National Testing Agency

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88 Electronic Science

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PART I General Paper

Section Id :	61547577
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Sub-Section Number:	1
Sub-Section Id:	615475251
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 6154755667 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

From the list given below identify those competencies of an effective teacher which relate to the domain of personality and attitude.

(a) Locus of control

(b) Communicating

(c) Managing

(d) Self–efficacy

(e) Teacher enthusiasm

(f) Being organised and orderly

Select the correct answer from the options given below :

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

(2) (a), (d) and (e)

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

(4) (d), (e) and (f)

Options :

61547522101. 1

61547522102. 2

61547522103. 3

61547522104. 4

Question Number : 1 Question Id : 6154755667 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 दी गई सूची में से एक प्रभावी शिक्षक की उन योग्यताओं को चिन्हित कीजिए जो व्यक्तित्व और अभिवृत्ति से संबंधित हैं

(a) नियंत्रण की संस्थिति

(b) सम्प्रेषण

(c) प्रबंधन

(d) आत्म-सामर्थ्य

(e) शिक्षक का उत्साह

(f) संगठित और व्यवस्थित होना

सही विकल्प का चयन कीजिए :

(1) (a), (b) और (c)

(2) (a), (d) और (e)

(3) (b), (c) और (d)

(4) (d), (e) और (f)

Options :

61547522101. 1

61547522102. 2

61547522103. 3

61547522104. 4

Question Number : 2 Question Id : 6154755668 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the spectrum of teaching methods which of the following will be called 'dialogic'?

(a) Demonstration method

(b) Problem–solving method

(c) Chalk and talk method

(d) Team teaching based method

(e) Interactive presentation

(f) Tutorials

Select your answer from the options given below :

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

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

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

(4) (b), (e) and (f)

Options :

61547522105. 1
61547522106. 2
61547522107. 3
61547522108. 4

Question Number : 2 Question Id : 6154755668 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 विधियों के स्पेक्ट्रम में निम्नलिखित में से किसे 'संवादात्मक' कहा जाएगा?

(a) प्रदर्शन विधि

(b) समस्या समाधान विधि

(c) चॉक और वार्त्तालाप विधि

(d) दल शिक्षण आधारित विधि

(e) अन्तः क्रियात्मक प्रस्तुति

(f) अनुशिक्षण

सही विकल्प का चयन कीजिए :

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

Options :
61547522105. 1
61547522106. 2
61547522107. 3
61547522108. 4

Question Number : 3 Question Id : 6154755669 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 level of teaching, lower level learning outcomes get focussed?

(1) Memory level
(2) Understanding level
(3) Reflective level
(4) Autonomous development level

Options :
61547522109. 1
61547522110. 2
61547522111. 3
61547522112. 4

Question Number : 3 Question Id : 6154755669 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

किस शिक्षण स्तर में निम्नतर स्तर के अधिगम परिणामों पर ध्यान केन्द्रित किया जाता है?

(1) स्मृति स्तर

(2) अवबोध स्तर

(3) विमर्शी चिन्तन

(4) स्वायत्त विकास स्तर

Options :

61547522109. 1

61547522110. 2

61547522111. 3

61547522112. 4

Question Number : 4 Question Id : 6154755670 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 evaluation systems belongs to the category of being an innovative practice?

(1) Semesterized examinations

(2) Performance evaluation

(3) Portfolio based evaluation

(4) Learning outcome based evaluation

Options :

61547522113. 1

61547522114. 2

61547522115. 3

61547522116. 4

Question Number : 4 Question Id : 6154755670 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन-सी मूल्यांकन प्रणाली नवोन्मेषी प्रैक्टिस की श्रेणी के अंतर्गत शामिल है?

(1) सिमेस्टर परीक्षाएं

(2) कार्यनिष्पादन मूल्यांकन

(3) पोर्टफोलियो आधारित मूल्यांकन

(4) अधिगम परिणाम पर आधारित मूल्यांकन

Options :

61547522113. 1

61547522114. 2

61547522115. 3

61547522116. 4

Question Number : 5 Question Id : 6154755671 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 purpose of ICT use in education is to

(1) Attract students
(2) Make teaching interesting
(3) Optimise learning outcomes
(4) Promote technology culture in teaching

Options :

61547522117. 1

61547522118. 2

61547522119. 3

61547522120. 4

Question Number : 5 Question Id : 6154755671 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शिक्षा में सूचना और सम्प्रेषण प्रौद्योगिकी का उद्देश्य है :

(1) छात्र/छात्राओं को आकर्षित करना
(2) शिक्षण को रुचिकर बनाना
(3) अधिगम परिणामों को इष्टतम बनाना
(4) शिक्षण में प्रौद्योगिकी संस्कृति को बढ़ावा देना

Options :

61547522117. 1

61547522118. 2

61547522119. 3

61547522120. 4

Question Number : 6 Question Id : 6154755672 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In the post positivistic approach to research which of the following types of researches got emphasized?

(a) Experimental research

(b) Phenomenological research

(c) Ethnographic research

(d) Ex Post Facto research

(e) Action research

Give the correct answer from the options given below :

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

Options :

61547522121. 1

61547522122. 2

61547522123. 3

61547522124. 4

Question Number : 6 Question Id : 6154755672 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 के पश्च-प्रत्यक्षवादी उपागम में निम्नलिखित में से किस प्रकार के शोध पर बल दिया गया?

(a) प्रयोगात्मक शोध

(b) दृश्यघटना शोध

(c) नृजातीय शोध

(d) कार्योत्तर शोध

(e) क्रियात्मक शोध

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

(1) (a), (b) तथा (c)

(2) (b), (c) तथा (d)

(3) (b), (c) तथा (e)

(4) (c), (d) तथा (e)

Options :

61547522121. 1

61547522122. 2

61547522123. 3

61547522124. 4

Question Number : 7 Question Id : 6154755673 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, 'Research Abstract' is a must?

(a) Research article

(b) Seminar paper presented

(c) Thesis

(d) Research synopsis

Choose the most appropriate option from those given below :

(1) (a), (c) and (d)

(2) (a), (b) and (d)

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

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

Options :

61547522125. 1

61547522126. 2

61547522127. 3

61547522128. 4

Question Number : 7 Question Id : 6154755673 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 किस प्रारूप में 'शोध सार' एक अनिवार्यता है?

(a) शोध आलेख

(b) प्रस्तुत सेमिनार पत्र

(c) शोध पत्र

(d) शोध सार

निम्नलिखित में से सर्वाधिक उपयुक्त विकल्प का चयन कीजिए :

(1) (a), (c) और (d)

(2) (a), (b) और (d)

(3) (a), (b) और (c)

(4) (b), (c) और (d)

Options :

61547522125. 1

61547522126. 2

61547522127. 3

61547522128. 4

Question Number : 8 Question Id : 6154755674 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 sequences represents the most logical sequence in doing research?

(1) Identifying and defining a research problem, formulating a hypothesis, testing of hypothesis and reporting the results

(2) Identify a research problem, defining the population and sample, collecting data and analysis of data

(3) Survey of research, defining the research problem, collecting data and presenting the outcomes

(4) Defining research variables, hypothesizing, testing of research and reporting of research outcomes

Options :

61547522129. 1

61547522130. 2

61547522131. 3

61547522132. 4

Question Number : 8 Question Id : 6154755674 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 कौन सा क्रम शोध-प्रक्रिया के सर्वाधिक तार्किक क्रम को दर्शाता है?

(1) किसी शोध-समस्या की पहचान कर उसे परिभाषित करना, परिकल्पना-निर्माण, परिकल्पना-परीक्षण तथा परिणामों की जानकारी देना

(2) किसी शोध समस्या की पहचान करना, समग्र तथा प्रतिदर्श को परिभाषित करना, प्रदत्तों का संग्रहण तथा उसका विश्लेषण

(3) शोध का सर्वेक्षण, शोध-समस्या को परिभाषित करना, प्रदत्तों का संग्रहण तथा परिणाम की प्रस्तुति

(4) शोध परिवर्ती को परिभाषित करना, परिकल्पना -निर्माण, शोध का परीक्षण, और शोध परिणामों की जानकारी देना

Options :

61547522129. 1

61547522130. 2

61547522131. 3

61547522132. 4

Question Number : 9 Question Id : 6154755675 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 intends to study the relationship between level of aspiration and achievement of rural children. Which design of research will be most appropriate in the context?

(1) Experimental research design
(2) Ex Post Facto research design
(3) Historical research design
(4) Survey research design

Options :

61547522133. 1

61547522134. 2

61547522135. 3

61547522136. 4

Question Number : 9 Question Id : 6154755675 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 विश्वविद्यालय के एक शिक्षक का यह विचार है कि ग्रामीण बच्चों की उपलब्धि और उनकी आकांक्षा के स्तर के मध्य के संबंध का अध्ययन किया जाए। इस विषय की दृष्टि से शोध की कौन सा शोध-अभिकल्प सबसे अधिक उपयुक्त होगा?

(1) प्रयोगात्मक शोध-अभिकल्प
(2) कार्योत्तर शोध-अभिकल्प
(3) ऐतिहासिक शोध-अभिकल्प
(4) सर्वेक्षण शोध-अभिकल्प

Options :

61547522133. 1

61547522134. 2

61547522135. 3

61547522136. 4

Question Number : 10 Question Id : 6154755676 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Hypothesis testing is the main concept of which type of research?

(1) Experimental research
(2) Historical research
(3) Survey research
(4) Exegetic research

Options :

61547522137. 1

61547522138. 2

61547522139. 3

61547522140. 4

Question Number : 10 Question Id : 6154755676 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 किस प्रकार के शोध में परिकल्पना परीक्षण मुख्य अवधारणा है?

(1) प्रयोगात्मक शोध
(2) ऐतिहासिक शोध
(3) सर्वेक्षण शोध
(4) निर्वचनात्मक शोध

Options :

61547522137. 1

61547522138. 2

61547522139. 3

61547522140. 4

Question Number : 11 Question Id : 6154755677 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Communication in the classroom takes place in which of the following levels?

(1) Opportunistic meaning
(2) Surfacial meaning
(3) Noise-level meaning
(4) Non-coded meaning

Options :

61547522141. 1

61547522142. 2

61547522143. 3

61547522144. 4

Question Number : 11 Question Id : 6154755677 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 में संप्रेषण निम्नांकित में से किन स्तरों में होता है?

(1) अवसरवादी अर्थ स्तर पर
(2) सतही अर्थ स्तर पर
(3) शोर-स्तर अर्थ स्तर पर
(4) गैर-संहिता अर्थ स्तर पर

Options :

61547522141. 1

61547522142. 2

61547522143. 3

61547522144. 4

Question Number : 12 Question Id : 6154755678 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Effective classroom communication can transform

(1) academic administration
(2) academic marketing
(3) teaching–learning process
(4) management strategies

Options :

61547522145. 1

61547522146. 2

61547522147. 3

61547522148. 4

Question Number : 12 Question Id : 6154755678 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 कक्षा संप्रेषण अंतरित कर सकता है :

(1) शैक्षणिक प्रशासन

(2) शैक्षणिक विपणन

(3) शिक्षण–अधिगम प्रक्रिया

(4) प्रबंधन रणनीतियां

Options :

61547522145. 1

61547522146. 2

61547522147. 3

61547522148. 4

Question Number : 13 Question Id : 6154755679 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Learner communication has relatively high potential of challenging

(1) Teaching as profession

(2) Innovative and creative ideas

(3) Methods of evaluation

(4) Long-held attitudes

Options :

61547522149. 1

61547522150. 2

61547522151. 3

61547522152. 4

Question Number : 13 Question Id : 6154755679 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

शिक्षार्थी संप्रेषण में तुलनात्मक रूप से चुनौती की उच्च क्षमता है

(1) व्यवसाय के रूप में शिक्षण

(2) नबाचारी और रचनात्मक विचार

(3) मूल्यांकन की प्रविधियां

(4) लंबे समय से धारित अभिवृत्तियां

Options :

61547522149. 1

61547522150. 2

61547522151. 3

61547522152. 4

Question Number : 14 Question Id : 6154755680 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 rhetorical techniques for structuring classroom communication?

(a) Relating the day's topic to students' interests

(b) Providing scattered information to the target audience

(c) Smooth transition from one idea to another

(d) Avoiding the use of artifacts

(e) Using media to improve the quality aspect of reception of messages

(f) Opting for one-way communication

Choose the correct option from the choices given below :

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

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

(3) (a), (c) and (e)

(4) (d), (e) and (f)

Options :

61547522153. 1

61547522154. 2

61547522155. 3

61547522156. 4

Question Number : 14 Question Id : 6154755680 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 कौन कक्षा संप्रेषण संरचना हेतु आलंकारिक तकनीकें हैं?

(a) दिवसीय विषय को विद्यार्थियों के अभिरुचि से संबंधित करना

(b) लक्षित श्रोता के लिए प्रकीर्ण सूचना प्रदान करना

(c) एक विचार से दूसरे विचार पर सरल अंतरण

(d) साक्ष्यों के प्रयोग से बचना

(e) संदेश प्राप्ति के गुणवत्ता पक्ष में सुधार हेतु मीडिया का उपयोग

(f) एक-मार्गी संप्रेषण अपनाना

नीचे दिए गए विकल्पों में से सही उत्तर चुनिए :

(1) (a), (b) और (c)

(2) (b), (c) और (f)

(3) (a), (c) और (e)

(4) (d), (e) और (f)

Options :

61547522153. 1

61547522154. 2

61547522155. 3

61547522156. 4

Question Number : 15 Question Id : 6154755681 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 the other is labelled as Reason (R).

Assertion (A) : Defining the objectives of the topic of dicussion is not necessarily the first step in classroom communication

Reasons (R) : Clear definitions of objectives make students understand the topic well.

