total number of employees in each department D1 and D2

(2) Total number of employees of department D1 and D2 if their total is >5

(3) Display total number of employees in both departments D1 and D2

(4) The output of the query must have atleast two rows

Options :

61547540985. 1

61547540986. 2

61547540987. 3

61547540988. 4

Question Number : 72 Question Id : 61547510512 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 two tables EMPLOYEE (EID, ENAME, DEPTNO)

DEPARTMENT (DEPTNO, DEPTNAME)

Find the most appropriate statement of the given query :

```
Select count (*) 'total'
from EMPLOYEE
where DEPTNO IN (D1, D2)
group by DEPTNO
having count (*) >5
```

(1) Total number of employees in each department D1 and D2

(2) Total number of employees of department D1 and D2 if their total is >5

(3) Display total number of employees in both departments D1 and D2

(4) The output of the query must have atleast two rows

Options :

61547540985. 1

61547540986. 2

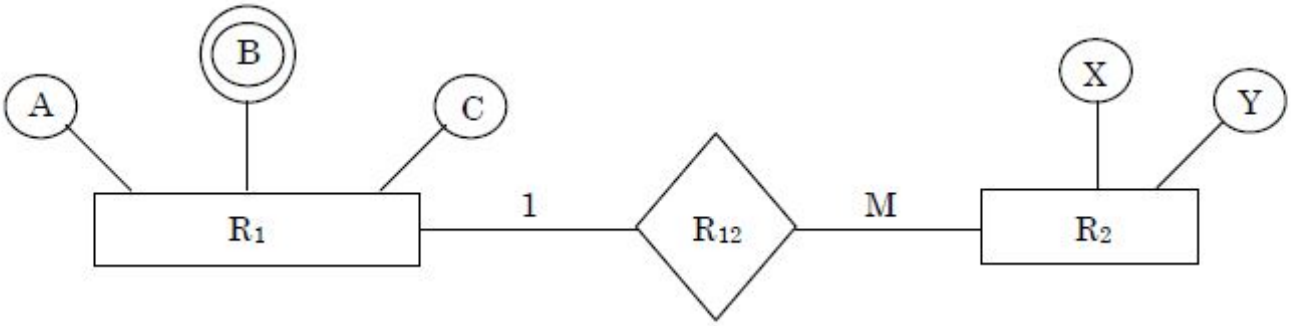
61547540987. 3

61547540988. 4

Question Number : 73 Question Id : 61547510513 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 minimum number of tables required for converting the following entity relationship diagram into relational database?



(1) 2

(2) 4

(3) 3

(4) 5

Options :

61547540989. 1

61547540990. 2

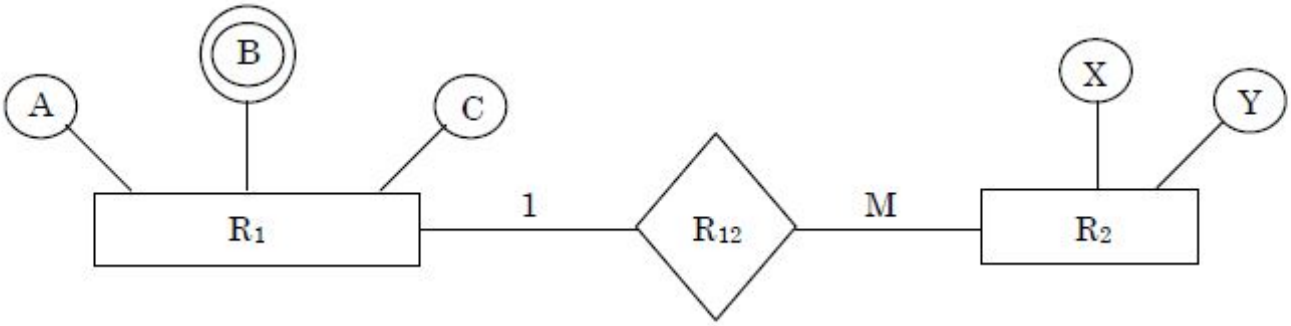
61547540991. 3

61547540992. 4

Question Number : 73 Question Id : 61547510513 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 minimum number of tables required for converting the following entity relationship diagram into relational database?



(1) 2 (2) 4

(3) 3 (4) 5

Options :

61547540989. 1

61547540990. 2

61547540991. 3

61547540992. 4

Question Number : 74 Question Id : 61547510514 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 counting semaphore is initialized to 8. 3 wait ( ) operations and 4 signal ( ) operations are applied. Find the current value of semaphore variable.

(1) 9 (2) 5

(3) 1 (4) 4

Options :

61547540993. 1

61547540994. 2

61547540995. 3

61547540996. 4

Question Number : 74 Question Id : 61547510514 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 counting semaphore is initialized to 8. 3 wait ( ) operations and 4 signal ( ) operations are applied. Find the current value of semaphore variable.

(1) 9 (2) 5

(3) 1 (4) 4

Options :

61547540993. 1

61547540994. 2

61547540995. 3

61547540996. 4

Question Number : 75 Question Id : 61547510515 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 not needed by an encryption algorithm used in Cryptography?

(1) KEY (2) Message

(3) Ciphertext (4) User details

Options :

61547540997. 1

61547540998. 2

61547540999. 3

61547541000. 4

Question Number : 75 Question Id : 61547510515 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 not needed by an encryption algorithm used in Cryptography?

(1) KEY (2) Message

(3) Ciphertext (4) User details

Options :

61547540997. 1

61547540998. 2

61547540999. 3

61547541000. 4

Question Number : 76 Question Id : 61547510516 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 CPU scheduling algorithms is/are supported by LINUX operating system?

(1) Non-preemptive priority scheduling

(2) Preemptive priority scheduling and time sharing CPU scheduling

(3) Time sharing scheduling only

(4) Priority scheduling only

Options :

61547541001. 1

61547541002. 2

61547541003. 3

61547541004. 4

Question Number : 76 Question Id : 61547510516 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 CPU scheduling algorithms is/are supported by LINUX operating system?

(1) Non-preemptive priority scheduling

(2) Preemptive priority scheduling and time sharing CPU scheduling

(3) Time sharing scheduling only

(4) Priority scheduling only

Options :

61547541001. 1

61547541002. 2

61547541003. 3

61547541004. 4

Question Number : 77 Question Id : 61547510517 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 paging system where translation look aside buffer (TLB) a special type of associative memory is used with hit ratio of 80%.

Assume that memory reference takes 80 nanoseconds and reference time to TLB is 20 nanoseconds. What will be the effective memory access time given 80% hit ratio?

(1) 110 nanoseconds

(2) 116 nanoseconds

(3) 200 nanoseconds

(4) 100 nanoseconds

Options :

61547541005. 1

61547541006. 2

61547541007. 3

61547541008. 4

Question Number : 77 Question Id : 61547510517 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 paging system where translation look aside buffer (TLB) a special type of associative memory is used with hit ratio of 80%.

Assume that memory reference takes 80 nanoseconds and reference time to TLB is 20 nanoseconds. What will be the effective memory access time given 80% hit ratio?

(1) 110 nanoseconds

(2) 116 nanoseconds

(3) 200 nanoseconds

(4) 100 nanoseconds

Options :

61547541005. 1

61547541006. 2

61547541007. 3

61547541008. 4

Question Number : 78 Question Id : 61547510518 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 a system has 12 magnetic tape drives and at time t_0, three processes are allotted tape drives out of their need as given below :

	Maximum Needs	Current Needs
p_0	10	5
p_1	4	2
p_2	9	2

At time t_0, the system is in safe state. Which of the following is safe sequence so that deadlock is avoided?

(1) $\langle p_0, p_1, p_2 \rangle$

(2) $\langle p_1, p_0, p_2 \rangle$

(3) $\langle p_2, p_1, p_0 \rangle$

(4) $\langle p_0, p_2, p_1 \rangle$

Options :

61547541009. 1

61547541010. 2

61547541011. 3

61547541012. 4

Question Number : 78 Question Id : 61547510518 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 a system has 12 magnetic tape drives and at time t_0, three processes are allotted tape drives out of their need as given below :

	Maximum Needs	Current Needs
p_0	10	5
p_1	4	2
p_2	9	2

At time t_0, the system is in safe state. Which of the following is safe sequence so that deadlock is avoided?

(1) $\langle p_0, p_1, p_2 \rangle$ (2) $\langle p_1, p_0, p_2 \rangle$

(3) $\langle p_2, p_1, p_0 \rangle$ (4) $\langle p_0, p_2, p_1 \rangle$

Options :

61547541009. 1

61547541010. 2

61547541011. 3

61547541012. 4

Question Number : 79 Question Id : 61547510519 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 interprocess communication model is used to exchange messages among co-operative processes?

(1) Shared memory model

(2) Message passing model

(3) Shared memory and message passing model

(4) Queues

Options :

61547541013. 1

61547541014. 2

61547541015. 3

61547541016. 4

Question Number : 79 Question Id : 61547510519 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 interprocess communication model is used to exchange messages among co-operative processes?

(1) Shared memory model

(2) Message passing model

(3) Shared memory and message passing model

(4) Queues

Options :

61547541013. 1

61547541014. 2

61547541015. 3

61547541016. 4

Question Number : 80 Question Id : 61547510520 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 CPU time slice of 2ms and following list of processes.

Process	Burst time (ms)	Arrival time
p_1	3	0
p_2	4	2
p_3	5	5

Find average turnaround time and average waiting time using round robin CPU scheduling?

(1) 4, 0

(2) 5.66, 1.66

(3) 5.66, 0

(4) 7, 2

Options :

61547541017. 1

61547541018. 2

61547541019. 3

61547541020. 4

Question Number : 80 Question Id : 61547510520 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 CPU time slice of 2ms and following list of processes.

Process	Burst time (ms)	Arrival time
p_1	3	0
p_2	4	2
p_3	5	5

Find average turnaround time and average waiting time using round robin CPU scheduling?

(1) 4, 0

(2) 5.66, 1.66

(3) 5.66, 0

(4) 7, 2

Options :

61547541017. 1

61547541018. 2

61547541019. 3

61547541020. 4

Question Number : 81 Question Id : 61547510521 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 methods are used to pass any number of parameters to the operating system through system calls?

(1) Registers

(2) Block or table in main memory

(3) Stack

(4) Block in main memory and stack

Options :

61547541021. 1

61547541022. 2

61547541023. 3

61547541024. 4

Question Number : 81 Question Id : 61547510521 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 methods are used to pass any number of parameters to the operating system through system calls?

(1) Registers

(2) Block or table in main memory

(3) Stack

(4) Block in main memory and stack

Options :

61547541021. 1

61547541022. 2

61547541023. 3

61547541024. 4

Question Number : 82 Question Id : 61547510522 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Java Virtual Machine (JVM) is used to execute architectural neutral byte code. Which of the following is needed by the JVM for execution of Java Code?

(1) Class loader only

(2) Class loader and Java Interpreter

(3) Class loader, Java Interpreter and API

(4) Java Interpreter only

Options :

61547541025. 1

61547541026. 2

61547541027. 3

61547541028. 4

Question Number : 82 Question Id : 61547510522 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Java Virtual Machine (JVM) is used to execute architectural neutral byte code. Which of the following is needed by the JVM for execution of Java Code?