In the light of the above stated two statements, choose the correct option from the choices given below :

(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 :

61547522157. 1

61547522158. 2

61547522159. 3

61547522160. 4

Question Number : 15 Question Id : 6154755681 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 (R) के रूप में दो कथन दिए गए हैं :

अभिकथन (A) : चर्चा के विषय के उद्देश्यों को परिभाषित करना, अनिवार्यतः कक्षा संप्रेषण का पहला कदम नहीं है।

तर्क (R) : उद्देश्यों को स्पष्ट रूप में परिभाषित करने से विद्यार्थियों को विषय को बेहतर ढंग से समझने में मदद मिलती है।

उपरोक्त दो कथनों के आलोक में नीचे दिए गए विकल्पों में से सही विकल्प चुनिए :

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

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

(3) (A) सही है, परन्तु (R) गलत है

(4) (A) गलत है, परन्तु (R) सही है

Options :

61547522157. 1
61547522158. 2
61547522159. 3
61547522160. 4

Question Number : 16 Question Id : 6154755682 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 is father of B and C is sister of A. D is grandson of C. How is D related to B?

(1) Uncle
(2) Nephew
(3) Cousin
(4) Grandson

Options :
61547522161. 1
61547522162. 2
61547522163. 3
61547522164. 4

Question Number : 16 Question Id : 6154755682 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, B का पिता है और C, A की बहन है। D, C का पोता है। D का B से क्या संबंध है?

(1) चाचा
(2) भतीजा
(3) चचेरा भाई
(4) पोता

Options :
61547522161. 1
61547522162. 2
61547522163. 3
61547522164. 4

Question Number : 17 Question Id : 6154755683 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 $x : y = 7 : 9$ then $3x - 5y : 4x + y = ?$

(1) $\frac{-24}{37}$
(2) $\frac{-22}{37}$
(3) $\frac{15}{22}$
(4) $\frac{42}{37}$

Options :
61547522165. 1
61547522166. 2
61547522167. 3

61547522168. 4

Question Number : 17 Question Id : 6154755683 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 $x : y = 7 : 9$ तो $3x - 5y : 4x + y = ?$

(1) $\frac{-24}{37}$ (2) $\frac{-22}{37}$

(3) $\frac{15}{22}$ (4) $\frac{42}{37}$

Options :

61547522165. 1

61547522166. 2

61547522167. 3

61547522168. 4

Question Number : 18 Question Id : 6154755684 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 $HPU = 9$, $JNU = 9$, then $DU = ?$

(1) 5 (2) 6

(3) 4 (4) 7

Options :

61547522169. 1

61547522170. 2

61547522171. 3

61547522172. 4

Question Number : 18 Question Id : 6154755684 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 HPU = 9, JNU = 9, तो DU = ?

(1) 5 (2) 6

(3) 4 (4) 7

Options :

61547522169. 1

61547522170. 2

61547522171. 3

61547522172. 4

Question Number : 19 Question Id : 6154755685 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 is the wrong number in the given series?

3, 13, 43, 53, 63, 83.

(1) 13 (2) 53

(3) 63 (4) 83

Options :

61547522173. 1

61547522174. 2

61547522175. 3

61547522176. 4

Question Number : 19 Question Id : 6154755685 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

प्रदत्त श्रृंखला में गलत संख्या कौन सी है ?

3, 13, 43, 53, 63, 83

(1) 13 (2) 53

(3) 63 (4) 83

Options :

61547522173. 1

61547522174. 2

61547522175. 3

61547522176. 4

Question Number : 20 Question Id : 6154755686 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A sum of money with compound interest becomes Rs. 2,400 in one year and Rs. 3,000 in two years. Find out the principal amount.

(1) Rs. 1,900 (2) Rs. 1,910

(3) Rs. 1,915 (4) Rs. 1,920

Options :

61547522177. 1

61547522178. 2

61547522179. 3

61547522180. 4

Question Number : 20 Question Id : 6154755686 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 के साथ एक वर्ष में 2400 रु. और दो वर्ष में 3000 रु. हो जाती है। मूलधन क्या है?

(1) 1900 रु.
(2) 1910 रु.
(3) 1915 रु.
(4) 1920 रु.

Options :

61547522177. 1

61547522178. 2

61547522179. 3

61547522180. 4

Question Number : 21 Question Id : 6154755687 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 'Yogaja' (intuitive) pertains to which of the following pramāṇas?

(1) Perception
(2) Inference
(3) Verbal testimony
(4) Comparison

Options :

61547522181. 1

61547522182. 2

61547522183. 3

61547522184. 4

Question Number : 21 Question Id : 6154755687 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

"योगज" शब्द निम्नलिखित प्रमाणों में किससे संबंधित है?

(1) प्रत्यक्ष
(2) अनुमान
(3) वाचिक प्रमाण
(4) उपमान

Options :

61547522181. 1

61547522182. 2

61547522183. 3

61547522184. 4

Question Number : 22 Question Id : 6154755688 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 propositions, both can be true simultaneously but cannot be false simultaneously?

(1) Contrary
(2) Contradiction
(3) Sub contrary
(4) Subaltern

Options :

61547522185. 1

61547522186. 2

61547522187. 3

61547522188. 4

Question Number : 22 Question Id : 6154755688 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 ऐसे कौन से तर्कवाक्य हैं जो एक ही समय में सत्य तो हो सकते हैं किन्तु एक ही समय में असत्य नहीं हो सकते हैं?

(1) विपरीतार्थी
(2) विरोधाभासी
(3) उप-विपरीतार्थी
(4) उपाश्रित

Options :

61547522185. 1

61547522186. 2

61547522187. 3

61547522188. 4

Question Number : 23 Question Id : 6154755689 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 pramānas is used by classical Indian school of logic to prove the existence of God?

(1) Arthāpatti (postulation)
(2) Upamāna (comparison)
(3) Perception (Pratyakṣa)
(4) Inference (anumāna)

Options :

61547522189. 1

61547522190. 2

61547522191. 3

61547522192. 4

Question Number : 23 Question Id : 6154755689 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

ईश्वर के अस्तित्व को सिद्ध करने के लिए, भारतीय शास्त्रीय न्याय परंपरा द्वारा किस प्रमाण का प्रयोग किया जाता है?

(1) अर्थापत्ति
(2) उपमान
(3) प्रत्यक्ष
(4) अनुमान

Options :

61547522189. 1

61547522190. 2

61547522191. 3

61547522192. 4

Question Number : 24 Question Id : 6154755690 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

"All tigers are animals". This is an example of which type of proposition?

(1) Particular Negative
(2) Particular Affirmative
(3) Universal Negative
(4) Universal Affirmative

Options :

61547522193. 1

61547522194. 2

61547522195. 3

61547522196. 4

Question Number : 24 Question Id : 6154755690 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 बाघ पशु हैं"। यह किस प्रकार के तर्कवाक्य का उदाहरण है?

(1) विशेष निषेध
(2) विशेष विधेय
(3) सार्वभौम निषेध
(4) सार्वभौम विधेय

Options :

61547522193. 1

61547522194. 2

61547522195. 3

61547522196. 4

Question Number : 25 Question Id : 6154755691 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 inference "A mouse is an animal. Therefore, a large mouse is a large animal" commits which one of the following fallacies?

(1) Straw man
(2) Slipper slope
(3) Equivocation
(4) Fallacy of composition

Options :

61547522197. 1

61547522198. 2

61547522199. 3

61547522200. 4

Question Number : 25 Question Id : 6154755691 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

"चूहा एक पशु है। अतः एक बड़ा चूहा एक बड़ा पशु है।" के अंतर्गत कौन सा तर्कदोष है?

(1) स्ट्रा मैन
(2) स्लिपरी स्लोप
(3) अनेकार्थ
(4) संग्रह दोष

Options :

61547522197. 1

61547522198. 2

61547522199. 3

61547522200. 4

Sub-Section Number: 2

Sub-Section Id: 615475252

Question Shuffling Allowed : Yes

Question Id : 6154755692 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (26 to 30)

Question Label : Comprehension

Directions (Que. : 26-30)

The following table gives the sales of computers of different types or brands over the years 2001 to 2007. Based on data, answer the questions (26 – 30).

Number of different types of computers sold (In thousands).

Years	Types of Computers			
	Lenovo	Acer	IBM	HCL
2001	20	40	50	80
2002	30	25	60	70
2003	50	50	50	55
2004	60	70	40	35
2005	70	85	70	25
2006	80	45	80	20
2007	90	60	100	10

Sub questions

Question Number : 26 Question Id : 6154755693 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 difference in the number of Acer computers sold in 2002 and 2005 is

(1) 15,000 (2) 20,000

(3) 45,000 (4) 60,000

Options :

61547522201. 1

61547522202. 2

61547522203. 3

61547522204. 4

Question Number : 27 Question Id : 6154755694 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 percentage increase in the sales of Lenovo computers in 2007 compared to sales in 2001 is

(1) 200% (2) 250%

(3) 300% (4) 350%

Options :

61547522205. 1

61547522206. 2

61547522207. 3

61547522208. 4

Question Number : 28 Question Id : 6154755695 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Name the type of computer for which the total sale in all the seven years is maximum?

(1) IBM (2) Lenovo

(3) Acer (4) HCL

Options :

61547522209. 1

61547522210. 2

61547522211. 3

61547522212. 4

Question Number : 29 Question Id : 6154755696 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 year, the percentage of Acer computers sold as to the total number of computers sold, was maximum?

(1) 2003 (2) 2004

(3) 2005 (4) 2007

Options :

61547522213. 1

61547522214. 2

61547522215. 3

61547522216. 4

Question Number : 30 Question Id : 6154755697 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Name the type / brand of computer whose sale has decreased continuously over the years 2001 to 2007.

(1) Lenovo (2) Acer

(3) IBM (4) HCL

Options :

61547522217. 1

61547522218. 2

61547522219. 3

61547522220. 4

Question Id : 6154755692 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (26 to 30)

Question Label : Comprehension

निर्देश : प्रश्न संख्या 26 से 30

निम्नलिखित तालिका में वर्ष 2001 से 2007 के दौरान हुए विभिन्न प्रकार अथवा ब्रांड के कंप्यूटरों की बिक्री को दर्शाया गया है। आंकड़ों के आधार पर प्रश्न संख्या (26-30) का उत्तर दीजिए।

बेचे गए विभिन्न प्रकार के कंप्यूटरों की संख्या (हजार में)

वर्ष	कंप्यूटर का प्रकार			
	लेनोवा	एसर	आई बी एम	एच सी एल
2001	20	40	50	80
2002	30	25	60	70
2003	50	50	50	55
2004	60	70	40	35
2005	70	85	70	25
2006	80	45	80	20
2007	90	60	100	10

Sub questions

Question Number : 26 Question Id : 6154755693 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

वर्ष 2002 तथा वर्ष 2005 में बेचे गए एसर कंप्यूटरों की संख्या में कितना अंतर है?

(1) 15,000 (2) 20,000

(3) 45,000 (4) 60,000

Options :

61547522201. 1

61547522202. 2

61547522203. 3

61547522204. 4

Question Number : 27 Question Id : 6154755694 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

वर्ष 2001 में हुई बिक्री की तुलना में वर्ष 2007 में लेनोवो कंप्यूटर की बिक्री में कितने प्रतिशत की वृद्धि हुई है?

(1) 200% (2) 250%

(3) 300% (4) 350%

Options :

61547522205. 1

61547522206. 2

61547522207. 3

61547522208. 4

Question Number : 28 Question Id : 6154755695 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उस कंप्यूटर का प्रकार बताइए जिसकी कुल बिक्री इन सात वर्षों के दौरान अधिकतम रही है :

(1) आई बी एम

(2) लेनोवो

(3) एसर

(4) एच सी एल

Options :

61547522209. 1

61547522210. 2

61547522211. 3

61547522212. 4

Question Number : 29 Question Id : 6154755696 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

किस वर्ष एसर कंप्यूटर की बिक्री का प्रतिशत कुल बिके कंप्यूटरों की संख्या की तुलना में अधिकतम रहा था?

(1) 2003

(2) 2004

(3) 2005

(4) 2007

Options :

61547522213. 1

61547522214. 2

61547522215. 3

61547522216. 4

Question Number : 30 Question Id : 6154755697 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

उस प्रकार/ब्रांड के कंप्यूटर का नाम बताइए, जिसकी बिक्री में वर्ष 2001 से वर्ष 2007 के दौरान सतत गिरावट हुई है :

(1) लेनोवो

(2) एसर

(3) आई बी एम

(4) एच सी एल

Options :

61547522217. 1

61547522218. 2

61547522219. 3

61547522220. 4

Sub-Section Number: 3

Sub-Section Id: 615475253

Question Shuffling Allowed : Yes

Question Number : 31 Question Id : 6154755698 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 computer related activities, which of the following is inappropriate for describing a language translator?

(1) Assembler (2) Compiler

(3) Interpreter (4) Codec

Options :

61547522221. 1

61547522222. 2

61547522223. 3

61547522224. 4

Question Number : 31 Question Id : 6154755698 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

कम्प्यूटर से संबंधित गतिविधियों में किसी भाषा अनुवादक के वर्णन के लिए निम्नलिखित में से कौन अनुपयुक्त है?

(1) असेम्बलर (2) कंपाइलर

(3) इंटरप्रेटर (4) कोडेक

Options :

61547522221. 1

61547522222. 2

61547522223. 3

61547522224. 4

Question Number : 32 Question Id : 6154755699 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 most suitable for being designated as Fourth Generation Language (4GL)?

(1) ALGOL (2) Java

(3) C (4) SQL

Options :

61547522225. 1

61547522226. 2

61547522227. 3

61547522228. 4

Question Number : 32 Question Id : 6154755699 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन चतुर्थ पीढ़ीय भाषा (4 जी एल) कहलाये जाने के लिए सर्वाधिक उपयुक्त है?

(1) ए एल जी ओ एल
(2) जावा
(3) सी
(4) एस क्यू एल

Options :

61547522225. 1

61547522226. 2

61547522227. 3

61547522228. 4

Question Number : 33 Question Id : 6154755700 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 as Reason (R) :

Assertion (A) : Sniffing may be used to steal data or information over a network.

Reasons (R) : Sniffing is a process of monitoring and capturing all data packets passing through given network.

In the light of the above stated two statements, choose the correct option from the choices given below :

(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 :

61547522229. 1

61547522230. 2

61547522231. 3

61547522232. 4

Question Number : 33 Question Id : 6154755700 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

नीचे दो कथन दिए गए हैं – एक को अभिकथन (A) और दूसरे कथन को तर्क (R) कहा गया है :

अभिकथन (A) : स्निफिंग का प्रयोग डाटा चोरी अथवा किसी नेटवर्क से संबंधित सूचना चुराने के लिए किया जा सकता है।

तर्क (R) : स्निफिंग प्रदत्त नेटवर्क के माध्यम से गुजरने वाले सभी डाटा पैकेटों की निगरानी और उन्हें कब्जे में लेने की एक प्रक्रिया होती है।

उपर्युक्त उल्लिखित दो कथनों के प्रकाश में निम्नलिखित विकल्पों में से सही विकल्प को चुनें :

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

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

(3) (A) सही है, किंतु (R) सही नहीं है

(4) (A) सही नहीं है, किंतु (R) सही है

Options :

61547522229. 1

61547522230. 2

61547522231. 3

61547522232. 4

Question Number : 34 Question Id : 6154755701 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following terms is related to the digital learning environment for design?

(1) e-Vidwan

(2) e-Acharya

(3) e-Kalpa

(4) e-Yantra

Options :

61547522233. 1

61547522234. 2

61547522235. 3

61547522236. 4

Question Number : 34 Question Id : 6154755701 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा पद अभिकल्प (डिजाइन) के लिए डिजिटल लर्निंग परिवेश से संबंधित है?

(1) ई-विद्वान

(2) ई- आचार्य

(3) ई-कल्प

(4) ई-यंत्र

Options :

61547522233. 1

61547522234. 2

61547522235. 3

61547522236. 4

Question Number : 35 Question Id : 6154755702 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 tools is a collaboration tool for providing virtual classroom environment?

(1) A–Lab

(2) A–View

(3) A–Tutor

(4) A–Learner

Options :

61547522237. 1

61547522238. 2

61547522239. 3

61547522240. 4

Question Number : 35 Question Id : 6154755702 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

निम्नलिखित में से कौन सा यंत्र (टूल) आभासी वर्ग कक्षा परिवेश प्रदान करने के लिए एक साझेदारी यंत्र (टूल) है?

(1) ए-लैब

(2) ए-व्यू

(3) ए-ट्युटर

(4) ए-लर्नर

Options :

61547522237. 1

61547522238. 2

61547522239. 3

61547522240. 4

Question Number : 36 Question Id : 6154755703 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Methane, a greenhouse gas, is emitted from

(a) landfills

(b) construction debris

(c) wet lands

(d) e-waste

Choose the correct statements from the options given below :

(1) (a), (b) and (d)

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

(3) (a) and (c) only

(4) (a) and (d) only

Options :

61547522241. 1

61547522242. 2

61547522243. 3

61547522244. 4

Question Number : 36 Question Id : 6154755703 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

मीथेन, एक ग्रीन हाउस गैस, निम्नलिखित में से किससे उत्सर्जित होता है?

(a) लैंडफिल्स

(b) निर्माण कार्य के मल्बे

(c) आर्द्रभूमि

(d) इ-अपशिष्ट

निम्नलिखित में से सही विकल्प चुनें :

(1) (a), (b) और (d)

(2) (a), (c) और (d)

(3) केवल (a) और (c)

(4) केवल (a) और (d)

Options :

61547522241. 1

61547522242. 2

61547522243. 3

61547522244. 4

Question Number : 37 Question Id : 6154755704 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 share of which of the following sources of energy in electricity generation in India at present is the least?

(1) Thermal
(2) Solar and Wind
(3) Hydro
(4) Nuclear

Options :

61547522245. 1

61547522246. 2

61547522247. 3

61547522248. 4

Question Number : 37 Question Id : 6154755704 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 विद्युत उत्पादन में वर्तमान में निम्नलिखित में किस ऊर्जा स्रोत का हिस्सा निम्नतम है?

(1) तापीय
(2) सौर और पवन
(3) पनबिजली
(4) नाभिकीय

Options :

61547522245. 1

61547522246. 2

61547522247. 3

61547522248. 4

Question Number : 38 Question Id : 6154755705 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Biosphere reserves are :

(i) area comprising terrestrial, marine and coastal ecosystems

(ii) monitored by national governments

(iii) areas where threatened animals and plants are kept in their habitat

(iv) wildlife sanctuaries

Choose the correct statements from the options given below :

(1) (i) and (ii)

(2) (ii) and (iii)

(3) (iii) and (iv)

(4) (i) and (iv)

Options :

61547522249. 1

61547522250. 2

61547522251. 3

61547522252. 4

Question Number : 38 Question Id : 6154755705 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

जैव आरक्षित क्षेत्र (बायोस्फेयर रिजर्व्स) हैं :

(i) भू-भागीय, सामुद्रिक और तटवर्ती पारि-तंत्र वाले इलाके

(ii) राष्ट्रीय सरकारों द्वारा परिवीक्षित

(iii) वे इलाके जहाँ संकट-ग्रस्त पशुओं पौधों को उनके पर्यावास में रखा जाता है

(iv) वन्यजीव अभयारण्य

निम्नलिखित विकल्पों में से सही कथन चुनें :

(1) (i) और (ii)

(2) (ii) और (iii)

(3) (iii) और (iv)

(4) (i) और (iv)

Options :

61547522249. 1

61547522250. 2

61547522251. 3

61547522252. 4

Question Number : 39 Question Id : 6154755706 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 green building

(i) uses minimum amount of energy

(ii) generates waste

(iii) consumes a lot of water

(iv) conserves natural resources

(v) creates space for healthy living

Choose the correct statements from the options given below :

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

(2) (i), (iv) and (v)

(3) (ii), (iii) and (v)

(4) (ii), (iv) and (v)

Options :

61547522253. 1

61547522254. 2

61547522255. 3

61547522256. 4

Question Number : 39 Question Id : 6154755706 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 पर्यावरण अनुकूल भवन (ग्रीन बिल्डिंग) :

(i) न्यूनतम ऊर्जा का उपयोग करता है।

(ii) अपशिष्ट सृजित करता है।

(iii) बहुत अधिक जल की खपत करता है।

(iv) प्राकृतिक संसाधनों का संरक्षण करता है।

(v) स्वस्थ जीवन के लिए स्थान मुहैया कराता है।

निम्नलिखित विकल्पों में से सही कथन चुनें :

(1) (i), (ii) और (iii)

(2) (i), (iv) और (v)

(3) (ii), (iii) और (v)

(4) (ii), (iv) और (v)

Options :

61547522253. 1

61547522254. 2

61547522255. 3

61547522256. 4

Question Number : 40 Question Id : 6154755707 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

National Disaster Management Authority is an agency of the Ministry of

(1) Jal Shakti

(2) Home Affairs

(3) Earth Science

(4) Housing and Urban Affairs

राष्ट्रीय आपदा प्रबंधन प्राधिकरण निम्नलिखित में से किस मंत्रालय की एक एजेंसी है?

(1) जल शक्ति

(2) गृह कार्य

(3) पृथ्वी विज्ञान

(4) आवास और शहरी कार्य

Options :

61547522257. 1

61547522258. 2

61547522259. 3

61547522260. 4

Question Number : 40 Question Id : 6154755707 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 आपदा प्रबंधन प्राधिकरण निम्नलिखित में से किस मंत्रालय की एक एजेंसी है?

(1) जल शक्ति

(2) गृह कार्य

(3) पृथ्वी विज्ञान

(4) आवास और शहरी कार्य

Options :

61547522257. 1

61547522258. 2

61547522259. 3

61547522260. 4

Question Number : 41 Question Id : 6154755708 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 distinctive feature of traditional method of Indian education from the following list :

(1) 'Direct perception of truth' – both as means and end

(2) Making everything on 'Trust'

(3) Evolving own way of learning

(4) Following Nyaya Philosophy with Deductive – Inductive Process

Options :

61547522261. 1

61547522262. 2

61547522263. 3

61547522264. 4

Question Number : 41 Question Id : 6154755708 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 सूची में से भारतीय शिक्षा की पारंपरिक प्रणाली के विशिष्ट लक्षण की पहचान कीजिए :

(1) 'सत्य का प्रत्यक्ष बोध' साधन और साध्य के रूप में

(2) 'विश्वास' के आधार पर सबकुछ मानना

(3) अधिगम के अपने तरीके को विकसित करना

(4) निगमनात्मक–आगमनात्मक प्रक्रिया के साथ न्याय दर्शन का अनुसरण

Options :

61547522261. 1

61547522262. 2

61547522263. 3

61547522264. 4

Question Number : 42 Question Id : 6154755709 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 provides the overarching vision that guides research into socially relevant-areas?

(1) ARIIA
(2) IMPRINT
(3) NIRF
(4) SWAYAM PRABHA

Options :

61547522265. 1

61547522266. 2

61547522267. 3

61547522268. 4

Question Number : 42 Question Id : 6154755709 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 क्या एक अतिव्यापक दृष्टि प्रदान करता है जो सामाजिक रूप से प्रासंगिक क्षेत्रों में शोध को मार्गदर्शन देता है?

(1) ए आर आई आई ए
(2) आई एम पी आर आई एन टी
(3) एन आई आर एफ
(4) स्वयं प्रभा

Options :

61547522265. 1

61547522266. 2

61547522267. 3

61547522268. 4

Question Number : 43 Question Id : 6154755710 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, 'One Nation, One Standard' is mentioned as the 'mantra' to ensure national standards and quality.

(1) National Policy on Education – 1968
(2) National Policy on Education – 1986
(3) National Policy for Skill Development and Entrepreneurship – 2015
(4) NITI Aayog – Three Year Action Agenda – 2017–18 to 2019–2020

Options :

61547522269. 1

61547522270. 2

61547522271. 3

61547522272. 4

Question Number : 43 Question Id : 6154755710 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 मानक एवं गुणवत्ता सुनिश्चित करने की दृष्टि से निम्नलिखित में से किसमें 'एक राष्ट्र एक मानक' को 'मंत्र' के रूप में उल्लेख किया गया है?

(1) राष्ट्रीय शिक्षा नीति-1968
(2) राष्ट्रीय शिक्षा नीति-1986
(3) राष्ट्रीय कौशल विकास एवं उद्यमिता नीति-2015
(4) नीति आयोग-त्रिवर्षीय कार्यक्रम-सूची-2017-18 से 2019-2020

Options :

61547522269. 1

61547522270. 2

61547522271. 3

61547522272. 4

Question Number : 44 Question Id : 6154755711 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Non-traditional teaching and learning strategies lay emphasis on

(i) Students' need based resource materials and learning standards
(ii) Developing skills, attitude and values
(iii) Promoting In-Box thinking process
(iv) Lecture based model
(v) Acquiring knowledge necessary to respond creatively

Select your answer from the following options :

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

Options :

61547522273. 1

61547522274. 2

61547522275. 3

61547522276. 4

Question Number : 44 Question Id : 6154755711 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अपारंपरिक शिक्षण तथा अधिगम रणनीतियों में बल दिया गया है :

(i) छात्रों की आवश्यकता आधारित संसाधन सामग्री तथा अधिगम मानकों पर

(ii) कौशल, अभिवृत्ति तथा मूल्यों के विकास पर

(iii) संवृत चिंतन प्रक्रिया के संवर्धन पर

(iv) व्याख्यान आधारित मॉडल पर

(v) सृजनात्मक तरीके से प्रतिक्रिया देने हेतु आवश्यक ज्ञान प्राप्त करने पर

निम्नलिखित विकल्पों में से उत्तर का चयन कीजिए :

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

Options :

61547522273. 1

61547522274. 2

61547522275. 3

61547522276. 4

Question Number : 45 Question Id : 6154755712 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 values specially related to organizational ethos from the list given below :

(i) Team work in the approach

(ii) Productivity of the tasks

(iii) Changes in the global contents

(iv) Financial security

(v) Humility in dealing with others' concerns

(vi) Technological resources

Choose your answer from the following options :

(1) (i), (iii) and (vi)

(2) (iii), (iv) and (v)

(3) (ii), (iii) and (iv)

(4) (i), (ii) and (v)

Options :

61547522277. 1

61547522278. 2

61547522279. 3

61547522280. 4

Question Number : 45 Question Id : 6154755712 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 दी गयी सूची में से विशेष रूप से संगठनात्मक विशिष्टाचार (ईथॉस) से संबंधित मूल्यों की पहचान कीजिए :

(i) उपागम में टीम-वर्क

(ii) कार्य की उत्पादकता

(iii) वैश्विक विषय-सामग्री में बदलाव

(iv) वित्तीय सुरक्षा

(v) दूसरों की चिंताओं के शमन में विनम्रता दिखाना

(vi) प्रौद्योगिक संसाधन

निम्नलिखित विकल्पों में से उत्तर का चयन कीजिए :

(1) (i), (iii) और (vi)

(2) (iii), (iv) और (v)

(3) (ii), (iii) और (iv)

(4) (i), (ii) और (v)

Options :

61547522277. 1

61547522278. 2

61547522279. 3

61547522280. 4

Sub-Section Number: 4

Sub-Section Id: 615475254

Question Shuffling Allowed : Yes

Question Id : 6154755713 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 from 46-50.