(1) Class loader only

(2) Class loader and Java Interpreter

(3) Class loader, Java Interpreter and API

(4) Java Interpreter only

Options :

61547541025. 1

61547541026. 2

61547541027. 3

61547541028. 4

Question Number : 83 Question Id : 61547510523 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 system for a restaurant, the main scenario for placing order is given below :

(a) Customer reads menu

(b) Customer places order

(c) Order is sent to kitchen for preparation

(d) Ordered items are served

(e) Customer requests for a bill for the order

(f) Bill is prepared for this order

(g) Customer is given the bill

(h) Customer pays the bill

A sequence diagram for the scenario will have atleast how many objects among whom the messages will be exchanged.

(1) 3 (2) 4

(3) 5 (4) 6

Options :

61547541029. 1

61547541030. 2

61547541031. 3

61547541032. 4

Question Number : 83 Question Id : 61547510523 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 system for a restaurant, the main scenario for placing order is given below :

(a) Customer reads menu

(b) Customer places order

(c) Order is sent to kitchen for preparation

(d) Ordered items are served

(e) Customer requests for a bill for the order

(f) Bill is prepared for this order

(g) Customer is given the bill

(h) Customer pays the bill

A sequence diagram for the scenario will have atleast how many objects among whom the messages will be exchanged.

(1) 3 (2) 4

(3) 5 (4) 6

Options :

61547541029. 1

61547541030. 2

61547541031. 3

61547541032. 4

Question Number : 84 Question Id : 61547510524 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

An ———————— chart is a project schedule representation that presents project plan as a directed graph. The critical path is the ———————— sequence of ———————— tasks and it defines project ————————————.

(1) Activity, Shortest, Independent, Cost

(2) Activity, Longest, Dependent, Duration

(3) Activity, Longest, Independent, Duration

(4) Activity, Shortest, Dependent, Duration

Options :

61547541033. 1

61547541034. 2

61547541035. 3

61547541036. 4

Question Number : 84 Question Id : 61547510524 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

An ———— chart is a project schedule representation that presents project plan as a directed graph. The critical path is the ———— sequence of ———— tasks and it defines project ————————.

(1) Activity, Shortest, Independent, Cost

(2) Activity, Longest, Dependent, Duration

(3) Activity, Longest, Independent, Duration

(4) Activity, Shortest, Dependent, Duration

Options :

61547541033. 1

61547541034. 2

61547541035. 3

61547541036. 4

Question Number : 85 Question Id : 61547510525 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 $a^{2c} \bmod n = (a^c)^2 \bmod n$ and $a^{2c+1} \bmod n = a \cdot (a^c)^2 \bmod n$. For $a = 7$, $b = 17$ and $n = 561$, what is the value of $a^b \pmod n$?

(1) 160 (2) 166

(3) 157 (4) 67

Options :

61547541037. 1

61547541038. 2

61547541039. 3

61547541040. 4

Question Number : 85 Question Id : 61547510525 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 $a^{2c} \bmod n = (a^c)^2 \bmod n$ and $a^{2c+1} \bmod n = a \cdot (a^c)^2 \bmod n$. For $a = 7$, $b = 17$ and $n = 561$, what is the value of $a^b \pmod n$?

(1) 160 (2) 166

(3) 157 (4) 67

Options :

61547541037. 1

61547541038. 2

61547541039. 3

61547541040. 4

Question Number : 86 Question Id : 61547510526 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 clique in an undirected graph $G = \langle V, E \rangle$ is a subset $V' \subseteq V$ of vertices, such that

(1) If $(u, v) \in E$ then $u \in V'$ and $v \in V'$

(2) If $(u, v) \in E$ then $u \in V'$ or $v \in V'$

(3) Each pair of vertices in V' is connected by an edge

(4) All pairs of vertices in V' are not connected by an edge

Options :

61547541041. 1

61547541042. 2

61547541043. 3

61547541044. 4

Question Number : 86 Question Id : 61547510526 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 clique in an undirected graph $G = \langle V, E \rangle$ is a subset $V' \subseteq V$ of vertices, such that

(1) If $(u, v) \in E$ then $u \in V'$ and $v \in V'$

(2) If $(u, v) \in E$ then $u \in V'$ or $v \in V'$

(3) Each pair of vertices in V' is connected by an edge

(4) All pairs of vertices in V' are not connected by an edge

Options :

61547541041. 1

61547541042. 2

61547541043. 3

61547541044. 4

Question Number : 87 Question Id : 61547510527 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 worst case running time of Insert and Extract-min, in an implementation of a priority queue using an unsorted array? Assume that all insertions can be accomodated.

(1) $\theta(1), \theta(n)$

(2) $\theta(n), \theta(1)$

(3) $\theta(1), \theta(1)$

(4) $\theta(n), \theta(n)$

Options :

61547541045. 1

61547541046. 2

61547541047. 3

61547541048. 4

Question Number : 87 Question Id : 61547510527 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 worst case running time of Insert and Extract-min, in an implementation of a priority queue using an unsorted array? Assume that all insertions can be accomodated.

(1) $\theta(1)$, $\theta(n)$

(2) $\theta(n)$, $\theta(1)$

(3) $\theta(1)$, $\theta(1)$

(4) $\theta(n)$, $\theta(n)$

Options :

61547541045. 1

61547541046. 2

61547541047. 3

61547541048. 4

Question Number : 88 Question Id : 61547510528 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 B-Tree, each node represents a disk block. Suppose one block holds 8192 bytes. Each key uses 32 bytes. In a B-tree of order M there are M – 1 keys. Since each branch is on another disk block, we assume a branch is of 4 bytes. The total memory requirement for a non-leaf node is

(1) 32 M – 32

(2) 36 M – 32

(3) 36 M – 36

(4) 32 M – 36

Options :

61547541049. 1

61547541050. 2

61547541051. 3

61547541052. 4

Question Number : 88 Question Id : 61547510528 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 B-Tree, each node represents a disk block. Suppose one block holds 8192 bytes. Each key uses 32 bytes. In a B-tree of order M there are M – 1 keys. Since each branch is on another disk block, we assume a branch is of 4 bytes. The total memory requirement for a non-leaf node is

(1) 32 M – 32

(2) 36 M – 32

(3) 36 M – 36

(4) 32 M – 36

Options :

61547541049. 1

61547541050. 2

61547541051. 3

61547541052. 4

Question Number : 89 Question Id : 61547510529 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Give asymptotic upper and lower bound for $T(n)$ given below. Assume $T(n)$ is constant for $n \le 2$. $T(n) = 4T(\sqrt{n}) + \lg^2 n$

(1) $T(n) = \theta(\lg(\lg^2 n)\lg n)$

(2) $T(n) = \theta(\lg^2 n \lg n)$

(3) $T(n) = \theta(\lg^2 n \lg \lg n)$

(4) $T(n) = \theta(\lg(\lg n)\lg n)$

Options :

61547541053. 1

61547541054. 2

61547541055. 3

61547541056. 4

Question Number : 89 Question Id : 61547510529 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Give asymptotic upper and lower bound for $T(n)$ given below. Assume $T(n)$ is constant for $n \le 2$. $T(n) = 4T(\sqrt{n}) + \lg^2 n$

(1) $T(n) = \theta(\lg(\lg^2 n)\lg n)$

(2) $T(n) = \theta(\lg^2 n \lg n)$

(3) $T(n) = \theta(\lg^2 n \lg \lg n)$

(4) $T(n) = \theta(\lg(\lg n)\lg n)$

Options :

61547541053. 1

61547541054. 2

61547541055. 3

61547541056. 4

Question Number : 90 Question Id : 61547510530 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 weighted directed graph. The current shortest distance from source S to node x is represented by $d[x]$. Let $d[v] = 29$, $d[u] = 15$, $w[u, v] = 12$. What is the updated value of $d[v]$ based on current information?

(1) 29

(2) 27

(3) 25

(4) 17

Options :

61547541057. 1

61547541058. 2

61547541059. 3

61547541060. 4

Question Number : 90 Question Id : 61547510530 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 weighted directed graph. The current shortest distance from source S to node x is represented by $d[x]$. Let $d[v]=29$, $d[u]=15$, $w[u,v]=12$. What is the updated value of $d[v]$ based on current information?

(1) 29 (2) 27

(3) 25 (4) 17

Options :

61547541057. 1

61547541058. 2

61547541059. 3

61547541060. 4

Question Number : 91 Question Id : 61547510531 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

When using Dijkstra's algorithm to find shortest path in a graph, which of the following statement is not true?

(1) It can find shortest path within the same graph data structure

(2) Every time a new node is visited, we choose the node with smallest known distance/ cost (weight) to visit first

(3) Shortest path always passes through least number of vertices

(4) The graph needs to have a non-negative weight on every edge

Options :

61547541061. 1

61547541062. 2

61547541063. 3

61547541064. 4

Question Number : 91 Question Id : 61547510531 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

When using Dijkstra's algorithm to find shortest path in a graph, which of the following statement is not true?

(1) It can find shortest path within the same graph data structure

(2) Every time a new node is visited, we choose the node with smallest known distance/ cost (weight) to visit first

(3) Shortest path always passes through least number of vertices

(4) The graph needs to have a non-negative weight on every edge

Options :

61547541061. 1

61547541062. 2

61547541063. 3

61547541064. 4

Question Number : 92 Question Id : 61547510532 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 time complexity to multiply two polynomials of degree n using Fast Fourier transform method is :

(1) $\theta(n \lg n)$ (2) $\theta(n^2)$

(3) $\theta(n)$ (4) $\theta(\lg n)$

Options :

61547541065. 1

61547541066. 2

61547541067. 3

61547541068. 4

Question Number : 92 Question Id : 61547510532 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 time complexity to multiply two polynomials of degree n using Fast Fourier transform method is :

(1) $\theta(n \lg n)$ (2) $\theta(n^2)$

(3) $\theta(n)$ (4) $\theta(\lg n)$

Options :

61547541065. 1

61547541066. 2

61547541067. 3

61547541068. 4

Question Number : 93 Question Id : 61547510533 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 grammars :

$G_1 : S \rightarrow aSb \mid bSa \mid aa$

$G_2 : S \rightarrow aSb \mid bSa \mid SS \mid \lambda$

$G_3 : S \rightarrow aSb \mid bSa \mid SS \mid a$

$G_4 : S \rightarrow aSb \mid bSa \mid SS \mid SSS \mid \lambda$

Which of the following is correct w.r.t. the above grammars?

(1) G_1 and G_3 are equivalent

(2) G_2 and G_3 are equivalent

(3) G_2 and G_4 are equivalent

(4) G_3 and G_4 are equivalent

Options :

61547541069. 1

61547541070. 2

61547541071. 3

61547541072. 4

Question Number : 93 Question Id : 61547510533 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 grammars :

$G_1 : S \rightarrow aSb \mid bSa \mid aa$

$G_2 : S \rightarrow aSb \mid bSa \mid SS \mid \lambda$

$G_3 : S \rightarrow aSb \mid bSa \mid SS \mid a$

$G_4 : S \rightarrow aSb \mid bSa \mid SS \mid SSS \mid \lambda$

Which of the following is correct w.r.t. the above grammars?

(1) G_1 and G_3 are equivalent

(2) G_2 and G_3 are equivalent

(3) G_2 and G_4 are equivalent

(4) G_3 and G_4 are equivalent

Options :

61547541069. 1

61547541070. 2

61547541071. 3

61547541072. 4

Question Number : 94 Question Id : 61547510534 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 language $L = \{a^n b^{n-3} \mid n > 2\}$ on $\Sigma = \{a, b\}$. Which one of the following grammars generates the language L?

(1) $S \to aA \mid a,\ A \to aAb \mid b$

(2) $S \to aaA \mid \lambda,\ A \to aAb \mid \lambda$

(3) $S \to aaaA \mid a,\ A \to aAb \mid \lambda$

(4) $S \to aaaA,\ A \to aAb \mid \lambda$

Options :

61547541073. 1

61547541074. 2

61547541075. 3

61547541076. 4

Question Number : 94 Question Id : 61547510534 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 language $L = \{a^n b^{n-3} \mid n > 2\}$ on $\Sigma = \{a, b\}$. Which one of the following grammars generates the language L?

(1) $S \to aA \mid a,\ A \to aAb \mid b$

(2) $S \to aaA \mid \lambda,\ A \to aAb \mid \lambda$

(3) $S \to aaaA \mid a,\ A \to aAb \mid \lambda$

(4) $S \to aaaA,\ A \to aAb \mid \lambda$

Options :

61547541073. 1

61547541074. 2

61547541075. 3

61547541076. 4

Question Number : 95 Question Id : 61547510535 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 :

$S \to 0A \mid 0BB$

$A \to 00A \mid \lambda$

$B \to 1B \mid 11C$

$C \to B$

Which language does this grammar generate?

(1) $L((00)^*0 + (11)^*1)$

(2) $L(0(11)^* + 1(00)^*)$

(3) $L((00)^*0)$

(4) $L(0(11)^*1)$

Options :

61547541077. 1

61547541078. 2

61547541079. 3

61547541080. 4

Question Number : 95 Question Id : 61547510535 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 :

$S \to 0A \mid 0BB$

$A \to 00A \mid \lambda$

$B \to 1B \mid 11C$

$C \to B$

Which language does this grammar generate?

(1) $L((00)*0+(11)*1)$

(2) $L(0(11)*+1(00)*)$

(3) $L((00)*0)$

(4) $L(0(11)*1)$

Options :

61547541077. 1

61547541078. 2

61547541079. 3

61547541080. 4

Question Number : 96 Question Id : 61547510536 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 $\sum = \{w, x\}$ and $T = \{x, y, z\}$. Define homomorphism h by :

$$h(x) = xzy$$

$$h(w) = zxyy$$

If L is the regular language denoted by $r = (w + x*)(ww)*$, then the regular language $h(L)$ is given by

(1) $(z\,x\,yy + x\,z\,y)\,(z\,x\,yy)$

(2) $(zxyy + (xzy)^*)(zxyy\,zxyy)^*$

(3) $(zxyy + xzy)(zxyy)*$

(4) $(zxyy + (xzy)^*)(zxyy\,zxyy)$

Options :

61547541081. 1

61547541082. 2

61547541083. 3

61547541084. 4

Question Number : 96 Question Id : 61547510536 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 $\sum = \{w, x\}$ and $T = \{x, y, z\}$. Define homomorphism h by :

$$h(x) = xzy$$

$$h(w) = zxyy$$

If L is the regular language denoted by $r = (w + x^*)(ww)^*$, then the regular language $h(L)$ is given by

(1) $(z\,x\,yy + x\,z\,y)\,(z\,x\,yy)$

(2) $\left(zxyy + (xzy)^*\right)(zxyy\,zxyy)^*$

(3) $(zxyy + xzy)(zxyy)^*$

(4) $\left(zxyy + (xzy)^*\right)(zxyy\,zxyy)$

Options :

61547541081. 1

61547541082. 2

61547541083. 3

61547541084. 4

Question Number : 97 Question Id : 61547510537 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 with respect to the language $L = \{a^n b^n \mid n \geq 0\}$

$S_1 : L^2$ is context free language

$S_2 :$ L^k is conext-free language for any given $k \geq 1$

$S_3 : \overline{L}$ and L^* are context free languages

Which one of the following is correct?

(1) only S_1 and S_2

(2) only S_1 and S_3

(3) only S_2 and S_3

(4) S_1, S_2 and S_3

Options :

61547541085. 1

61547541086. 2

61547541087. 3

61547541088. 4

Question Number : 97 Question Id : 61547510537 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 with respect to the language $L = \{a^n b^n \mid n \geq 0\}$

$S_1 : L^2$ is context free language

$S_2 :$ L^k is conext-free language for any given $k \geq 1$

$S_3 : \overline{L}$ and L^* are context free languages

Which one of the following is correct?

(1) only S_1 and S_2

(2) only S_1 and S_3

(3) only S_2 and S_3

(4) S_1, S_2 and S_3

Options :

61547541085. 1

61547541086. 2

61547541087. 3

61547541088. 4

Question Number : 98 Question Id : 61547510538 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 languages :

$L_1 = \{a^n b^n c^m\} \cup \{a^n b^m c^m\}$, $n, m \geq 0$

$L_2 = \{ww^R \mid w \in \{a, b\}^*\}$ Where R represents reversible operation.

Which one of the following is (are) inherently ambiguous language(s)?

(1) only L_1

(2) only L_2

(3) both L_1 and L_2

(4) neither L_1 nor L_2

Options :

61547541089. 1

61547541090. 2

61547541091. 3

61547541092. 4

Question Number : 98 Question Id : 61547510538 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 languages :

$L_1 = \{a^n b^n c^m\} \cup \{a^n b^m c^m\},\ n, m \geq 0$

$L_2 = \{ww^R \mid w \in \{a, b\}^*\}$ Where R represents reversible operation.

Which one of the following is (are) inherently ambiguous language(s)?

(1) only L_1 (2) only L_2

(3) both L_1 and L_2 (4) neither L_1 nor L_2

Options :

61547541089. 1

61547541090. 2

61547541091. 3

61547541092. 4

Question Number : 99 Question Id : 61547510539 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 $G = (V, T, S, P)$ be any context-free grammar without any λ–productions or unit productions. Let K be the maximum number of symbols on the right of any production in P. The maximum number of production rules for any equivalent grammar in Chomsky normal form is given by:

(1) $(K-1)|P|+|T|-1$ (2) $(K-1)|P|+|T|$

(3) $K|P|+|T|-1$ (4) $K|P|+|T|$

Where $|\cdot|$ denotes the cardinality of the set.

Options :

61547541093. 1

61547541094. 2

61547541095. 3

61547541096. 4

Question Number : 99 Question Id : 61547510539 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 $G = (V, T, S, P)$ be any context-free grammar without any λ–productions or unit productions. Let K be the maximum number of symbols on the right of any production in P. The maximum number of production rules for any equivalent grammar in Chomsky normal form is given by:

(1) $(K-1)|P|+|T|-1$ (2) $(K-1)|P|+|T|$

(3) $K|P|+|T|-1$ (4) $K|P|+|T|$

Where $|\cdot|$ denotes the cardinality of the set.

Options :

61547541093. 1

61547541094. 2

61547541095. 3

61547541096. 4

Question Number : 100 Question Id : 61547510540 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 language families :

$L_1 \equiv$ The context – free languages

$L_2 \equiv$ The context – sensitive languages

$L_3 \equiv$ The recursively enumerable languages

$L_4 \equiv$ The recursive languages

Which one of the following options is correct?

(1) $L_1 \subseteq L_2 \subseteq L_3 \subseteq L_4$ (2) $L_2 \subseteq L_1 \subseteq L_3 \subseteq L_4$

(3) $L_1 \subseteq L_2 \subseteq L_4 \subseteq L_3$ (4) $L_2 \subseteq L_1 \subseteq L_4 \subseteq L_3$

Options :

61547541097. 1

61547541098. 2

61547541099. 3

61547541100. 4

Question Number : 100 Question Id : 61547510540 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 language families :

$L_1 \equiv$ The context – free languages

$L_2 \equiv$ The context – sensitive languages

$L_3 \equiv$ The recursively enumerable languages

$L_4 \equiv$ The recursive languages

Which one of the following options is correct?

(1) $L_1 \subseteq L_2 \subseteq L_3 \subseteq L_4$ (2) $L_2 \subseteq L_1 \subseteq L_3 \subseteq L_4$

(3) $L_1 \subseteq L_2 \subseteq L_4 \subseteq L_3$ (4) $L_2 \subseteq L_1 \subseteq L_4 \subseteq L_3$

Options :

61547541097. 1

61547541098. 2

61547541099. 3

61547541100. 4

Question Number : 101 Question Id : 61547510541 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 : These exists no algorithm for deciding if any two Turing machines M_1 and M_2 accept the same language.

S_2 : Let M_1 and M_2 be arbitrary Turing machines. The problem to determine $L(M_1) \subseteq L(M_2)$ is undecidable.

Which of the statements 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 :

61547541101. 1

61547541102. 2

61547541103. 3

61547541104. 4

Question Number : 101 Question Id : 61547510541 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 : These exists no algorithm for deciding if any two Turing machines M_1 and M_2 accept the same language.

S_2 : Let M_1 and M_2 be arbitrary Turing machines. The problem to determine $L(M_1) \subseteq L(M_2)$ is undecidable.

Which of the statements 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 :

61547541101. 1

61547541102. 2

61547541103. 3

61547541104. 4

Question Number : 102 Question Id : 61547510542 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 $A = \{001, 0011, 11, 101\}$ and $B = \{01, 111, 111, 010\}$. Similarly, let $C = \{00, 001, 1000\}$ and $D = \{0, 11, 011\}$.

Which of the following pairs have a post-correspondence solution?

(1) Only pair (A, B) (2) Only pair (C, D)

(3) Both (A, B) and (C, D) (4) Neither (A, B) nor (C, D)

Options :

61547541105. 1

61547541106. 2

61547541107. 3

61547541108. 4

Question Number : 102 Question Id : 61547510542 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 $A = \{001, 0011, 11, 101\}$ and $B = \{01, 111, 111, 010\}$. Similarly, let $C = \{00, 001, 1000\}$ and $D = \{0, 11, 011\}$.

Which of the following pairs have a post-correspondence solution?

(1) Only pair (A, B) (2) Only pair (C, D)

(3) Both (A, B) and (C, D) (4) Neither (A, B) nor (C, D)

Options :

61547541105. 1

61547541106. 2

61547541107. 3

61547541108. 4

Question Number : 103 Question Id : 61547510543 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 class of IP address has the last address as 223.255.255.255?

(1) Class A (2) Class B

(3) Class C (4) Class D

Options :

61547541109. 1

61547541110. 2

61547541111. 3

61547541112. 4

Question Number : 103 Question Id : 61547510543 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 class of IP address has the last address as 223.255.255.255?

(1) Class A

(2) Class B

(3) Class C

(4) Class D

Options :

61547541109. 1

61547541110. 2

61547541111. 3

61547541112. 4

Question Number : 104 Question Id : 61547510544 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 subnet with 720 routers. If a three-level hierarchy is chosen, with eight clusters, each containing 9 regions of 10 routers, then total number of entries in hierarchical table of each router is

(1) 25

(2) 27

(3) 53

(4) 72

Options :

61547541113. 1

61547541114. 2

61547541115. 3

61547541116. 4

Question Number : 104 Question Id : 61547510544 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 subnet with 720 routers. If a three-level hierarchy is chosen, with eight clusters, each containing 9 regions of 10 routers, then total number of entries in hierarchical table of each router is

(1) 25

(2) 27

(3) 53

(4) 72

Options :

61547541113. 1

61547541114. 2

61547541115. 3

61547541116. 4

Question Number : 105 Question Id : 61547510545 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Piconet is a basic unit of a bluetooth system consisting of ———————— master node and up to ———————— active slave nodes.

(1) one, five
(2) one, seven
(3) two, eight
(4) one, eight

Options :

61547541117. 1

61547541118. 2

61547541119. 3

61547541120. 4

Question Number : 105 Question Id : 61547510545 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Piconet is a basic unit of a bluetooth system consisting of ———————— master node and up to ———————— active slave nodes.