The pre-first world war era is really in a way well suited for an in-depth evaluation of popular movements, as they were spontaneous and no more than, marginally affected intelligentsia ideologies, objectives or techniques. The limitations of such spontaneity are fairly clear. Popular movements were directed usually against the immediate Indian oppressor rather than the distant white superior, and so were often not consciously or subjectively anti-imperialist. They tended to be fairly widely scattered in both space and time, and were extremely volatile with different social forms of articulation interpenetrating and passing over each other with bewildering ease. All this makes it rather difficult to accept without some qualification the concept of 'Peasant Nationalism' as a coherent alternative to elite patriotic ideologies and movements, popular initiative and autonomy were undoubted, even remarkable at times, but, unlike middle class nationalism which does have certain continuity, at the level of ideology at least, from the formulation of the drain of wealth theory in the 1870s onwards, the movement that have been considered were clearly fragmented. Yet despite such limitations and crudities, popular unrest did anticipate much of middle class nationalism in terms of issues and forms of struggle, while its specific gains were at times not inconsiderable. Forest rights, the burdens of rent, usury and land revenue, planter exploitation and labour grievances were all themes taken over by middle class nationalism later.

Sub questions

Question Number : 46 Question Id : 6154755714 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 does the analysis of pre-first world war popular movements reveal?

(1) Intelligentsia's influence on popular movement was less

(2) The movements were ideological

(3) The movements had clear objectives

(4) Limited spontaneity

Options :

61547522281. 1

61547522282. 2

61547522283. 3

61547522284. 4

Question Number : 47 Question Id : 6154755715 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 popular movements were

(1) against imperialists

(2) against their masters

(3) consciously violent

(4) time bound

Options :

61547522285. 1

61547522286. 2

61547522287. 3

61547522288. 4

Question Number : 48 Question Id : 6154755716 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 passage, the issue with peasant nationalism was

(1) a viable alternative to elite nationalism

(2) coherence and control

(3) lack of continuity

(4) quite timely

Options :

61547522289. 1

61547522290. 2

61547522291. 3

61547522292. 4

Question Number : 49 Question Id : 6154755717 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 pre-war popular movements were of

(1) uniform social form
(2) insignificant value
(3) middle class nationalism
(4) specific gain at times

Options :

61547522293. 1

61547522294. 2

61547522295. 3

61547522296. 4

Question Number : 50 Question Id : 6154755718 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 author's assessment of the popular movements?

(1) Some of the popular issues were taken over by middle class nationalism
(2) It was bewildering and amusing
(3) It was remarkable and time-tested
(4) Pre-war popular unrest was anti-imperialist

Options :

61547522297. 1

61547522298. 2

61547522299. 3

61547522300. 4

Question Id : 6154755713 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (46 to 50)

Question Label : Comprehension

निम्नलिखित अनुच्छेद को ध्यानपूर्वक पढ़ें और इस पर आधारित प्रश्नों के उत्तर दें।

प्रथम-विश्व युद्ध से पहले का समय, लोकप्रिय आंदोलनों का गहराई से मूल्यांकन करने हेतु एक उपयुक्त तरीका रहा है। चूंकि यह सहज था, यह अंशतः प्रभावित प्रबुद्धता, विचारधाराओं, उद्देश्यों या तकनीकों से अधिक कुछ नहीं था। ऐसी सहजता की सीमाएं लगभग स्पष्ट हैं। लोकप्रिय आंदोलन तत्कालीन भारतीय अत्याचारियों के विरुद्ध लक्षित थे ना कि दूरस्थ श्वेत वरिष्ठ पर, और इसलिए यह अधिकतर जानबूझकर या आत्म-निष्ठ रूप से गैर-साम्राज्यवादी नहीं थे। यह स्थान और समय की दृष्टि से काफी व्यापक रूप में पृथक थे और अत्यधिक उग्र थे, जिसमें अभिव्यक्तीकरण के विभिन्न सामाजिक रूप एक-दूसरे के साथ विस्मयकारी सुगमता को समाविष्ट कर रहे थे। यह सब 'कृषक राष्ट्रवाद' की अवधारणा को बिना कुछ अर्हताओं के प्रबुद्ध देश भक्ति की विचारधाराओं और आंदोलनों के लिए सुसंगत विकल्प के रूप में स्वीकारना और कठिन बनाना है। निःसंदेह कई बार लोकप्रिय पहल और स्वायत्तता विशिष्ट थीं, परन्तु मध्यम वर्गीय राष्ट्रवाद, जिसमें कम से कम विचारधारा के स्तर पर कतिपय निरंतरता है, सन् 1870 के दशक से 'ड्रेन ऑफ वेल्थ थियोरी' के निर्माण के साथ जिन आंदोलनों पर विचार किया गया, वे स्पष्टतः खण्डित थे। फिर भी ऐसी सीमाओं और अपरिपक्वताओं के बावजूद लोकप्रिय असंतोष, मुद्दों और संघर्ष के रूपों के आलोक में मध्यम वर्गीय राष्ट्रवाद को काफी हद तक समझता है, यद्यपि इसके विशिष्ट लाभ कई बार नगण्य थे। वन अधिकार, किराए का भार, सूदखोरी और भू राजस्व, रोपण श्रमिक शोषण, और श्रम शिकायत इत्यादि को बाद में मध्यम वर्गीय राष्ट्रवाद ने अपने साथ ले लिया।

Sub questions

Question Number : 46 Question Id : 6154755714 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

प्रथम विश्व युद्ध पूर्व के लोकप्रिय आंदोलनों के विश्लेषण द्वारा क्या प्रकट होता है?

(1) लोकप्रिय आंदोलनों पर प्रबुद्धता का प्रभाव कम था

(2) आंदोलन वैचारिक थे

(3) आंदोलनों के स्पष्ट उद्देश्य थे

(4) सीमित सहजता

Options :

61547522281. 1

61547522282. 2

61547522283. 3

61547522284. 4

Question Number : 47 Question Id : 6154755715 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

लोकप्रिय आंदोलन ————

(1) साम्राज्यवादियों के विरुद्ध थे

(2) अपने स्वामियों के विरुद्ध थे

(3) जानबूझकर उग्र थे

(4) समय-बद्ध थे

Options :

61547522285. 1

61547522286. 2

61547522287. 3

61547522288. 4

Question Number : 48 Question Id : 6154755716 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

अनुच्छेद के अनुसार 'कृषक राष्ट्रवाद' संबंधी मुद्दा क्या था?

(1) प्रबुद्ध राष्ट्रवाद का एक व्यवहार्य विकल्प

(2) संगतता और नियंत्रण में रहना

(3) निरंतरता की कमी

(4) समयानुरूप होना

Options :

61547522289. 1

61547522290. 2

61547522291. 3

61547522292. 4

Question Number : 49 Question Id : 6154755717 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

युद्ध-पूर्व लोकप्रिय आंदोलन थे,

(1) एक जैसे सामाजिक रूप

(2) नगण्य महत्व

(3) मध्यम वर्गीय राष्ट्रवाद

(4) समय समय पर विशिष्ट लाभ

Options :

61547522293. 1

61547522294. 2

61547522295. 3

61547522296. 4

Question Number : 50 Question Id : 6154755718 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

लोकप्रिय आंदोलनों के संबंध में लेखक का आंकलन क्या है?

(1) कुछ लोकप्रिय मुद्दों को मध्यम वर्गीय राष्ट्रवाद द्वारा अपने साथ मिला लिया गया।

(2) ये विस्मयकारी और मनोरंजक थे।

(3) ये विशिष्ट और समय की कसौटी पर खरे थे।

(4) युद्ध से पहले सामान्य असंतोष गैर-साम्राज्यवादी था।

Options :

61547522297. 1

61547522298. 2

61547522299. 3

61547522300. 4

PART II Electronic Science

Section Id :	61547578
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:	615475255
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 6154755719 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 Bipolar Junction transistor, the collector current is

(1) $\frac{\beta}{\alpha} I_{co} + \beta I_B$

(2) $\frac{I_{co}}{1+\beta} + \frac{I_B}{\beta}$

(3) $\frac{I_{co}}{1-\alpha} - \frac{I_B}{\alpha}$

(4) $\frac{I_{co}}{1-\beta} + \frac{I_B}{\alpha}$

Options :

61547522301. 1

61547522302. 2

61547522303. 3

61547522304. 4

Question Number : 51 Question Id : 6154755719 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 Bipolar Junction transistor, the collector current is

(1) $\frac{\beta}{\alpha} I_{co} + \beta I_B$

(2) $\frac{I_{co}}{1+\beta} + \frac{I_B}{\beta}$

(3) $\frac{I_{co}}{1-\alpha} - \frac{I_B}{\alpha}$

(4) $\frac{I_{co}}{1-\beta} + \frac{I_B}{\alpha}$

Options :

61547522301. 1

61547522302. 2

61547522303. 3

61547522304. 4

Question Number : 52 Question Id : 6154755720 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 semiconductor, the concentration of holes in valence band can be given as

(1) $N_V \exp\left[-(E_F - E_v)/kT\right]$

(2) $N_V \exp\left[(E_F - E_V)/kT\right]$

(3) $\frac{kT}{q} N_V \exp\left[(E_V - E_F)\right]$

(4) $\frac{kT}{q} \exp\left[-(E_F - E_V)\right]$

Options :

61547522305. 1

61547522306. 2

61547522307. 3

61547522308. 4

Question Number : 52 Question Id : 6154755720 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 semiconductor, the concentration of holes in valence band can be given as

(1) $N_V \exp\left[-(E_F - E_v)/kT\right]$

(2) $N_V \exp\left[(E_F - E_V)/kT\right]$

(3) $\frac{kT}{q} N_V \exp\left[(E_V - E_F)\right]$

(4) $\frac{kT}{q} \exp\left[-(E_F - E_V)\right]$

Options :

61547522305. 1

61547522306. 2

61547522307. 3

61547522308. 4

Question Number : 53 Question Id : 6154755721 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a semiconductor with electrons and holes as carriers, the resistivity is given as

(1) $\frac{1}{\mu_n . n + \mu_p . p}$

(2) $\frac{1}{q(\mu_n . n + \mu_p . p)}$

(3) $q . (\mu_n . n + \mu_p . p)$

(4) $\frac{1}{q(\mu_n . n - \mu_p . p)}$

Options :

61547522309. 1

61547522310. 2

61547522311. 3

61547522312. 4

Question Number : 53 Question Id : 6154755721 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a semiconductor with electrons and holes as carriers, the resistivity is given as

(1) $\frac{1}{\mu_n . n + \mu_p . p}$

(2) $\frac{1}{q(\mu_n . n + \mu_p . p)}$

(3) $q . (\mu_n . n + \mu_p . p)$

(4) $\frac{1}{q(\mu_n . n - \mu_p . p)}$

Options :

61547522309. 1

61547522310. 2

61547522311. 3

61547522312. 4

Question Number : 54 Question Id : 6154755722 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 Bandgap energy of silicon depends on temperature (T) and can be described as

(1) $E_G(T) = 1.21 + 1.2T$

(2) $E_G(T) = 1.21 - 3.60 \times 10^{-4} T$

(3) $E_G(T) = 1.21 + 3.60 \times 10^{-4} T$

(4) $E_G(T) = 1.21 + 10^{-4} T$

Options :

61547522313. 1

61547522314. 2

61547522315. 3

61547522316. 4

Question Number : 54 Question Id : 6154755722 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 Bandgap energy of silicon depends on temperature (T) and can be described as

(1) $E_G(T)=1.21+1.2T$

(2) $E_G(T)=1.21-3.60\times10^{-4}T$

(3) $E_G(T)=1.21+3.60\times10^{-4}T$

(4) $E_G(T)=1.21+10^{-4}T$

Options :

61547522313. 1

61547522314. 2

61547522315. 3

61547522316. 4

Question Number : 55 Question Id : 6154755723 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 depletion layer width at thermal equilibrium for one-sided abrupt p-n junction diode (where $N_B=N_D$ or N_A) is

(1) $\sqrt{\frac{2\epsilon_s V_{bi}}{qN_B}}$

(2) $\sqrt{\frac{qN_B}{2\epsilon_s V_{bi}}}$

(3) $\sqrt{\frac{\epsilon_s V_{bi}}{2qN_B}}$

(4) $\left(\frac{2\epsilon_s V_{bi}}{qN_B}\right)^2$

Options :

61547522317. 1

61547522318. 2

61547522319. 3

61547522320. 4

Question Number : 55 Question Id : 6154755723 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 depletion layer width at thermal equilibrium for one-sided abrupt p-n junction diode (where $N_B=N_D$ or N_A) is

(1) $\sqrt{\frac{2\epsilon_s V_{bi}}{qN_B}}$

(2) $\sqrt{\frac{qN_B}{2\epsilon_s V_{bi}}}$

(3) $\sqrt{\frac{\epsilon_s V_{bi}}{2qN_B}}$

(4) $\left(\frac{2\epsilon_s V_{bi}}{qN_B}\right)^2$

Options :

61547522317. 1

61547522318. 2

61547522319. 3

61547522320. 4

Question Number : 56 Question Id : 6154755724 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 one-dimensional Poisson equation for the surface space charge region at the drain is

(1) $\frac{\partial^2\psi}{\partial x^2}=-\frac{q}{\varepsilon_s}\left(N_D{}^{+}+N_A{}^{-}\right)$