(1) one, five
(2) one, seven
(3) two, eight
(4) one, eight

Options :

61547541117. 1

61547541118. 2

61547541119. 3

61547541120. 4

Question Number : 106 Question Id : 61547510546 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 network with bandwidth of 10 Mbps can pass only an average of 12,000 frames per minute with each frame carrying an average of 10,000 bits. What is the throughput of this network?

(1) 1,000,000 bps
(2) 2,000,000 bps
(3) 12,000,000 bps
(4) 1,200,00,000 bps

Options :

61547541121. 1

61547541122. 2

61547541123. 3

61547541124. 4

Question Number : 106 Question Id : 61547510546 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 network with bandwidth of 10 Mbps can pass only an average of 12,000 frames per minute with each frame carrying an average of 10,000 bits. What is the throughput of this network?

(1) 1,000,000 bps
(2) 2,000,000 bps
(3) 12,000,000 bps
(4) 1,200,00,000 bps

Options :

61547541121. 1

61547541122. 2

61547541123. 3

61547541124. 4

Question Number : 107 Question Id : 61547510547 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 full form of ICANN is

(1) Internet Corporation for Assigned Names and Numbers

(2) Internet Corporation for Assigned Numbers and Names

(3) Institute of Cooperation for Assigned Names and Numbers

(4) Internet Connection for Assigned Names and Numbers

Options :

61547541125. 1

61547541126. 2

61547541127. 3

61547541128. 4

Question Number : 107 Question Id : 61547510547 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 full form of ICANN is

(1) Internet Corporation for Assigned Names and Numbers

(2) Internet Corporation for Assigned Numbers and Names

(3) Institute of Cooperation for Assigned Names and Numbers

(4) Internet Connection for Assigned Names and Numbers

Options :

61547541125. 1

61547541126. 2

61547541127. 3

61547541128. 4

Question Number : 108 Question Id : 61547510548 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to Dempster-Shafer theory for uncertainty management,

(1) $Bel(A) + Bel(\neg A) \leq 1$

(2) $Bel(A) + Bel(\neg A) \geq 1$

(3) $Bel(A) + Bel(\neg A) = 1$

(4) $Bel(A) + Bel(\neg A) = 0$

Where Bel(A) denotes Belief of event A.

Options :

61547541129. 1

61547541130. 2

61547541131. 3

61547541132. 4

Question Number : 108 Question Id : 61547510548 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to Dempster-Shafer theory for uncertainty management,

(1) $Bel(A) + Bel(\neg A) \leq 1$

(2) $Bel(A) + Bel(\neg A) \geq 1$

(3) $Bel(A) + Bel(\neg A) = 1$

(4) $Bel(A) + Bel(\neg A) = 0$

Where Bel(A) denotes Belief of event A.

Options :

61547541129. 1

61547541130. 2

61547541131. 3

61547541132. 4

Question Number : 109 Question Id : 61547510549 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 : $\forall x P(x) \vee \forall x Q(x)$ and $\forall x (P(x) \vee Q(x))$ are not logically equivalent.

S_2 : $\exists x P(x) \wedge \exists x Q(x)$ and $\exists x (P(x) \wedge Q(x))$ are not logically equivalent

Which of the following statements 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 :

61547541133. 1

61547541134. 2

61547541135. 3

61547541136. 4

Question Number : 109 Question Id : 61547510549 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 : $\forall x\, P(x) \vee \forall x\, Q(x)$ and $\forall x\,(P(x) \vee Q(x))$ are not logically equivalent.

S_2 : $\exists x\, P(x) \wedge \exists x\, Q(x)$ and $\exists x\,(P(x) \wedge Q(x))$ are not logically equivalent

Which of the following statements 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 :

61547541133. 1

61547541134. 2

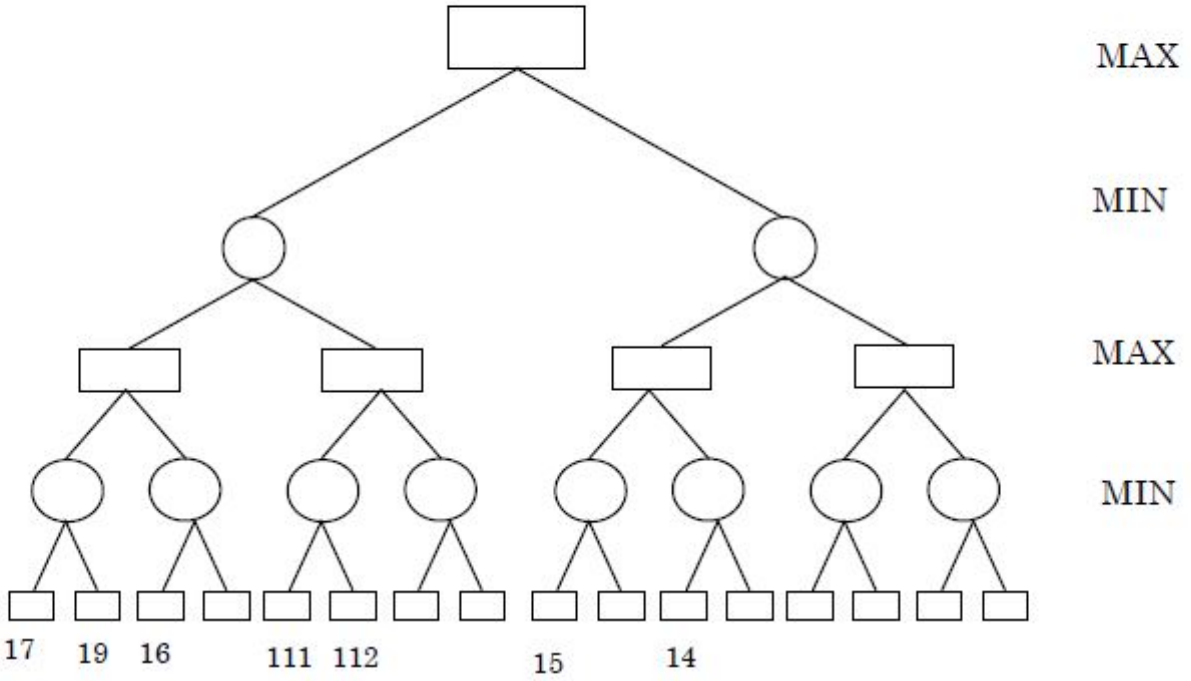
61547541135. 3

61547541136. 4

Question Number : 110 Question Id : 61547510550 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 □ represent MIN and MAX nodes respectively. The value of the root node of the game tree is:

(1) 14

(2) 17

(3) 111

(4) 112

Options :

61547541137. 1

61547541138. 2

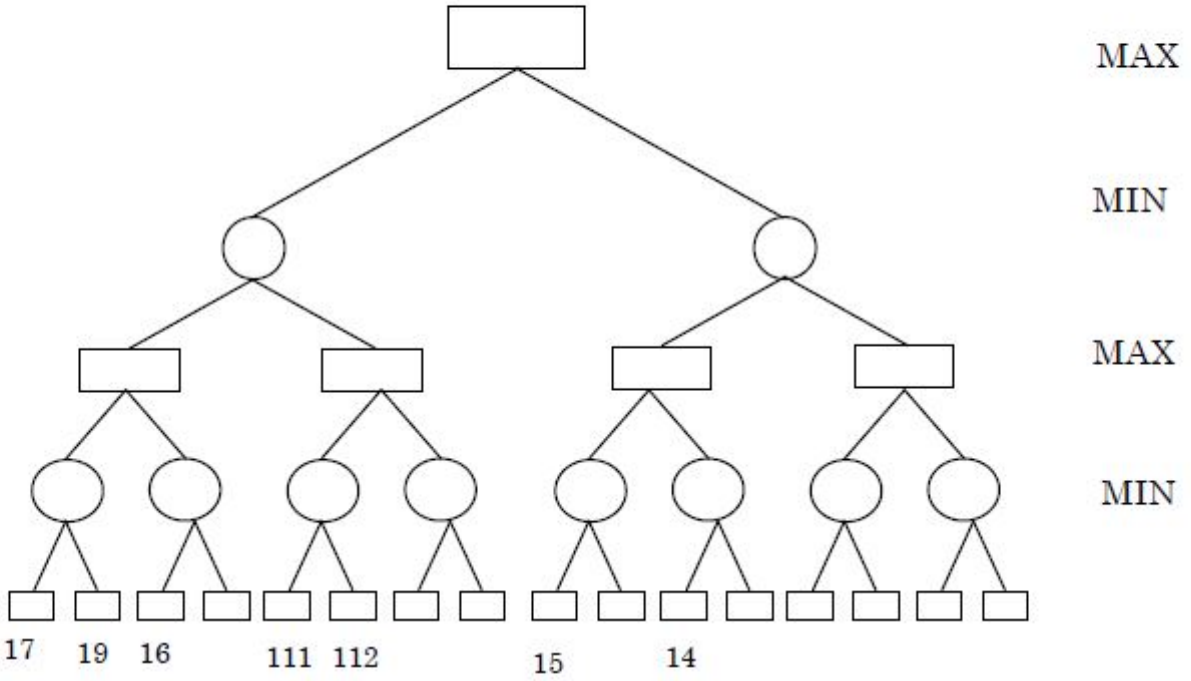
61547541139. 3

61547541140. 4

Question Number : 110 Question Id : 61547510550 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 □ represent MIN and MAX nodes respectively. The value of the root node of the game tree is:

(1) 14

(2) 17

(3) 111

(4) 112

Options :

61547541137. 1

61547541138. 2

61547541139. 3

61547541140. 4

Question Number : 111 Question Id : 61547510551 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 models:

M_1: Mamdani model

M_2: Takagi – Sugeno–Kang model

M_3: Kosko's additive model (SAM)

Which of the following option contains examples of additive rule model?

(1) Only M_1 and M_2

(2) Only M_2 and M_3

(3) Only M_1 and M_3

(4) M_1,M_2, and M_3

Options :

61547541141. 1

61547541142. 2

61547541143. 3

61547541144. 4

Question Number : 111 Question Id : 61547510551 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 models:

M_1: Mamdani model

M_2: Takagi – Sugeno–Kang model

M_3: Kosko's additive model (SAM)

Which of the following option contains examples of additive rule model?

(1) Only M_1 and M_2

(2) Only M_2 and M_3

(3) Only M_1 and M_3

(4) M_1,M_2, and M_3

Options :

61547541141. 1

61547541142. 2

61547541143. 3

61547541144. 4

Question Number : 112 Question Id : 61547510552 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 operators, $t(x, y)$, and a fuzzy disjunction operator, $s(x, y)$, form a pair if they satisfy:

$t(x, y) = 1 - s(1 - x, 1 - y)$.

If $t(x, y) = \frac{xy}{(x + y - xy)}$ then $s(x, y)$ is given by

(1) $\frac{x + y}{1 - xy}$

(2) $\frac{x + y - 2xy}{1 - xy}$

(3) $\frac{x + y - xy}{1 - xy}$

(4) $\frac{x + y - xy}{1 + xy}$

Options :

61547541145. 1

61547541146. 2

61547541147. 3

61547541148. 4

Question Number : 112 Question Id : 61547510552 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 operators, $t(x, y)$, and a fuzzy disjunction operator, $s(x, y)$, form a pair if they satisfy:

$t(x, y) = 1 - s(1 - x, 1 - y)$.