(2) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(N_D{}^{+}+N_A{}^{-}+p+n\right)$

(3) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(N_D{}^{+}-N_A{}^{-}+p-n\right)$

(4) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(p-n\right)$

Options :

61547522321. 1

61547522322. 2

61547522323. 3

61547522324. 4

Question Number : 56 Question Id : 6154755724 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 one-dimensional Poisson equation for the surface space charge region at the drain is

(1) $\frac{\partial^2\psi}{\partial x^2}=-\frac{q}{\varepsilon_s}\left(N_D{}^{+}+N_A{}^{-}\right)$

(2) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(N_D{}^{+}+N_A{}^{-}+p+n\right)$

(3) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(N_D{}^{+}-N_A{}^{-}+p-n\right)$

(4) $\frac{\partial^2\psi}{\partial x^2}=\frac{-q}{\varepsilon_s}\left(p-n\right)$

Options :

61547522321. 1

61547522322. 2

61547522323. 3

61547522324. 4

Question Number : 57 Question Id : 6154755725 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 pull-up to pull-down ratio for n-MOS inverter driven by another n-MOS inverter is

(1) $\frac{\left(V_{td}\right)^2}{\left(V_{inv}+V_t\right)^2}$

(2) $\frac{\left(-V_{td}\right)^2}{\left(V_{inv}-V_t\right)^2}$

(3) $\frac{\left(V_{td}\right)^2}{\left(V_{inv}-V_t\right)}$

(4) $\frac{\left(-V_{td}\right)^2}{\left(V_{inv}-V_t\right)}$

Options :

61547522325. 1

61547522326. 2

61547522327. 3

61547522328. 4

Question Number : 57 Question Id : 6154755725 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 pull-up to pull-down ratio for n-MOS inverter driven by another n-MOS inverter is

(1) $\frac{(V_{td})^2}{(V_{inv}+V_t)^2}$

(2) $\frac{(-V_{td})^2}{(V_{inv}-V_t)^2}$

(3) $\frac{(V_{td})^2}{(V_{inv}-V_t)}$

(4) $\frac{(-V_{td})^2}{(V_{inv}-V_t)}$

Options :

61547522325. 1

61547522326. 2

61547522327. 3

61547522328. 4

Question Number : 58 Question Id : 6154755726 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 D_o is the frequency factor, E is the activation energy, T is the temperature and K is Boltzmann constant, then the diffusivity determined over a range of diffusion temperature can be expressed as

(1) $D_o \exp(-E/kT)$

(2) $D_o \exp(-kT/E)$

(3) $\frac{kT}{q}\exp(D_o/E)$

(4) $D_o \exp(kT/q)$

Options :

61547522329. 1

61547522330. 2

61547522331. 3

61547522332. 4

Question Number : 58 Question Id : 6154755726 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 D_o is the frequency factor, E is the activation energy, T is the temperature and K is Boltzmann constant, then the diffusivity determined over a range of diffusion temperature can be expressed as

(1) $D_o \exp(-E/kT)$

(2) $D_o \exp(-kT/E)$

(3) $\frac{kT}{q}\exp(D_o/E)$

(4) $D_o \exp(kT/q)$

Options :

61547522329. 1

61547522330. 2

61547522331. 3

61547522332. 4

Question Number : 59 Question Id : 6154755727 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 process which offers the possibility of growing high-quality oxides at temperatures even lower than those achieved with the high-pressure technique is

(1) Wet oxidation

(2) Dry oxidation

(3) Anodic-plasma oxidation

(4) HCL Dry oxidation

Options :

61547522333. 1

61547522334. 2

61547522335. 3

61547522336. 4

Question Number : 59 Question Id : 6154755727 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 process which offers the possibility of growing high-quality oxides at temperatures even lower than those achieved with the high-pressure technique is

(1) Wet oxidation

(2) Dry oxidation

(3) Anodic-plasma oxidation

(4) HCL Dry oxidation

Options :

61547522333. 1

61547522334. 2

61547522335. 3

61547522336. 4

Question Number : 60 Question Id : 6154755728 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

During the crystal growth, if A is constant, E_a is the activation energy, T is the absolute temperature and k is Boltzmann's constant then the concentration of point defects can be expressed as

(1) $A \exp\left(kT / E_a\right)$

(2) $A \exp\left(-E_a / kT\right)$

(3) $\exp\left(kT / A.E_a\right)$

(4) $A \exp\left(-kT / E_a\right)$

Options :

61547522337. 1

61547522338. 2

61547522339. 3

61547522340. 4

Question Number : 60 Question Id : 6154755728 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

During the crystal growth, if A is constant, E_a is the activation energy, T is the absolute temperature and k is Boltzmann's constant then the concentration of point defects can be expressed as

(1) $A \exp\left(kT / E_a\right)$

(2) $A \exp\left(-E_a / kT\right)$

(3) $\exp\left(kT / A.E_a\right)$

(4) $A \exp\left(-kT / E_a\right)$

Options :

61547522337. 1

61547522338. 2

61547522339. 3

61547522340. 4

Question Number : 61 Question Id : 6154755729 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a periodic signal $f(t)$ satisfying Dirichlet conditions then the Fourier series consist of

(1) Sine and cosine terms

(2) DC, sine and cosine terms

(3) DC and cosine terms

(4) Only cosine terms

Options :

61547522341. 1

61547522342. 2

61547522343. 3

61547522344. 4

Question Number : 61 Question Id : 6154755729 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a periodic signal $f(t)$ satisfying Dirichlet conditions then the Fourier series consist of

(1) Sine and cosine terms

(2) DC, sine and cosine terms

(3) DC and cosine terms

(4) Only cosine terms

Options :

61547522341. 1

61547522342. 2

61547522343. 3

61547522344. 4

Question Number : 62 Question Id : 6154755730 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Decimation-in-time algorithm is the class of

(1) Discrete Fourier transform (2) Z-transform

(3) Laplace - transform (4) Fast Fourier transform

Options :

61547522345. 1

61547522346. 2

61547522347. 3

61547522348. 4

Question Number : 62 Question Id : 6154755730 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Decimation-in-time algorithm is the class of

(1) Discrete Fourier transform (2) Z-transform

(3) Laplace - transform (4) Fast Fourier transform

Options :

61547522345. 1

61547522346. 2

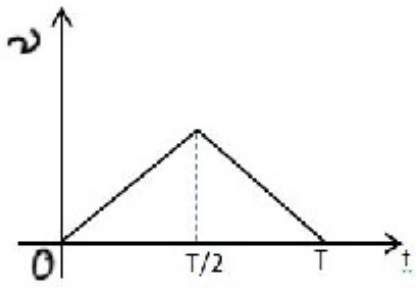
61547522347. 3

61547522348. 4

Question Number : 63 Question Id : 6154755731 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 Laplace transform of the wave as shown in figure is



(1) $\frac{2}{TS^2}-\frac{4}{TS^2}e^{-TS/2}-\frac{1}{TS^2}e^{-TS}$

(2) $\frac{2}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{2}{TS^2}e^{-TS}$

(3) $\frac{1}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{2}{TS^2}e^{-TS}$

(4) $\frac{1}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{1}{TS^2}e^{-TS}$

Options :

61547522349. 1

61547522350. 2

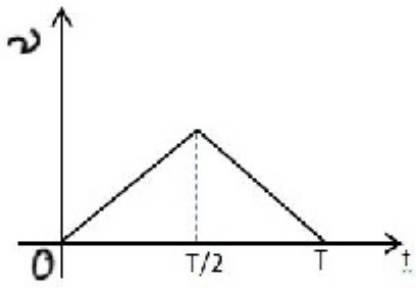
61547522351. 3

61547522352. 4

Question Number : 63 Question Id : 6154755731 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 Laplace transform of the wave as shown in figure is



(1) $\frac{2}{TS^2}-\frac{4}{TS^2}e^{-TS/2}-\frac{1}{TS^2}e^{-TS}$

(2) $\frac{2}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{2}{TS^2}e^{-TS}$

(3) $\frac{1}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{2}{TS^2}e^{-TS}$

(4) $\frac{1}{TS^2}-\frac{4}{TS^2}e^{-TS/2}+\frac{1}{TS^2}e^{-TS}$

Options :

61547522349. 1

61547522350. 2

61547522351. 3

61547522352. 4

Question Number : 64 Question Id : 6154755732 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 symmetry property of Discrete Fourier Transform (DFT) is

(1) $x^*[n]\xleftrightarrow{DFT}X^*[((-K))_N],\ 0\le n\le N-1$

(2) $x^*[n]\xleftrightarrow{DFT}X^*[((K))_N],\ 0\le n\le N-1$

(3) $x^*[n]\xleftrightarrow{DFT}X[((-K))_N],\ 0\le n\le N-1$

(4) $x^*[n]\xleftrightarrow{DFT}X[((K))_N],\ 0\le n\le N-1$

Options :

61547522353. 1

61547522354. 2

61547522355. 3

61547522356. 4

Question Number : 64 Question Id : 6154755732 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 symmetry property of Discrete Fourier Transform (DFT) is

(1) $x^*[n] \xleftrightarrow{DFT} X^*[((-K))_N],\ 0 \le n \le N-1$

(2) $x^*[n] \xleftrightarrow{DFT} X^*[((K))_N],\ 0 \le n \le N-1$

(3) $x^*[n] \xleftrightarrow{DFT} X[((-K))_N],\ 0 \le n \le N-1$

(4) $x^*[n] \xleftrightarrow{DFT} X[((K))_N],\ 0 \le n \le N-1$

Options :

61547522353. 1

61547522354. 2

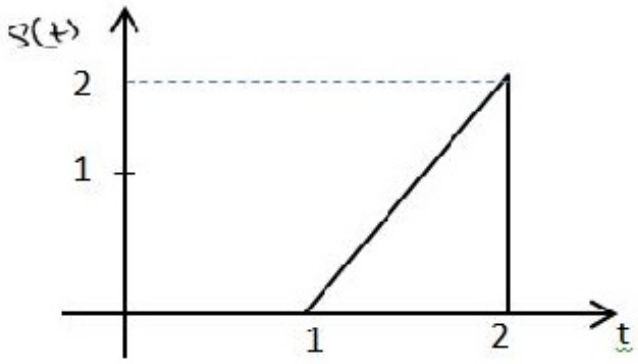
61547522355. 3

61547522356. 4

Question Number : 65 Question Id : 6154755733 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 waveform as shown in figure



The correct representation of the waveform is

(1) $s(t) = 2t\,u(t-1) - 2tu(t) + 2u(t-2)$

(2) $s(t) = 2(t-1)u(t-1) + 2(t-2)u(t) + 2u(t-2)$

(3) $s(t) = 2t\,u(t-1) + 2(t-2)u(t-2) - 2u(t-2)$

(4) $s(t) = 2(t-1)u(t-1) - 2(t-2)u(t-2) - 2u(t-2)$

Options :

61547522357. 1

61547522358. 2

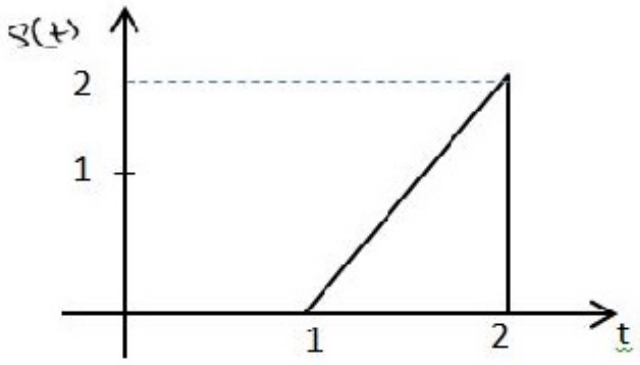
61547522359. 3

61547522360. 4

Question Number : 65 Question Id : 6154755733 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 waveform as shown in figure



The correct representation of the waveform is

(1) $s(t)=2t\,u(t-1)-2tu(t)+2u(t-2)$

(2) $s(t)=2(t-1)u(t-1)+2(t-2)u(t)+2u(t-2)$

(3) $s(t)=2t\,u(t-1)+2(t-2)u(t-2)-2u(t-2)$

(4) $s(t)=2(t-1)u(t-1)-2(t-2)u(t-2)-2u(t-2)$

Options :

61547522357. 1

61547522358. 2

61547522359. 3

61547522360. 4

Question Number : 66 Question Id : 6154755734 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 amount of ripple in output voltage (V_O) of a frequency to voltage converter is

(1) Directly proportional to value of integrating capacitor (C_{in}) and the frequency of the input (f_{in})

(2) Inversely proportional to value of integrating capacitor (C_{in}) and the frequency of the input (f_{in})

(3) Independent of value of integrating capacitor (C_{in}) and also independent of frequency of input (f_{in})

(4) Independent of frequency of input (f_{in}) but directly proportional to value of integrating capacitor (C_{in})

Options :

61547522361. 1

61547522362. 2

61547522363. 3

61547522364. 4

Question Number : 66 Question Id : 6154755734 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 amount of ripple in output voltage (V_O) of a frequency to voltage converter is

(1) Directly proportional to value of integrating capacitor (C_{in}) and the frequency of the input (f_{in})

(2) Inversely proportional to value of integrating capacitor (C_{in}) and the frequency of the input (f_{in})

(3) Independent of value of integrating capacitor (C_{in}) and also independent of frequency of input (f_{in})

(4) Independent of frequency of input (f_{in}) but directly proportional to value of integrating capacitor (C_{in})

Options :

61547522361. 1

61547522362. 2

61547522363. 3

61547522364. 4

Question Number : 67 Question Id : 6154755735 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 options give correct relations of center frequency (f_{out}) and lock range (f_L) of a PLL (Phase Lock Loop)?