If $t(x, y) = \frac{xy}{(x + y - xy)}$ then $s(x, y)$ is given by

(1) $\frac{x + y}{1 - xy}$

(2) $\frac{x + y - 2xy}{1 - xy}$

(3) $\frac{x + y - xy}{1 - xy}$

(4) $\frac{x + y - xy}{1 + xy}$

Options :

61547541145. 1

61547541146. 2

61547541147. 3

61547541148. 4

Question Number : 113 Question Id : 61547510553 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 W_{ij} represents weight between node i at layer k and node j at layer $(k-1)$ of a given multilayer perceptron. The weight updation using gradient descent method is given by

(1) $W_{ij}(t+1) = W_{ij}(t) + \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(2) $W_{ij}(t+1) = W_{ij}(t) - \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(3) $W_{ij}(t+1) = \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(4) $W_{ij}(t+1) = -\alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

Where α and E represents learning rate and Error in the output respectively.

Options :

61547541149. 1

61547541150. 2

61547541151. 3

61547541152. 4

Question Number : 113 Question Id : 61547510553 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 W_{ij} represents weight between node i at layer k and node j at layer $(k-1)$ of a given multilayer perceptron. The weight updation using gradient descent method is given by

(1) $W_{ij}(t+1) = W_{ij}(t) + \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(2) $W_{ij}(t+1) = W_{ij}(t) - \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(3) $W_{ij}(t+1) = \alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

(4) $W_{ij}(t+1) = -\alpha \frac{\partial E}{\partial W_{ij}}, 0 \le \alpha \le 1$

Where α and E represents learning rate and Error in the output respectively.

Options :

61547541149. 1

61547541150. 2

61547541151. 3

61547541152. 4

Question Number : 114 Question Id : 61547510554 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 order of schema ?10?101? and ???0??1 are ———————— and ———————— respectively.

(1) 5,3

(2) 5,2

(3) 7,5

(4) 8,7

Options :

61547541153. 1

61547541154. 2

61547541155. 3

61547541156. 4

Question Number : 114 Question Id : 61547510554 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 order of schema ?10?101? and ???0??1 are ———————— and ———————— respectively.

(1) 5,3 (2) 5,2

(3) 7,5 (4) 8,7

Options :

61547541153. 1

61547541154. 2

61547541155. 3

61547541156. 4

Question Number : 115 Question Id : 61547510555 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 the population of chromosomes in genetic algorithm is represented in terms of binary number. The strength of fitness of a chromosome in decimal form, x, is given by

$$S f(x) = \frac{f(x)}{\Sigma f(x)} where f(x) = x^2$$

The population is given by P where:

$P = \{(01101, (11000), (01000), (10011)\}$

The strength of fitness of chromosome (11000) is ————————.

(1) 24 (2) 576

(3) 14.4 (4) 49.2

Options :

61547541157. 1

61547541158. 2

61547541159. 3

61547541160. 4

Question Number : 115 Question Id : 61547510555 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 the population of chromosomes in genetic algorithm is represented in terms of binary number. The strength of fitness of a chromosome in decimal form, x, is given by

$$S f(x) = \frac{f(x)}{\Sigma f(x)} where f(x) = x^2$$

The population is given by P where:

$P = \{(01101, (11000), (01000), (10011)\}$

The strength of fitness of chromosome (11000) is ————————.

(1) 24 (2) 576

(3) 14.4 (4) 49.2

Options :

61547541157. 1
61547541158. 2
61547541159. 3
61547541160. 4

Question Number : 116 Question Id : 61547510556 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 : If a group $(G, *)$ is of order n, and $a \in G$ is such that $a^m = e$ for some integer $m \leq n$, then m must divide n.

S_2 : If a group $(G, *)$ is of even order, then there must be an element $a \in G$ such that $a \neq e$ and $a * a = e$.

Which of the statements 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 :

61547541161. 1
61547541162. 2
61547541163. 3
61547541164. 4

Question Number : 116 Question Id : 61547510556 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 : If a group $(G, *)$ is of order n, and $a \in G$ is such that $a^m = e$ for some integer $m \leq n$, then m must divide n.

S_2 : If a group $(G, *)$ is of even order, then there must be an element $a \in G$ such that $a \neq e$ and $a * a = e$.

Which of the statements 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 :

61547541161. 1

61547541162. 2

61547541163. 3

61547541164. 4

Question Number : 117 Question Id : 61547510557 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 with respect to duality in LPP :

(a) The final simplex table giving optimal solution of the primal also contains optimal solution of its dual in itself.

(b) If either the primal or the dual problem has a finite optimal solution, then the other problem also has a finite optimal solution.

(c) If either problem has an unbounded optimum solution, then the other problem has no feasible solution at all.

Which of the statements is (are) correct?

(1) only (a) and (b)

(2) only (a) and (c)

(3) only (b) and (c)

(4) (a), (b) and (c)

Options :

61547541165. 1

61547541166. 2

61547541167. 3

61547541168. 4

Question Number : 117 Question Id : 61547510557 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 with respect to duality in LPP :

(a) The final simplex table giving optimal solution of the primal also contains optimal solution of its dual in itself.

(b) If either the primal or the dual problem has a finite optimal solution, then the other problem also has a finite optimal solution.

(c) If either problem has an unbounded optimum solution, then the other problem has no feasible solution at all.

Which of the statements is (are) correct?

(1) only (a) and (b)

(2) only (a) and (c)

(3) only (b) and (c)

(4) (a), (b) and (c)

Options :

61547541165. 1

61547541166. 2

61547541167. 3

61547541168. 4

Question Number : 118 Question Id : 61547510558 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 Reduced Instruction Set Computer (RISC) characteristics are :

(a) Single cycle instruction execution

(b) Variable length instruction formats

(c) Instructions that manipulates operands in memory

(d) Efficient instruction pipeline

Choose the correct characteristics from the options given below :

(1) (a) and (b)

(2) (b) and (c)

(3) (a) and (d)

(4) (c) and (d)

Options :

61547541169. 1

61547541170. 2

61547541171. 3

61547541172. 4

Question Number : 118 Question Id : 61547510558 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 Reduced Instruction Set Computer (RISC) characteristics are :

(a) Single cycle instruction execution

(b) Variable length instruction formats

(c) Instructions that manipulates operands in memory

(d) Efficient instruction pipeline

Choose the correct characteristics from the options given below :

(1) (a) and (b)

(2) (b) and (c)

(3) (a) and (d)

(4) (c) and (d)

Options :

61547541169. 1

61547541170. 2

61547541171. 3

61547541172. 4

Question Number : 119 Question Id : 61547510559 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 binary codes for decimal digits are self complementing?

(a) 8421 code

(b) 2421 code

(c) excess-3 code

(d) excess-3 gray code

Choose the correct option :

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (d) and (a)

Options :

61547541173. 1

61547541174. 2

61547541175. 3

61547541176. 4

Question Number : 119 Question Id : 61547510559 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 binary codes for decimal digits are self complementing?

(a) 8421 code

(b) 2421 code

(c) excess-3 code

(d) excess-3 gray code

Choose the correct option :

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (d) and (a)

Options :

61547541173. 1

61547541174. 2

61547541175. 3

61547541176. 4

Question Number : 120 Question Id : 61547510560 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 with respect to approaches to fill area on raster systems :

P : To determine the overlap intervals for scan lines that cross the area.

Q : To start from a given interior position and paint outward from this point until we encounter the specified boundary conditions.

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 :

61547541177. 1

61547541178. 2

61547541179. 3

61547541180. 4

Question Number : 120 Question Id : 61547510560 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 with respect to approaches to fill area on raster systems :

P : To determine the overlap intervals for scan lines that cross the area.

Q : To start from a given interior position and paint outward from this point until we encounter the specified boundary conditions.

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 :

61547541177. 1

61547541178. 2

61547541179. 3

61547541180. 4

Question Number : 121 Question Id : 61547510561 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 true regarding C++?

(a) Overloading gives the capability to an existing operator to operate on other data types.

(b) Inheritance in object oriented programming provides support to reusability.

(c) When object of a derived class is defined, first the constructor of derived class is executed then constructor of a base class is executed.

(d) Overloading is a type of polymorphism.

Choose the correct option from those given below :

(1) (a) and (b) only

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

(3) (a), (b) and (d) only

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

Options :

61547541181. 1

61547541182. 2

61547541183. 3

61547541184. 4

Question Number : 121 Question Id : 61547510561 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 true regarding C++?

(a) Overloading gives the capability to an existing operator to operate on other data types.

(b) Inheritance in object oriented programming provides support to reusability.

(c) When object of a derived class is defined, first the constructor of derived class is executed then constructor of a base class is executed.

(d) Overloading is a type of polymorphism.

Choose the correct option from those given below :

(1) (a) and (b) only

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

(3) (a), (b) and (d) only

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

Options :

61547541181. 1

61547541182. 2

61547541183. 3

61547541184. 4

Question Number : 122 Question Id : 61547510562 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 legal statements in C programming language?

(a) int * P = &44;

(b) int * P = &r;

(c) int P = &a;

(d) int P = a;

Choose the correct option :

(1) (a) and (b)

(2) (b) and (c)

(3) (b) and (d)

(4) (a) and (d)

Options :

61547541185. 1

61547541186. 2

61547541187. 3

61547541188. 4

Question Number : 122 Question Id : 61547510562 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 legal statements in C programming language?

(a) int * P = &44;

(b) int * P = &r;

(c) int P = &a;

(d) int P = a;

Choose the correct option :

(1) (a) and (b)

(2) (b) and (c)

(3) (b) and (d)

(4) (a) and (d)

Options :

61547541185. 1

61547541186. 2

61547541187. 3

61547541188. 4

Question Number : 123 Question Id : 61547510563 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Two concurrent executing transactions T_1 and T_2 are allowed to update same stock item say 'A' in an uncontrolled manner. In such scenario, following problems may occur :

(a) Dirty read problem

(b) Lost update problem

(c) Transaction failure

(d) Inconsistent database state

Which of the following option is correct if database system has no concurrency module and allows concurrent execution of above two transactions?

(1) (a), (b) and (c) only

(2) (c) and (d) only

(3) (a) and (b) only

(4) (a), (b) and (d) only

Options :

61547541189. 1

61547541190. 2

61547541191. 3

61547541192. 4

Question Number : 123 Question Id : 61547510563 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Two concurrent executing transactions T_1 and T_2 are allowed to update same stock item say 'A' in an uncontrolled manner. In such scenario, following problems may occur :

(a) Dirty read problem

(b) Lost update problem

(c) Transaction failure

(d) Inconsistent database state

Which of the following option is correct if database system has no concurrency module and allows concurrent execution of above two transactions?

(1) (a), (b) and (c) only

(2) (c) and (d) only

(3) (a) and (b) only

(4) (a), (b) and (d) only

Options :

61547541189. 1

61547541190. 2

61547541191. 3

61547541192. 4

Question Number : 124 Question Id : 61547510564 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 circumstances under which pre-emptive CPU scheduling is used :

(a) A process switches from Running state to Ready state

(b) A process switches from Waiting state to Ready state

(c) A process completes its execution

(d) A process switches from Ready to Waiting state

Choose the correct option :

(1) (a) and (b) only

(2) (a) and (d) only

(3) (c) and (d) only

(4) (a), (b), (c) only

Options :

61547541193. 1

61547541194. 2

61547541195. 3

61547541196. 4

Question Number : 124 Question Id : 61547510564 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 circumstances under which pre-emptive CPU scheduling is used :

(a) A process switches from Running state to Ready state

(b) A process switches from Waiting state to Ready state

(c) A process completes its execution

(d) A process switches from Ready to Waiting state

Choose the correct option :

(1) (a) and (b) only

(2) (a) and (d) only

(3) (c) and (d) only

(4) (a), (b), (c) only

Options :

61547541193. 1

61547541194. 2

61547541195. 3

61547541196. 4

Question Number : 125 Question Id : 61547510565 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 following multithreaded algorithm computes transpose of a matrix in parallel :

p Trans (X, Y, N)

if $N = 1$

then $Y[1,1] \leftarrow X[1,1]$

else partition X into four $(N/2) \times (N/2)$ submatrices $X_{11}, X_{12}, X_{21}, X_{22}$

partition Y into four $(N/2) \times (N/2)$ submatrices $Y_{11}, Y_{12}, Y_{21}, Y_{22}$

spawn p Trans $(X_{11}, Y_{11}, N/2)$

spawn p Trans $(X_{12}, Y_{12}, N/2)$

spawn p Trans $(X_{21}, Y_{21}, N/2)$

spawn p Trans $(X_{22}, Y_{22}, N/2)$

What is the asymptotic parallelism of the algorithm?

(1) T_1 / T_∞ or $\theta(N^2 / \lg N)$

(2) T_1 / T_∞ or $\theta(N / \lg N)$

(3) T_1 / T_∞ or $\theta(\lg N / N^2)$

(4) T_1 / T_∞ or $\theta(\lg N / N)$

Options :

61547541197. 1

61547541198. 2

61547541199. 3

61547541200. 4

Question Number : 125 Question Id : 61547510565 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 following multithreaded algorithm computes transpose of a matrix in parallel :

p Trans (X, Y, N)

if $N = 1$

then $Y[1,1] \leftarrow X[1,1]$

else partition X into four $(N/2) \times (N/2)$ submatrices $X_{11}, X_{12}, X_{21}, X_{22}$

partition Y into four $(N/2) \times (N/2)$ submatrices $Y_{11}, Y_{12}, Y_{21}, Y_{22}$

spawn p Trans $(X_{11}, Y_{11}, N/2)$

spawn p Trans $(X_{12}, Y_{12}, N/2)$

spawn p Trans $(X_{21}, Y_{21}, N/2)$

spawn p Trans $(X_{22}, Y_{22}, N/2)$

What is the asymptotic parallelism of the algorithm?

(1) T_1 / T_∞ or $\theta(N^2 / \lg N)$

(2) T_1 / T_∞ or $\theta(N / \lg N)$

(3) T_1 / T_∞ or $\theta(\lg N / N^2)$

(4) T_1 / T_∞ or $\theta(\lg N / N)$

Options :

61547541197. 1

61547541198. 2

61547541199. 3

61547541200. 4

Question Number : 126 Question Id : 61547510566 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 :

(a) The running time of dynamic programming algorithm is alway $\theta(\rho)$ where ρ is number of subproblems.

(b) When a recurrence relation has cyclic dependency, it is impossible to use that recurrence relation (unmodified) in a correct dynamic program.

(c) For a dynamic programming algorithm, computing all values in a bottom-up fashion is asymptotically faster than using recursion and memorization.

(d) If a problem X can be reduced to a known NP-hard problem, then X must be NP-hard.

Which of the statement(s) is (are) true?

(1) Only (b) and (a)

(2) Only (b)

(3) Only (b) and (c)

(4) Only (b) and (d)

Options :

61547541201. 1

61547541202. 2

61547541203. 3

61547541204. 4

Question Number : 126 Question Id : 61547510566 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 :

(a) The running time of dynamic programming algorithm is alway $\theta(\rho)$ where ρ is number of subproblems.

(b) When a recurrence relation has cyclic dependency, it is impossible to use that recurrence relation (unmodified) in a correct dynamic program.

(c) For a dynamic programming algorithm, computing all values in a bottom-up fashion is asymptotically faster than using recursion and memorization.

(d) If a problem X can be reduced to a known NP-hard problem, then X must be NP-hard.

Which of the statement(s) is (are) true?

(1) Only (b) and (a)

(2) Only (b)

(3) Only (b) and (c)

(4) Only (b) and (d)

Options :

61547541201. 1

61547541202. 2

61547541203. 3

61547541204. 4

Question Number : 127 Question Id : 61547510567 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 :

(a) Fiber optic cable is much lighter than copper cable.

(b) Fiber optic cable is not affected by power surges or electromagnetic interference.

(c) Optical transmission is inherently bidirectional.

Which of the statements is (are) correct?

(1) Only (a) and (b)

(2) Only (a) and (c)

(3) Only (b) and (c)

(4) (a), (b) and (c)

Options :

61547541205. 1

61547541206. 2

61547541207. 3

61547541208. 4

Question Number : 127 Question Id : 61547510567 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 :

(a) Fiber optic cable is much lighter than copper cable.

(b) Fiber optic cable is not affected by power surges or electromagnetic interference.

(c) Optical transmission is inherently bidirectional.

Which of the statements is (are) correct?

(1) Only (a) and (b)

(2) Only (a) and (c)

(3) Only (b) and (c)

(4) (a), (b) and (c)

Options :

61547541205. 1

61547541206. 2

61547541207. 3

61547541208. 4

Question Number : 128 Question Id : 61547510568 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 :

(a) Windows Azure is a cloud-based operating system.

(b) Google App Engine is an integrated set of online services for consumers to communicate and share with others.

(c) Amazon Cloud Front is a web service for content delivery.

Which of the statements is (are) correct?

(1) Only (a) and (b)
(2) Only (a) and (c)
(3) Only (b) and (c)
(4) (a), (b) and (c)

Options :

61547541209. 1

61547541210. 2

61547541211. 3

61547541212. 4

Question Number : 128 Question Id : 61547510568 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 :

(a) Windows Azure is a cloud-based operating system.

(b) Google App Engine is an integrated set of online services for consumers to communicate and share with others.

(c) Amazon Cloud Front is a web service for content delivery.

Which of the statements is (are) correct?

(1) Only (a) and (b)
(2) Only (a) and (c)
(3) Only (b) and (c)
(4) (a), (b) and (c)

Options :

61547541209. 1

61547541210. 2

61547541211. 3

61547541212. 4

Question Number : 129 Question Id : 61547510569 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 with respect to network security :

(a) Message confidentiality means that the sender and the receiver expect privacy.

(b) Message integrity means that the data must arrive at the receiver exactly as they were sent.

(c) Message authentication means the receiver is ensured that the message is coming from the intended sender.

Which of the statements is (are) correct?

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

Options :

61547541213. 1

61547541214. 2

61547541215. 3

61547541216. 4

Question Number : 129 Question Id : 61547510569 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 with respect to network security :

(a) Message confidentiality means that the sender and the receiver expect privacy.

(b) Message integrity means that the data must arrive at the receiver exactly as they were sent.

(c) Message authentication means the receiver is ensured that the message is coming from the intended sender.

Which of the statements is (are) correct?

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

Options :

61547541213. 1

61547541214. 2

61547541215. 3

61547541216. 4

Question Number : 130 Question Id : 61547510570 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) Trapping at local maxima

(b) Reaching a plateau

(c) Traversal along the ridge.

Which of the following option represents shortcomings of the hill climbing algorithm?

(1) (a) and (b) only

(2) (a) and (c) only

(3) (b) and (c) only

(4) (a). (b) and (c)

Options :

61547541217. 1

61547541218. 2

61547541219. 3

61547541220. 4

Question Number : 130 Question Id : 61547510570 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) Trapping at local maxima

(b) Reaching a plateau

(c) Traversal along the ridge.

Which of the following option represents shortcomings of the hill climbing algorithm?

(1) (a) and (b) only

(2) (a) and (c) only

(3) (b) and (c) only

(4) (a). (b) and (c)

Options :

61547541217. 1

61547541218. 2

61547541219. 3

61547541220. 4

Question Number : 131 Question Id : 61547510571 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 learning algorithms :

(a) Logistic repression

(b) Back propogation

(c) Linear repression

Which of the following option represents classification algorithms?

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

(3) (b) and (c) only (4) (a), (b) and (c)

Options :

61547541221. 1

61547541222. 2

61547541223. 3

61547541224. 4

Question Number : 131 Question Id : 61547510571 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 learning algorithms :

(a) Logistic repression

(b) Back propogation

(c) Linear repression

Which of the following option represents classification algorithms?

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

(3) (b) and (c) only (4) (a), (b) and (c)

Options :

61547541221. 1

61547541222. 2

61547541223. 3

61547541224. 4

Question Number : 132 Question Id : 61547510572 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 and List-II :

	List I		List II
(a)	Physical layer	(i)	Provide token management service
(b)	Transport layer	(ii)	Concerned with transmitting raw bits over a communication channel
(c)	Session layer	(iii)	Concerned with the syntax and semantics of the information transmitted
(d)	Presentation layer	(iv)	True end-to-end layer from source to destination

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

(2) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(3) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(4) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)

Options :

61547541225. 1

61547541226. 2

61547541227. 3

61547541228. 4

Question Number : 132 Question Id : 61547510572 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 and List-II :

	List I		List II
(a)	Physical layer	(i)	Provide token management service
(b)	Transport layer	(ii)	Concerned with transmitting raw bits over a communication channel
(c)	Session layer	(iii)	Concerned with the syntax and semantics of the information transmitted
(d)	Presentation layer	(iv)	True end-to-end layer from source to destination

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iv), (c)-(iii), (d)-(i)

(2) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(3) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(4) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)

Options :

61547541225. 1
61547541226. 2
61547541227. 3
61547541228. 4

Question Number : 133 Question Id : 61547510573 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to the ISO-9126 Standard Quality Model, match the attributes given in List-I with their definitions in List-II :

List I		List II	
(a)	Functionality	(i)	Relationship between level of performance and amount of resources
(b)	Reliability	(ii)	Characteristics related with achievement of purpose
(c)	Efficiency	(iii)	Effort needed to make for improvement
(d)	Maintainability	(iv)	Capability of software to maintain performance of software

Choose the correct option from the ones given below :

(1) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(3) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Options :

61547541229. 1
61547541230. 2
61547541231. 3
61547541232. 4

Question Number : 133 Question Id : 61547510573 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

According to the ISO-9126 Standard Quality Model, match the attributes given in List-I with their definitions in List-II :

List I		List II	
(a)	Functionality	(i)	Relationship between level of performance and amount of resources
(b)	Reliability	(ii)	Characteristics related with achievement of purpose
(c)	Efficiency	(iii)	Effort needed to make for improvement
(d)	Maintainability	(iv)	Capability of software to maintain performance of software

Choose the correct option from the ones given below :

(1) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(2) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(3) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Options :

61547541229. 1

61547541230. 2

61547541231. 3

61547541232. 4

Question Number : 134 Question Id : 61547510574 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 the Agile Process models with the task performed during the model :

List I		List II	
(a)	Scrum	(i)	CRC cards
(b)	Adaptive software development	(ii)	Sprint backlog
(c)	Extreme programming	(iii)	<action> the <result> <by/for/of/to> $a(n)$ <object>
(d)	Feature-driven development	(iv)	Time box release plan

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(2) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)

(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(4) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii)

Options :

61547541233. 1

61547541234. 2

61547541235. 3

61547541236. 4

Question Number : 134 Question Id : 61547510574 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 the Agile Process models with the task performed during the model :

List I		List II	
(a)	Scrum	(i)	CRC cards
(b)	Adaptive software development	(ii)	Sprint backlog
(c)	Extreme programming	(iii)	<action> the <result> <by/for/of/to> $a(n)$ <object>
(d)	Feature-driven development	(iv)	Time box release plan

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iv), (c)-(i), (d)-(iii)