(1) $f_{out} \approx \frac{1.2}{4R_1C_1} H_z, f_L = \pm \frac{4f_{out}}{V} H_z$

(2) $f_{out} \approx \frac{1.2}{R_1C_1} H_z, f_L = \pm \frac{4f_{out}}{V} H_z$

(3) $f_{out} \approx \frac{1.2}{8R_1C_1} H_z, f_L = \pm \frac{8f_{out}}{V} H_z$

(4) $f_{out} \approx \frac{1.2}{4R_1C_1} H_z, f_L = \pm \frac{8f_{out}}{V} H_z$

Options :

61547522365. 1

61547522366. 2

61547522367. 3

61547522368. 4

Question Number : 67 Question Id : 6154755735 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 options give correct relations of center frequency (f_{out}) and lock range (f_L) of a PLL (Phase Lock Loop)?

(1) $f_{out} \approx \frac{1.2}{4R_1C_1} H_z, f_L = \pm \frac{4f_{out}}{V} H_z$

(2) $f_{out} \approx \frac{1.2}{R_1C_1} H_z, f_L = \pm \frac{4f_{out}}{V} H_z$

(3) $f_{out} \approx \frac{1.2}{8R_1C_1} H_z, f_L = \pm \frac{8f_{out}}{V} H_z$

(4) $f_{out} \approx \frac{1.2}{4R_1C_1} H_z, f_L = \pm \frac{8f_{out}}{V} H_z$

Options :

61547522365. 1

61547522366. 2

61547522367. 3

61547522368. 4

Question Number : 68 Question Id : 6154755736 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 input impedance of a transistor with an emitter resistor in a emitter-bias configuration is given by

(1) $Z_{in} = \beta r_e + (\beta + 1) R_B$

(2) $Z_{in} = \beta r_e + (\beta + 1) R_E / R_B$

(3) $Z_{in} = \beta r_e + (\beta + 1) R_E$

(4) $Z_{in} = (\beta + 1) r_e + 2 \beta R_E$

Options :

61547522369. 1

61547522370. 2

61547522371. 3

61547522372. 4

Question Number : 68 Question Id : 6154755736 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 input impedance of a transistor with an emitter resistor in a emitter-bias configuration is given by

(1) $Z_{in} = \beta r_e + (\beta + 1) R_B$

(2) $Z_{in} = \beta r_e + (\beta + 1) R_E / R_B$

(3) $Z_{in} = \beta r_e + (\beta + 1) R_E$

(4) $Z_{in} = (\beta + 1) r_e + 2 \beta R_E$

Options :

61547522369. 1

61547522370. 2

61547522371. 3

61547522372. 4

Question Number : 69 Question Id : 6154755737 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 R_s is the source resistance, the output resistance of an emitter-follower circuit using simplified hybrid model would be

(1) $1/h_{oe}$

(2) $\frac{h_{ie}+1/R_S}{h_{fe}}$

(3) R_S+1/h_{oe}

(4) $\frac{h_{ie}+R_S}{1+h_{fe}}$

Options :

61547522373. 1

61547522374. 2

61547522375. 3

61547522376. 4

Question Number : 69 Question Id : 6154755737 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 R_s is the source resistance, the output resistance of an emitter-follower circuit using simplified hybrid model would be

(1) $1/h_{oe}$

(2) $\frac{h_{ie}+1/R_S}{h_{fe}}$

(3) R_S+1/h_{oe}

(4) $\frac{h_{ie}+R_S}{1+h_{fe}}$

Options :

61547522373. 1

61547522374. 2

61547522375. 3

61547522376. 4

Question Number : 70 Question Id : 6154755738 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 n-channel enhancement-type MOSFET, as V_{GS} is increased beyond threshold level

(1) Drain current will decrease

(2) Density of free carriers in induced channel will remain constant

(3) Density of free carriers in induced channel will decrease

(4) Density of free carriers in induced channel will increase

Options :

61547522377. 1

61547522378. 2

61547522379. 3

61547522380. 4

Question Number : 70 Question Id : 6154755738 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 n-channel enhancement-type MOSFET, as V_{GS} is increased beyond threshold level

(1) Drain current will decrease

(2) Density of free carriers in induced channel will remain constant

(3) Density of free carriers in induced channel will decrease

(4) Density of free carriers in induced channel will increase

Options :

61547522377. 1

61547522378. 2

61547522379. 3

61547522380. 4

Question Number : 71 Question Id : 6154755739 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Solve the following Boolen expression $Y = A\left(\overline{A} + C\right)\left(\overline{A}\,B + C\right)\left(\overline{A}\,BC + \overline{C}\right)$

Select the correct option

(1) 0 (2) $A + B$

(3) $\overline{A} + B\,C$ (4) 1

Options :

61547522381. 1

61547522382. 2

61547522383. 3

61547522384. 4

Question Number : 71 Question Id : 6154755739 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Solve the following Boolen expression $Y = A\left(\overline{A} + C\right)\left(\overline{A}\,B + C\right)\left(\overline{A}\,BC + \overline{C}\right)$

Select the correct option

(1) 0 (2) $A + B$

(3) $\overline{A} + B\,C$ (4) 1

Options :

61547522381. 1

61547522382. 2

61547522383. 3

61547522384. 4

Question Number : 72 Question Id : 6154755740 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 PROM can be made using

(1) A fixed AND array and programmable OR array

(2) A programmable AND array and fixed OR array

(3) A programmable AND array and a programmable OR array

(4) A fixed AND array and a fixed OR array

Options :

61547522385. 1

61547522386. 2

61547522387. 3

61547522388. 4

Question Number : 72 Question Id : 6154755740 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 PROM can be made using

(1) A fixed AND array and programmable OR array

(2) A programmable AND array and fixed OR array

(3) A programmable AND array and a programmable OR array

(4) A fixed AND array and a fixed OR array

Options :

61547522385. 1

61547522386. 2

61547522387. 3

61547522388. 4

Question Number : 73 Question Id : 6154755741 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 divide by 50 counter can be realized by using

(1) 5 numbers of MOD-10 counter

(2) 10 numbers of MOD-5 counter

(3) One MOD-5 counter followed by one MOD-10 counter

(4) 10 numbers of MOD-10 counter

Options :

61547522389. 1

61547522390. 2

61547522391. 3

61547522392. 4

Question Number : 73 Question Id : 6154755741 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 divide by 50 counter can be realized by using

(1) 5 numbers of MOD-10 counter

(2) 10 numbers of MOD-5 counter

(3) One MOD-5 counter followed by one MOD-10 counter

(4) 10 numbers of MOD-10 counter

Options :

61547522389. 1

61547522390. 2

61547522391. 3

61547522392. 4

Question Number : 74 Question Id : 6154755742 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 figure of merit (FOM) of a logic family is given by the product of

(1) Gain and bandwidth

(2) Propagation delay and power dissipation

(3) Fan out and propagation delay time

(4) Noise margin and power dissipation

Options :

61547522393. 1

61547522394. 2

61547522395. 3

61547522396. 4

Question Number : 74 Question Id : 6154755742 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 figure of merit (FOM) of a logic family is given by the product of

(1) Gain and bandwidth

(2) Propagation delay and power dissipation

(3) Fan out and propagation delay time

(4) Noise margin and power dissipation

Options :

61547522393. 1

61547522394. 2

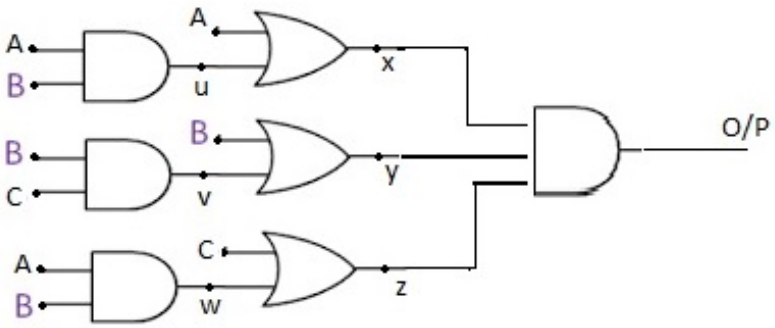
61547522395. 3

61547522396. 4

Question Number : 75 Question Id : 6154755743 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Find the function represented by the following circuit



(1) A + B + C

(2) AB

(3) AB + C

(4) B + C

Options :

61547522397. 1

61547522398. 2

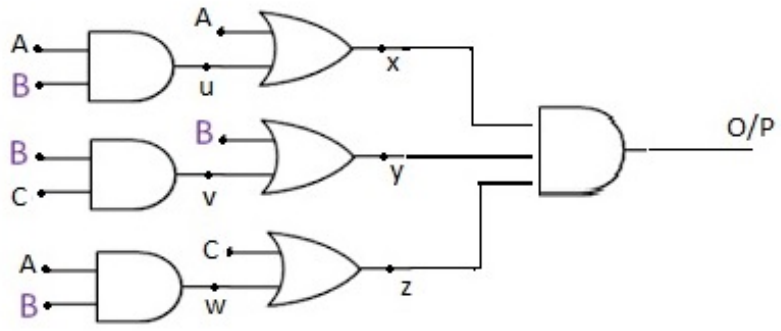
61547522399. 3

61547522400. 4

Question Number : 75 Question Id : 6154755743 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Find the function represented by the following circuit



(1) A + B + C

(2) AB

(3) AB + C

(4) B + C

Options :

61547522397. 1

61547522398. 2

61547522399. 3

61547522400. 4

Question Number : 76 Question Id : 6154755744 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 8086 microprocessor, if DS = 1100 H, BX = 0200 H and SI = 0500 H, the address accessed by

MOV CH, [BX + SI] is

(1) 00300 H

(2) 11700 H

(3) 0700 H

(4) 01800 H

Options :

61547522401. 1

61547522402. 2

61547522403. 3

61547522404. 4

Question Number : 76 Question Id : 6154755744 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 8086 microprocessor, if DS = 1100 H, BX = 0200 H and SI = 0500 H, the address accessed by

MOV CH, [BX + SI] is

(1) 00300 H

(2) 11700 H

(3) 0700 H

(4) 01800 H

Options :

61547522401. 1

61547522402. 2

61547522403. 3

61547522404. 4

Question Number : 77 Question Id : 6154755745 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 value of Register A at the end of program given below

MOV A, # 36 H

RRA

RRA

RRA

(1) 0110 0011

(2) 1100 0110

(3) 1000 1101

(4) 0011 0001

Options :

61547522405. 1

61547522406. 2

61547522407. 3

61547522408. 4

Question Number : 77 Question Id : 6154755745 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 value of Register A at the end of program given below

MOV A, # 36 H

RRA

RRA

RRA

(1) 0110 0011

(2) 1100 0110

(3) 1000 1101

(4) 0011 0001

Options :

61547522405. 1

61547522406. 2

61547522407. 3

61547522408. 4

Question Number : 78 Question Id : 6154755746 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What will be the status of CY, AC and P flags after implementation of following sets of instructions in 8051 microcontroller

MOV A, # CCH

ADD A, # A9H

(1) CY= 1, AC = 1, P = 0

(2) CY = 1, AC = 0, P = 0

(3) CY = 1, AC = 1, P = 1

(4) CY = 0, AC = 1, P = 1

Options :

61547522409. 1

61547522410. 2

61547522411. 3

61547522412. 4

Question Number : 78 Question Id : 6154755746 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What will be the status of CY, AC and P flags after implementation of following sets of instructions in 8051 microcontroller

MOV A, # CCH

ADD A, # A9H

(1) CY= 1, AC = 1, P = 0

(2) CY = 1, AC = 0, P = 0

(3) CY = 1, AC = 1, P = 1

(4) CY = 0, AC = 1, P = 1

Options :

61547522409. 1

61547522410. 2

61547522411. 3

61547522412. 4

Question Number : 79 Question Id : 6154755747 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 8051 microcontroller, which register is used solely for serial communication?

(1) TMOD

(2) SCON

(3) SBUF

(4) PCON

Options :

61547522413. 1

61547522414. 2

61547522415. 3

61547522416. 4

Question Number : 79 Question Id : 6154755747 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 8051 microcontroller, which register is used solely for serial communication?