(2) (a)-(i), (b)-(iii), (c)-(ii), (d)-(iv)

(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(4) (a)-(i), (b)-(iv), (c)-(ii), (d)-(iii)

Options :

61547541233. 1

61547541234. 2

61547541235. 3

61547541236. 4

Question Number : 135 Question Id : 61547510575 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)	Frame attribute	(i)	to create link in HTML
(b)	<tr> tag	(ii)	for vertical alignment of content in cell
(c)	Valign attribute	(iii)	to enclose each row in table
(d)	<a> tag	(iv)	to specify the side of the table frame that display border

Choose the correct option from those given below :

(1) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(2) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(4) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Options :

61547541237. 1

61547541238. 2

61547541239. 3

61547541240. 4

Question Number : 135 Question Id : 61547510575 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)	Frame attribute	(i)	to create link in HTML
(b)	<tr> tag	(ii)	for vertical alignment of content in cell
(c)	Valign attribute	(iii)	to enclose each row in table
(d)	<a> tag	(iv)	to specify the side of the table frame that display border

Choose the correct option from those given below :

(1) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(2) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

(3) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(4) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Options :

61547541237. 1

61547541238. 2

61547541239. 3

61547541240. 4

Question Number : 136 Question Id : 61547510576 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

An instruction is stored at location 500 with its address field at location 501. The address field has the value 400. A processor register R_1 contains the number 200. Match the addressing mode (List-I) given below with effective address (List-II) for the given instruction:

	List I		List II
(a)	Direct	(i)	200
(b)	Register indirect	(ii)	902
(c)	Index with R_1 as the index register	(iii)	400
(d)	Relative	(iv)	600

Choose the correct option from those given below :

(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(3) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)

(4) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

Options :

61547541241. 1
61547541242. 2
61547541243. 3
61547541244. 4

Question Number : 136 Question Id : 61547510576 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

An instruction is stored at location 500 with its address field at location 501. The address field has the value 400. A processor register R_1 contains the number 200. Match the addressing mode (List-I) given below with effective address (List-II) for the given instruction:

List I		List II	
(a)	Direct	(i)	200
(b)	Register indirect	(ii)	902
(c)	Index with R_1 as the index register	(iii)	400
(d)	Relative	(iv)	600

Choose the correct option from those given below :

(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)

(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(3) (a)-(iv), (b)-(ii), (c)-(iii), (d)-(i)

(4) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

Options :

61547541241. 1
61547541242. 2
61547541243. 3
61547541244. 4

Question Number : 137 Question Id : 61547510577 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 and List-II :

	List I		List II
(a)	Isolated I/O	(i)	same set of control signal for I/O and memory communication
(b)	Memory mapped I/O	(ii)	separate instructions for I/O and memory communication
(c)	I/O interface	(iii)	requires control signals to be transmitted between the communicating units
(d)	Asynchronous data transfer	(iv)	resolve the differences in central computer and peripherals

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)

(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Options :

61547541245. 1

61547541246. 2

61547541247. 3

61547541248. 4

Question Number : 137 Question Id : 61547510577 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 and List-II :

	List I		List II
(a)	Isolated I/O	(i)	same set of control signal for I/O and memory communication
(b)	Memory mapped I/O	(ii)	separate instructions for I/O and memory communication
(c)	I/O interface	(iii)	requires control signals to be transmitted between the communicating units
(d)	Asynchronous data transfer	(iv)	resolve the differences in central computer and peripherals

Choose the correct option from those given below :

(1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)

(2) (a)-(i), (b)-(ii), (c)-(iii), (d)-(iv)

(3) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

(4) (a)-(i), (b)-(ii), (c)-(iv), (d)-(iii)

Options :

61547541245. 1

61547541246. 2

61547541247. 3

61547541248. 4

Question Number : 138 Question Id : 61547510578 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)	Micro operation	(i)	Specify micro operations
(b)	Micro programmed control unit	(ii)	Improve CPU utilization
(c)	Interrupts	(iii)	Control Memory
(d)	Micro instruction	(iv)	Elementary operation performed on data stored in registers

Choose the correct option from those given below :

(1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(2) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

(3) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

(4) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Options :

61547541249. 1

61547541250. 2

61547541251. 3

61547541252. 4

Question Number : 138 Question Id : 61547510578 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)	Micro operation	(i)	Specify micro operations
(b)	Micro programmed control unit	(ii)	Improve CPU utilization
(c)	Interrupts	(iii)	Control Memory
(d)	Micro instruction	(iv)	Elementary operation performed on data stored in registers

Choose the correct option from those given below :

(1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)

(2) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

(3) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

(4) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)

Options :

61547541249. 1

61547541250. 2

61547541251. 3

61547541252. 4

Question Number : 139 Question Id : 61547510579 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

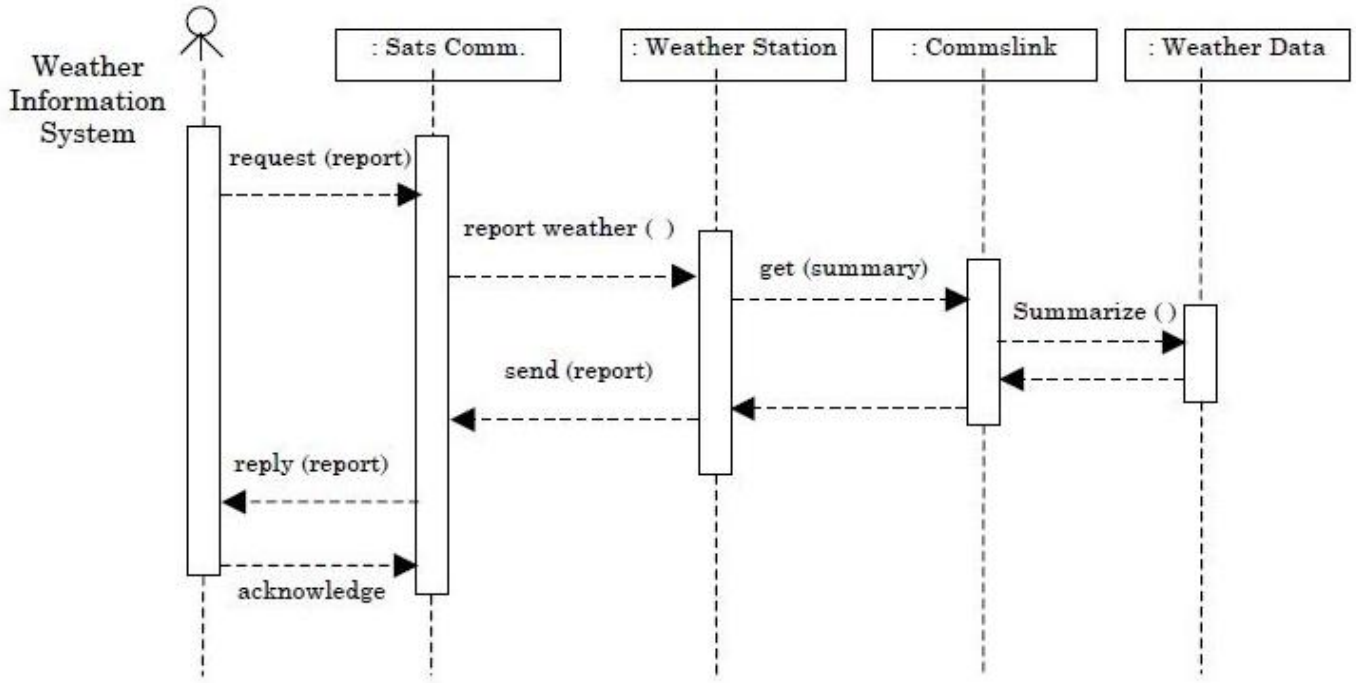


Figure 1

The sequence diagram given in Figure 1 for the Weather Information System takes place when an external system requests the summarized data from the weather station. The increasing order of lifeline for the objects in the system are:

(1) Sat comms → Weather station → Commslink → Weather data

(2) Sat comms → Comms link → Weather station → Weather data

(3) Weather data → Comms link → Weather station → Sat Comms

(4) Weather data → Weather station → Comms link → Sat Comms

Options :

61547541253. 1

61547541254. 2

61547541255. 3

61547541256. 4

Question Number : 139 Question Id : 61547510579 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

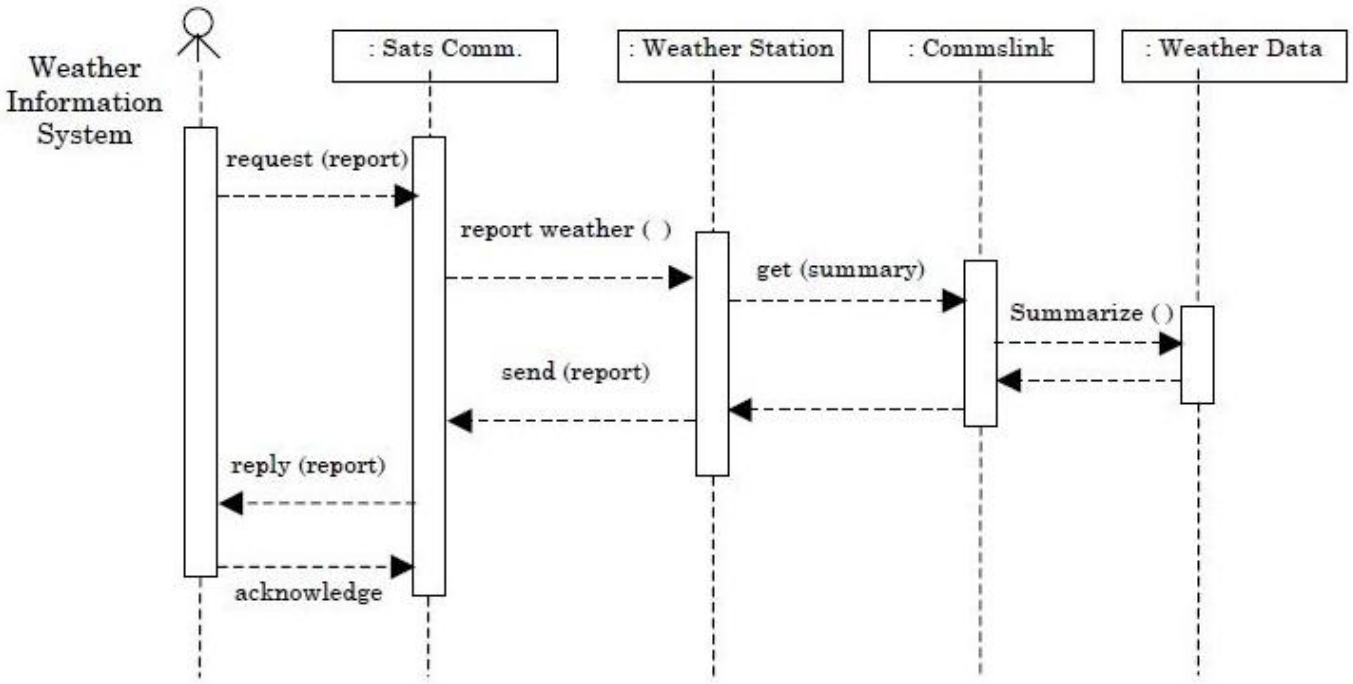


Figure 1

The sequence diagram given in Figure 1 for the Weather Information System takes place when an external system requests the summarized data from the weather station. The increasing order of lifeline for the objects in the system are:

(1) Sat comms → Weather station → Commslink → Weather data

(2) Sat comms → Comms link → Weather station → Weather data

(3) Weather data → Comms link → Weather station → Sat Comms

(4) Weather data → Weather station → Comms link → Sat Comms

Options :

61547541253. 1

61547541254. 2

61547541255. 3

61547541256. 4

Question Number : 140 Question Id : 61547510580 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 Data Encryption Standard (DES) has a function consists of four steps. Which of the following is correct order of these four steps?

(1) an expansion permutation, S-boxes, an XOR operation, a straight permutation

(2) an expansion permutation, an XOR operation, S-boxes, a straight permutation

(3) a straight permutation, S-boxes, an XOR operation, an expansion permutation

(4) a straight permutation, an XOR operation, S-boxes, an expansion permutation

Options :

61547541257. 1

61547541258. 2

61547541259. 3

61547541260. 4

Question Number : 140 Question Id : 61547510580 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 Data Encryption Standard (DES) has a function consists of four steps. Which of the following is correct order of these four steps?

(1) an expansion permutation, S-boxes, an XOR operation, a straight permutation

(2) an expansion permutation, an XOR operation, S-boxes, a straight permutation

(3) a straight permutation, S-boxes, an XOR operation, an expansion permutation

(4) a straight permutation, an XOR operation, S-boxes, an expansion permutation

Options :

61547541257. 1

61547541258. 2

61547541259. 3

61547541260. 4

Sub-Section Number:	2
Sub-Section Id:	615475457
Question Shuffling Allowed :	Yes

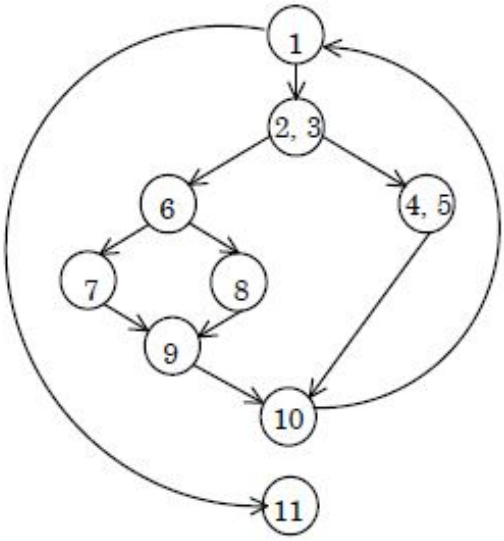
Question Id : 61547510581 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (141 to 145)

Question Label : Comprehension

Answer the following question (91-95) based on flow graph F.

A flow graph F with entry node (1) and exit node (11) is shown below :



Flowgraph F

Sub questions

Question Number : 141 Question Id : 61547510582 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 nodes are there in flowgraph F?

(1) 9 (2) 10

(3) 11 (4) 12

Options :

61547541261. 1

61547541262. 2

61547541263. 3

61547541264. 4

Question Number : 142 Question Id : 61547510583 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 cyclomatic complexity of flowgraph F?

(1) 2 (2) 3

(3) 4 (4) 5

Options :

61547541265. 1

61547541266. 2

61547541267. 3

61547541268. 4

Question Number : 143 Question Id : 61547510584 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 regions are there in flowgraph F?

(1) 2 (2) 3

(3) 4 (4) 5

Options :

61547541269. 1

61547541270. 2

61547541271. 3

61547541272. 4

Question Number : 144 Question Id : 61547510585 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 nodes are there in the longest independent path?

(1) 6 (2) 7

(3) 8 (4) 9

Options :

61547541273. 1

61547541274. 2

61547541275. 3

61547541276. 4

Question Number : 145 Question Id : 61547510586 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 predicate nodes are there and what are their names?

(1) Three : (1, (2, 3), 6) (2) Three : (1, 4, 6)

(3) Four : ((2, 3), 6, 10, 11) (4) Four : ((2, 3), 6, 9, 10)

Options :

61547541277. 1

61547541278. 2

61547541279. 3

61547541280. 4

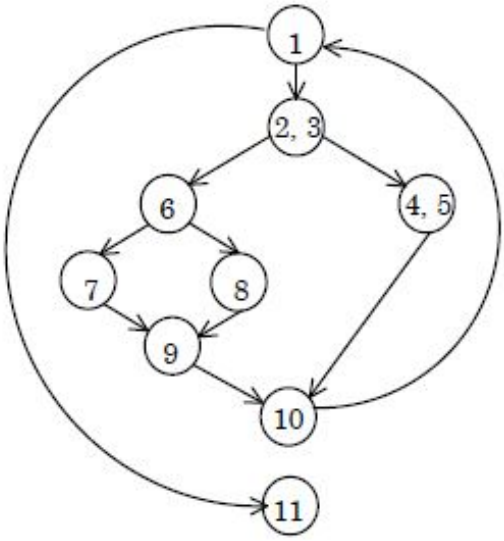
Question Id : 61547510581 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (141 to 145)

Question Label : Comprehension

Answer the following question (91-95) based on flow graph F.

A flow graph F with entry node (1) and exit node (11) is shown below :



Flowgraph F

Sub questions

Question Number : 141 Question Id : 61547510582 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 nodes are there in flowgraph F?

(1) 9 (2) 10

(3) 11 (4) 12

Options :

61547541261. 1

61547541262. 2

61547541263. 3

61547541264. 4

Question Number : 142 Question Id : 61547510583 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 cyclomatic complexity of flowgraph F?

(1) 2 (2) 3

(3) 4 (4) 5

Options :

61547541265. 1

61547541266. 2

61547541267. 3

61547541268. 4

Question Number : 143 Question Id : 61547510584 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 regions are there in flowgraph F?

(1) 2 (2) 3

(3) 4 (4) 5

Options :

61547541269. 1

61547541270. 2

61547541271. 3

61547541272. 4

Question Number : 144 Question Id : 61547510585 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 nodes are there in the longest independent path?

(1) 6 (2) 7

(3) 8 (4) 9

Options :

61547541273. 1

61547541274. 2

61547541275. 3

61547541276. 4

Question Number : 145 Question Id : 61547510586 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 predicate nodes are there and what are their names?

(1) Three : (1, (2, 3), 6) (2) Three : (1, 4, 6)

(3) Four : ((2, 3), 6, 10, 11) (4) Four : ((2, 3), 6, 9, 10)

Options :

61547541277. 1

61547541278. 2

61547541279. 3

61547541280. 4

Sub-Section Number: 3

Sub-Section Id: 615475458

Question Shuffling Allowed : Yes

Question Id : 61547510587 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (146 to 150)

Question Label : Comprehension

Answer question (96-100) based on the problem statement given below :

An organization needs to maintain database having five attributes A, B, C, D, E. These attributes are functionally dependent on each other for which functionally dependency set F is given as : $F : \{A \rightarrow BC, D \rightarrow E, BC \rightarrow D, A \rightarrow D\}$. Consider a universal relation $R(A, B, C, D, E)$ with functional dependency set F. Also all attributes are simple and take atomic values only.

Sub questions

Question Number : 146 Question Id : 61547510588 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Minimal cover F' of functional dependency set F is

(1) $F' = \{A \rightarrow B, A \rightarrow C, BC \rightarrow D, D \rightarrow E\}$

(2) $F' = \{A \rightarrow BC, B \rightarrow D, D \rightarrow E\}$

(3) $F' = \{A \rightarrow B, A \rightarrow C, A \rightarrow D, D \rightarrow E\}$

(4) $F' = \{A \rightarrow B, A \rightarrow C, B \rightarrow D, C \rightarrow D, D \rightarrow E\}$

Options :

61547541281. 1

61547541282. 2

61547541283. 3

61547541284. 4

Question Number : 147 Question Id : 61547510589 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 primary key of table R with functional dependency set F

(1) BC

(2) AD

(3) A

(4) AB

Options :

61547541285. 1

61547541286. 2

61547541287. 3

61547541288. 4

Question Number : 148 Question Id : 61547510590 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 normal form in which relation R belong to

(1) 1 NF

(2) 2 NF

(3) 3 NF

(4) $BCNF$

Options :

61547541289. 1

61547541290. 2

61547541291. 3

61547541292. 4

Question Number : 149 Question Id : 61547510591 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 redundant functional dependency in F

(1) $BC \rightarrow D$

(2) $D \rightarrow E$

(3) $A \rightarrow D$

(4) $A \rightarrow BC$

Options :

61547541293. 1

61547541294. 2

61547541295. 3

61547541296. 4

Question Number : 150 Question Id : 61547510592 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Assume that given table R is decomposed in two tables

$R_1(A, B, C)$ with functional dependency set $f_1 = \{A \rightarrow B, A \rightarrow C\}$ and

$R_2(A, D, E)$ with FD set $F_2 = \{A \rightarrow D, D \rightarrow E\}$.

Which of the following option is true w.r.t. given decomposition?

(1) Dependency preservation property is followed

(2) R_1 and R_2 are both in 2 NF

(3) R_2 is in 2 NF and R_3 is in 3 NF

(4) R_1 is in 3 NF and R_2 is in 2 NF

Options :

61547541297. 1

61547541298. 2

61547541299. 3

61547541300. 4

Question Id : 61547510587 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (146 to 150)

Question Label : Comprehension

Answer question (96-100) based on the problem statement given below :

An organization needs to maintain database having five attributes A, B, C, D, E. These attributes are functionally dependent on each other for which functionally dependency set F is given as : $F : \{A \rightarrow BC, D \rightarrow E, BC \rightarrow D, A \rightarrow D\}$. Consider a universal relation $R(A, B, C, D, E)$ with functional dependency set F. Also all attributes are simple and take atomic values only.

Sub questions

Question Number : 146 Question Id : 61547510588 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Minimal cover F' of functional dependency set F is

(1) $F' = \{A \to B, A \to C, BC \to D, D \to E\}$

(2) $F' = \{A \to BC, B \to D, D \to E\}$

(3) $F' = \{A \to B, A \to C, A \to D, D \to E\}$

(4) $F' = \{A \to B, A \to C, B \to D, C \to D, D \to E\}$

Options :

61547541281. 1

61547541282. 2

61547541283. 3

61547541284. 4

Question Number : 147 Question Id : 61547510589 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 primary key of table R with functional dependency set F

(1) BC

(2) AD

(3) A

(4) AB

Options :

61547541285. 1

61547541286. 2

61547541287. 3

61547541288. 4

Question Number : 148 Question Id : 61547510590 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 normal form in which relation R belong to

(1) 1 NF

(2) 2 NF

(3) 3 NF

(4) $BCNF$

Options :

61547541289. 1

61547541290. 2

61547541291. 3

61547541292. 4

Question Number : 149 Question Id : 61547510591 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 redundant functional dependency in F

(1) $BC \rightarrow D$

(2) $D \rightarrow E$

(3) $A \rightarrow D$

(4) $A \rightarrow BC$

Options :

61547541293. 1

61547541294. 2

61547541295. 3

61547541296. 4

Question Number : 150 Question Id : 61547510592 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Assume that given table R is decomposed in two tables

$R_1(A, B, C)$ with functional dependency set $f_1 = \{A \rightarrow B, A \rightarrow C\}$ and

$R_2(A, D, E)$ with FD set $F_2 = \{A \rightarrow D, D \rightarrow E\}$.

Which of the following option is true w.r.t. given decomposition?

(1) Dependency preservation property is followed

(2) R_1 and R_2 are both in 2 NF

(3) R_2 is in 2 NF and R_3 is in 3 NF

(4) R_1 is in 3 NF and R_2 is in 2 NF

Options :

61547541297. 1

61547541298. 2

61547541299. 3

61547541300. 4