(1) TMOD

(2) SCON

(3) SBUF

(4) PCON

Options :

61547522413. 1

61547522414. 2

61547522415. 3

61547522416. 4

Question Number : 80 Question Id : 6154755748 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 Register Bank of 8051 microcontroller is used after implementing the following instruction

SETB PSW.4

(1) Bank 0 (2) Bank 1

(3) Bank 3 (4) Bank 2

Options :

61547522417. 1

61547522418. 2

61547522419. 3

61547522420. 4

Question Number : 80 Question Id : 6154755748 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 Register Bank of 8051 microcontroller is used after implementing the following instruction

SETB PSW.4

(1) Bank 0 (2) Bank 1

(3) Bank 3 (4) Bank 2

Options :

61547522417. 1

61547522418. 2

61547522419. 3

61547522420. 4

Question Number : 81 Question Id : 6154755749 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 absolute potential at a point 'p' which is 2m from a point charge $Q = +5\,\mu C$ and the work required to move a + 8 nC charge from infinity to P? Assume $\epsilon_r = 1$

(1) $22\ KV, 176\,\mu J$ (2) $23\,KV, 184\,\mu J$

(3) $23.5\ KV, 188\,\mu J$ (4) $22.5\,KV,\ 180\,\mu J$

Options :

61547522421. 1

61547522422. 2

61547522423. 3

61547522424. 4

Question Number : 81 Question Id : 6154755749 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 absolute potential at a point 'p' which is 2m from a point charge $Q=+5\mu C$ and the work required to move a + 8 nC charge from infinity to P? Assume $\epsilon_r=1$

(1) $22\ KV, 176\mu J$

(2) $23\,KV, 184\,\mu J$

(3) $23.5\ KV, 188\,\mu J$

(4) $22.5\,KV,\ 180\,\mu J$

Options :

61547522421. 1

61547522422. 2

61547522423. 3

61547522424. 4

Question Number : 82 Question Id : 6154755750 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If the poynting vector or power density of a TEM wave = 79.6 W/m^2 in a loss less medium $(\sigma=0)$ with $\epsilon_r=4$ then the magnitude of Electric field is

(1) $86.62\ V\,m^{-1}$

(2) $173.23\,V\,m^{-1}$

(3) $122.5\ V\,m^{-1}$

(4) $43.30\ V\,m^{-1}$

Options :

61547522425. 1

61547522426. 2

61547522427. 3

61547522428. 4

Question Number : 82 Question Id : 6154755750 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If the poynting vector or power density of a TEM wave = 79.6 W/m^2 in a loss less medium $(\sigma=0)$ with $\epsilon_r=4$ then the magnitude of Electric field is

(1) $86.62\ V\,m^{-1}$

(2) $173.23\,V\,m^{-1}$

(3) $122.5\ V\,m^{-1}$

(4) $43.30\ V\,m^{-1}$

Options :

61547522425. 1

61547522426. 2

61547522427. 3

61547522428. 4

Question Number : 83 Question Id : 6154755751 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Evaluate radiation resistance of a hertzian dipole as radiating element having length $L=1\,m$ at $f=30\,MHz$ with uniform current distribution

(1) 9Ω (2) $10\ \Omega$

(3) $5\ \Omega$ (4) $8\ \Omega$

Options :

61547522429. 1

61547522430. 2

61547522431. 3

61547522432. 4

Question Number : 83 Question Id : 6154755751 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Evaluate radiation resistance of a hertzian dipole as radiating element having length $L=1\,m$ at $f=30\,MHz$ with uniform current distribution

(1) 9Ω (2) $10\ \Omega$

(3) $5\ \Omega$ (4) $8\ \Omega$

Options :

61547522429. 1

61547522430. 2

61547522431. 3

61547522432. 4

Question Number : 84 Question Id : 6154755752 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 fields around an antenna may be divided into two principal regions i.e Fresnel zone and Fraunhofer zone. If L is the maximum dimension of the antenna and λ is wavelength, then radius of the Fresnel-Fraunhofer boundary sphere is

(1) $R = \frac{L^2}{2\lambda}$

(2) $R = \frac{L}{2\lambda}$

(3) $R = \frac{2L^2}{\lambda}$

(4) $R = \frac{2L}{\lambda^2}$

Options :

61547522433. 1

61547522434. 2

61547522435. 3

61547522436. 4

Question Number : 84 Question Id : 6154755752 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 fields around an antenna may be divided into two principal regions i.e Fresnel zone and Fraunhofer zone. If L is the maximum dimension of the antenna and λ is wavelength, then radius of the Fresnel-Fraunhofer boundary sphere is

(1) $R = \frac{L^2}{2\lambda}$

(2) $R = \frac{L}{2\lambda}$

(3) $R = \frac{2L^2}{\lambda}$

(4) $R = \frac{2L}{\lambda^2}$

Options :

61547522433. 1

61547522434. 2

61547522435. 3

61547522436. 4

Question Number : 85 Question Id : 6154755753 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Standing wave envelope for reflected wave is equal to half the incident wave amplitude ($E_r = 0.5E_i$). The Voltage Standing Wave Ratio (VSWR) of the wave shall be

(1) 1/3

(2) 2

(3) 3

(4) 1/2

Options :

61547522437. 1

61547522438. 2

61547522439. 3

61547522440. 4

Question Number : 85 Question Id : 6154755753 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Standing wave envelope for reflected wave is equal to half the incident wave amplitude ($E_r = 0.5E_i$). The Voltage Standing Wave Ratio (VSWR) of the wave shall be

(1) 1/3

(2) 2

(3) 3

(4) 1/2

Options :

61547522437. 1

61547522438. 2

61547522439. 3

61547522440. 4

Question Number : 86 Question Id : 6154755754 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 Figure of Merit in DSB-SC system is

(1) 0.5

(2) 1

(3) $\mu^2/(2+\mu^2)$

(4) 2

Options :

61547522441. 1

61547522442. 2

61547522443. 3

61547522444. 4

Question Number : 86 Question Id : 6154755754 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 Figure of Merit in DSB-SC system is

(1) 0.5 (2) 1

(3) $\mu^2/(2+\mu^2)$ (4) 2

Options :

61547522441. 1

61547522442. 2

61547522443. 3

61547522444. 4

Question Number : 87 Question Id : 6154755755 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 frequency range for satellite communication is

(1) 1 KHz – 100 KHz

(2) 100 KHz – 1 MHz

(3) 10 MHz – 30 MHz

(4) 1 GHz – 30 GHz

Options :

61547522445. 1

61547522446. 2

61547522447. 3

61547522448. 4

Question Number : 87 Question Id : 6154755755 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 frequency range for satellite communication is

(1) 1 KHz – 100 KHz

(2) 100 KHz – 1 MHz

(3) 10 MHz – 30 MHz

(4) 1 GHz – 30 GHz

Options :

61547522445. 1

61547522446. 2

61547522447. 3

61547522448. 4

Question Number : 88 Question Id : 6154755756 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 cladding which surrounds the optical fibre core

(1) is used to reduce optical interference

(2) is used to protect the fibre

(3) acts to help guide the light in the core

(4) ensure that the refractive index remains constant

Options :

61547522449. 1

61547522450. 2

61547522451. 3

61547522452. 4

Question Number : 88 Question Id : 6154755756 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 cladding which surrounds the optical fibre core

(1) is used to reduce optical interference

(2) is used to protect the fibre

(3) acts to help guide the light in the core

(4) ensure that the refractive index remains constant

Options :

61547522449. 1

61547522450. 2

61547522451. 3

61547522452. 4

Question Number : 89 Question Id : 6154755757 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 binary data sequence 11001110 is applied to 16-ary PSK modulator system for transmission. The bit duration is 1 μ sec. The transmission band width of 16-ary PSK is

(1) 1 MHz

(2) 0.67 MHz

(3) 0.5 MHz

(4) 0.37 MHz

Options :

61547522453. 1

61547522454. 2

61547522455. 3

61547522456. 4

Question Number : 89 Question Id : 6154755757 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 binary data sequence 11001110 is applied to 16-ary PSK modulator system for transmission. The bit duration is 1 μ sec. The transmission band width of 16-ary PSK is

(1) 1 MHz (2) 0.67 MHz

(3) 0.5 MHz (4) 0.37 MHz

Options :

61547522453. 1

61547522454. 2

61547522455. 3

61547522456. 4

Question Number : 90 Question Id : 6154755758 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 TDM link has 24 signals and each channel is sampled 8000 times/sec. Each sample is represented by 8 binary bits and it contains an additional bit for synchronization. The total bit rate made from the TDM link is

(1) 1600 K bits/sec (2) 1728 K bits/sec

(3) 1826 K bits/sec (4) 2056 K bits/sec

Options :

61547522457. 1

61547522458. 2

61547522459. 3

61547522460. 4

Question Number : 90 Question Id : 6154755758 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 TDM link has 24 signals and each channel is sampled 8000 times/sec. Each sample is represented by 8 binary bits and it contains an additional bit for synchronization. The total bit rate made from the TDM link is

(1) 1600 K bits/sec (2) 1728 K bits/sec

(3) 1826 K bits/sec (4) 2056 K bits/sec

Options :

61547522457. 1

61547522458. 2

61547522459. 3

61547522460. 4

Question Number : 91 Question Id : 6154755759 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For the system $\frac{C(s)}{R(s)} = \frac{16}{s^2 + 8s + 16}$.

The nature of the time response will be

(1) Over damped (2) Under damped

(3) Critically damped (4) Steady

Options :

61547522461. 1

61547522462. 2

61547522463. 3

61547522464. 4

Question Number : 91 Question Id : 6154755759 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For the system $\frac{C(s)}{R(s)} = \frac{16}{s^2 + 8s + 16}$.

The nature of the time response will be

(1) Over damped (2) Under damped

(3) Critically damped (4) Steady

Options :

61547522461. 1

61547522462. 2

61547522463. 3

61547522464. 4

Question Number : 92 Question Id : 6154755760 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Choose the statement which is incorrect.

(1) The speed of a DC motor can be varied by controlling armature voltage

(2) The speed of a DC motor can be varied by controlling the field current

(3) The speed of a DC motor can be varied by controlling the armature current that is a measure of the torque demand

(4) For a speed more than the base speed of a DC motor, the armature voltage is varied to control the speed while armature and field currents are maintained constant

Options :

61547522465. 1

61547522466. 2

61547522467. 3

61547522468. 4

Question Number : 92 Question Id : 6154755760 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Choose the statement which is incorrect.

(1) The speed of a DC motor can be varied by controlling armature voltage

(2) The speed of a DC motor can be varied by controlling the field current

(3) The speed of a DC motor can be varied by controlling the armature current that is a measure of the torque demand

(4) For a speed more than the base speed of a DC motor, the armature voltage is varied to control the speed while armature and field currents are maintained constant

Options :

61547522465. 1

61547522466. 2

61547522467. 3

61547522468. 4

Question Number : 93 Question Id : 6154755761 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 open loop transfer function of a unity feedback control system is given below

$$G(s)=\frac{K}{s(s+1)(s+3)}$$

The system has

(1) 1 breakaway point

(2) 2 breakaway point

(3) 3 breakaway point

(4) 0 breakaway point

Options :

61547522469. 1

61547522470. 2

61547522471. 3

61547522472. 4

Question Number : 93 Question Id : 6154755761 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 open loop transfer function of a unity feedback control system is given below

$$G(s)=\frac{K}{s(s+1)(s+3)}$$

The system has

(1) 1 breakaway point

(2) 2 breakaway point

(3) 3 breakaway point

(4) 0 breakaway point

Options :

61547522469. 1

61547522470. 2

61547522471. 3

61547522472. 4

Question Number : 94 Question Id : 6154755762 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 transfer function is given below

$$\frac{C(s)}{R(s)}=\frac{2s+5}{s^5+1.5s^4+2s^3+4s^2+5s+10}.$$

The number of roots with positive real part is

(1) 0 (2) 1

(3) 2 (4) 3

Options :

61547522473. 1

61547522474. 2

61547522475. 3

61547522476. 4

Question Number : 94 Question Id : 6154755762 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 transfer function is given below

$$\frac{C(s)}{R(s)} = \frac{2s+5}{s^5+1.5s^4+2s^3+4s^2+5s+10}.$$

The number of roots with positive real part is

(1) 0 (2) 1

(3) 2 (4) 3

Options :

61547522473. 1

61547522474. 2

61547522475. 3

61547522476. 4

Question Number : 95 Question Id : 6154755763 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

SCR di/dt protection is done by which of the following methods?

(1) Snubber circuit in parallel to SCR

(2) Trigger circuit at gate terminal

(3) By using commutation circuit

(4) Connecting inductance in series to SCR

Options :

61547522477. 1

61547522478. 2

61547522479. 3

61547522480. 4

Question Number : 95 Question Id : 6154755763 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

SCR di/dt protection is done by which of the following methods?

(1) Snubber circuit in parallel to SCR

(2) Trigger circuit at gate terminal

(3) By using commutation circuit

(4) Connecting inductance in series to SCR

Options :

61547522477. 1

61547522478. 2

61547522479. 3

61547522480. 4

Question Number : 96 Question Id : 6154755764 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 Schering bridge, the dissipation factor of a series RC circuit is defined as

(1) Cosine of the phase angle

(2) Tangent of the phase angle

(3) Cotangent of the phase angle

(4) Sine of the phase angle

Options :

61547522481. 1

61547522482. 2

61547522483. 3

61547522484. 4

Question Number : 96 Question Id : 6154755764 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 Schering bridge, the dissipation factor of a series RC circuit is defined as

(1) Cosine of the phase angle

(2) Tangent of the phase angle

(3) Cotangent of the phase angle

(4) Sine of the phase angle

Options :

61547522481. 1

61547522482. 2

61547522483. 3

61547522484. 4

Question Number : 97 Question Id : 6154755765 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 crossed coil power factor meter the moving coils should be mounted on which type of shaft and at what angles to each other?

(1) different shafts and right angles

(2) same shaft and right angles

(3) different shafts and 45° angles

(4) same shaft and 45° angles

Options :

61547522485. 1
61547522486. 2
61547522487. 3
61547522488. 4

Question Number : 97 Question Id : 6154755765 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 crossed coil power factor meter the moving coils should be mounted on which type of shaft and at what angles to each other?

(1) different shafts and right angles

(2) same shaft and right angles

(3) different shafts and 45° angles

(4) same shaft and 45° angles

Options :
61547522485. 1
61547522486. 2
61547522487. 3
61547522488. 4

Question Number : 98 Question Id : 6154755766 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 expression is correct formulae of deflection sensitivity 'S ' of a Cathode Ray Tube (CRT) if

D = deflection on the fluorescent screen

L = distance from center of deflection plates

l_d = effective length of the deflection plates

d = distance between the deflection plates

E_d = deflection voltage

E_a = accelerating voltage

(1) $S = \frac{Ll_d}{2d^2E_a}$

(2) $S = \frac{2dE_a}{Ll_d}$

(3) $S = \frac{Ll_d}{2d\,E_d}$

(4) $S = \frac{Ll_d}{2dE_a}$

Options :

61547522489. 1

61547522490. 2

61547522491. 3

61547522492. 4

Question Number : 98 Question Id : 6154755766 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 expression is correct formulae of deflection sensitivity 'S' of a Cathode Ray Tube (CRT) if

D = deflection on the fluorescent screen

L = distance from center of deflection plates

l_d = effective length of the deflection plates

d = distance between the deflection plates

E_d = deflection voltage

E_a = accelerating voltage

(1) $S = \frac{Ll_d}{2d^2E_a}$

(2) $S = \frac{2dE_a}{Ll_d}$

(3) $S = \frac{Ll_d}{2d\,E_d}$

(4) $S = \frac{Ll_d}{2dE_a}$

Options :

61547522489. 1

61547522490. 2

61547522491. 3

61547522492. 4

Question Number : 99 Question Id : 6154755767 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 500 kHz waveform is to be displayed by Digital Storage Oscilloscope (DSO) that samples at a rate of 50 Ms/Sec (50 Mega samples per second) The number of samples taken during one cycle is

(1) 10,000

(2) 1,000

(3) 0.01

(4) 100

Options :

61547522493. 1

61547522494. 2

61547522495. 3

61547522496. 4

Question Number : 99 Question Id : 6154755767 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 500 kHz waveform is to be displayed by Digital Storage Oscilloscope (DSO) that samples at a rate of 50 Ms/Sec (50 Mega samples per second) The number of samples taken during one cycle is

(1) 10,000

(2) 1,000

(3) 0.01

(4) 100

Options :

61547522493. 1

61547522494. 2

61547522495. 3

61547522496. 4

Question Number : 100 Question Id : 6154755768 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Velocity transducer essentially consists of one of the following

(1) moving coil fixed in the magnetic field of permanent magnet

(2) moving coil suspended in the magnetic field of a permanent magnet

(3) stationary coil fixed in the magnetic field of a supermagnet

(4) stationary coil fixed in a force balancing servo system

Options :

61547522497. 1

61547522498. 2

61547522499. 3

61547522500. 4

Question Number : 100 Question Id : 6154755768 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Velocity transducer essentially consists of one of the following

(1) moving coil fixed in the magnetic field of permanent magnet

(2) moving coil suspended in the magnetic field of a permanent magnet

(3) stationary coil fixed in the magnetic field of a supermagnet

(4) stationary coil fixed in a force balancing servo system

Options :

61547522497. 1

61547522498. 2

61547522499. 3

61547522500. 4

Question Number : 101 Question Id : 6154755769 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 semi conductor devices are hetero structure devices?

(a) HEMT

(b) MODFET

(c) UJT

(d) GUNN Diode

The options are:

(1) (a) and (b) are correct

(2) (a) and (c) are correct

(3) (c) and (d) are correct

(4) (b) and (d) are correct

Options :

61547522501. 1

61547522502. 2

61547522503. 3

61547522504. 4

Question Number : 101 Question Id : 6154755769 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 semi conductor devices are hetero structure devices?

(a) HEMT

(b) MODFET

(c) UJT

(d) GUNN Diode

The options are:

(1) (a) and (b) are correct

(2) (a) and (c) are correct

(3) (c) and (d) are correct

(4) (b) and (d) are correct

Options :

61547522501. 1

61547522502. 2

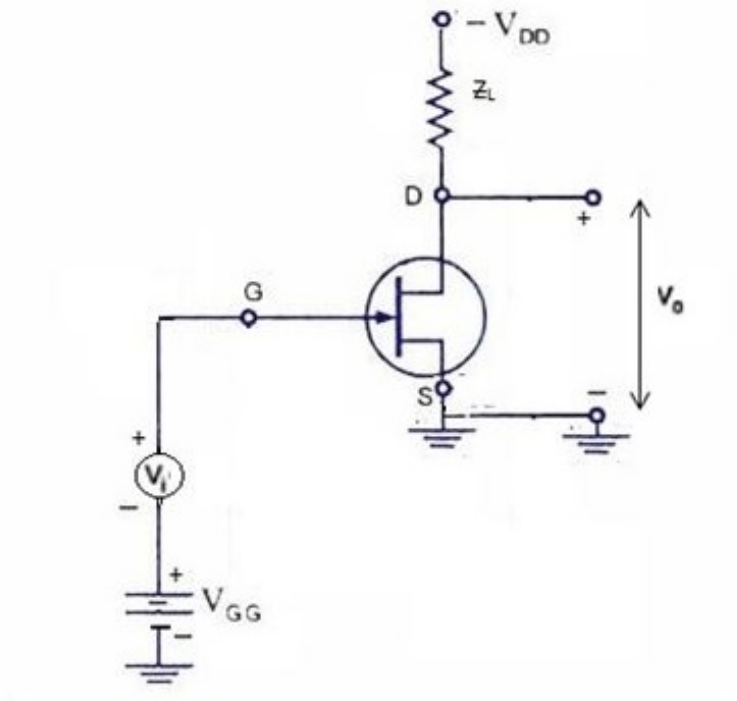
61547522503. 3

61547522504. 4

Question Number : 102 Question Id : 6154755770 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 voltage gain of a common source amplifier shown in following figure is



(a) $\frac{-g_m z_L}{1+g_d z_L}$

(b) $\frac{g_m z_L}{1+g_d}$

(c) $\frac{g_m g_d}{1+z_L}$

(d) $g_m z_L$

Options:

(1) (a) and (c) are correct

(2) (b) and (d) are correct

(3) (a) is correct but (d) is wrong

(4) (c) and (d) are correct

Options :

61547522505. 1

61547522506. 2

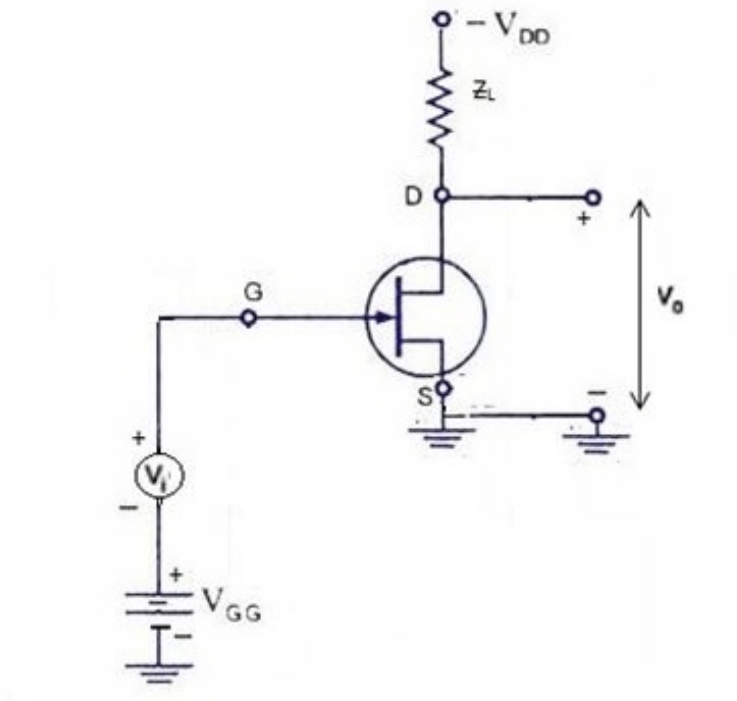
61547522507. 3

61547522508. 4

Question Number : 102 Question Id : 6154755770 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 voltage gain of a common source amplifier shown in following figure is



(a) $\frac{-g_m z_L}{1+g_d z_L}$

(b) $\frac{g_m z_L}{1+g_d}$

(c) $\frac{g_m g_d}{1+z_L}$

(d) $g_m z_L$

Options:

(1) (a) and (c) are correct

(2) (b) and (d) are correct

(3) (a) is correct but (d) is wrong

(4) (c) and (d) are correct

Options :

61547522505. 1

61547522506. 2

61547522507. 3

61547522508. 4

Question Number : 103 Question Id : 6154755771 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Total energy of an absorbed photon in eV is

(a) $\frac{12400}{\lambda(\mathring{A})}$

(b) $\frac{11400}{\lambda(\mathring{A})}$

(c) $\frac{1200}{\lambda(\mathring{A})}$

(d) $\frac{\lambda(\mathring{A})}{11400}$

Options are:

(1) (a) and (b) are correct

(2) (a) is correct but (c) is wrong

(3) (c) is correct but (d) is wrong

(4) (d) is correct but (a) is wrong

Options :

61547522509. 1

61547522510. 2

61547522511. 3

61547522512. 4

Question Number : 103 Question Id : 6154755771 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Total energy of an absorbed photon in eV is

(a) $\frac{12400}{\lambda(\mathring{A})}$

(b) $\frac{11400}{\lambda(\mathring{A})}$

(c) $\frac{1200}{\lambda(\mathring{A})}$

(d) $\frac{\lambda(\mathring{A})}{11400}$

Options are:

(1) (a) and (b) are correct

(2) (a) is correct but (c) is wrong

(3) (c) is correct but (d) is wrong

(4) (d) is correct but (a) is wrong

Options :

61547522509. 1

61547522510. 2

61547522511. 3

61547522512. 4

Question Number : 104 Question Id : 6154755772 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 MOS technology, the isolation used is

(a) diode isolation

(b) P-N Junction isolation

(c) Oxide isolation

(d) Vacuum isolation

Options are:

(1) (a) and (c) are correct

(2) (b) is correct but (c) is wrong

(3) (c) is correct but (a) is wrong

(4) (b) and (d) are correct

Options :

61547522513. 1

61547522514. 2

61547522515. 3

61547522516. 4

Question Number : 104 Question Id : 6154755772 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 MOS technology, the isolation used is

(a) diode isolation

(b) P-N Junction isolation

(c) Oxide isolation

(d) Vacuum isolation

Options are:

(1) (a) and (c) are correct

(2) (b) is correct but (c) is wrong

(3) (c) is correct but (a) is wrong

(4) (b) and (d) are correct

Options :

61547522513. 1

61547522514. 2

61547522515. 3

61547522516. 4

Question Number : 105 Question Id : 6154755773 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following statements regarding z-transform

(a) The ROC is a ring or disk in the z-plane centred at the origin

(b) The ROC contains all poles

(c) If $x(n)$ is a finite duration sequence, then the ROC is the entire z-plane except possibly $z = 0$ or $z = \infty$

(d) If $x(n)$ is a right-sided sequence , ROC extends inward from the innermost non-zero poles in $x(z)$ to $z = 0$

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (a) and (d)

(4) (a) and (c)

Options :

61547522517. 1

61547522518. 2

61547522519. 3

61547522520. 4

Question Number : 105 Question Id : 6154755773 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following statements regarding z-transform

(a) The ROC is a ring or disk in the z-plane centred at the origin

(b) The ROC contains all poles

(c) If $x(n)$ is a finite duration sequence, then the ROC is the entire z-plane except possibly $z=0$ or $z=\infty$

(d) If $x(n)$ is a right-sided sequence , ROC extends inward from the innermost non-zero poles in $x(z)$ to $z=0$

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (a) and (d)

(4) (a) and (c)

Options :

61547522517. 1

61547522518. 2

61547522519. 3

61547522520. 4

Question Number : 106 Question Id : 6154755774 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding the complete incidence matrix (A) of order $n \times b$

(a) The element a_{ij} of $A = 1$, if branch j is associated with node i and orientation is towards node i

(b) The element a_{ij} of $A = -1$, if the branch, j is the cut set i and the orientation coincide

(c) The element a_{ij} of $A = 1$, if the branch j is associated with node i and orientation is away from node i

(d) The element a_{ij} of $A = 0$, if the branch j is not associated with node i

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (d) and (a)

Options :

61547522521. 1

61547522522. 2

61547522523. 3

61547522524. 4

Question Number : 106 Question Id : 6154755774 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding the complete incidence matrix (A) of order $n \times b$

(a) The element a_{ij} of $A = 1$, if branch j is associated with node i and orientation is towards node i

(b) The element a_{ij} of $A = -1$, if the branch, j is the cut set i and the orientation coincide

(c) The element a_{ij} of $A = 1$, if the branch j is associated with node i and orientation is away from node i

(d) The element a_{ij} of $A = 0$, if the branch j is not associated with node i

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (d) and (a)

Options :

61547522521. 1

61547522522. 2

61547522523. 3

61547522524. 4

Question Number : 107 Question Id : 6154755775 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) BJT is a current-controlled device with high input impedance and high gain band width

(b) FET is a voltage-controlled device with high input impedance and low gain bandwidth

(c) UJT is a negative resistance device and can be used as an oscillator

(d) FET and UJT can be used for amplification

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (a) and (d)

Options :

61547522525. 1

61547522526. 2

61547522527. 3

61547522528. 4

Question Number : 107 Question Id : 6154755775 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) BJT is a current-controlled device with high input impedance and high gain band width

(b) FET is a voltage-controlled device with high input impedance and low gain bandwidth

(c) UJT is a negative resistance device and can be used as an oscillator

(d) FET and UJT can be used for amplification

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (a) and (d)

Options :

61547522525. 1

61547522526. 2

61547522527. 3

61547522528. 4

Question Number : 108 Question Id : 6154755776 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For an instrumentation amplifier, the following parameters are given

(a) high input resistance and low power consumption

(b) low input resistance and low power consumption

(c) high CMRR and high slew rate

(d) high CMRR and low slew rate

Which of the following option correctly depicts performance parameters of an instrumentation amplifier?

(1) (b) and (d) are correct

(2) (a) and (d) are correct

(3) (a) and (c) are correct

(4) (b) and (c) are correct

Options :

61547522529. 1

61547522530. 2

61547522531. 3

61547522532. 4

Question Number : 108 Question Id : 6154755776 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For an instrumentation amplifier, the following parameters are given

(a) high input resistance and low power consumption

(b) low input resistance and low power consumption

(c) high CMRR and high slew rate

(d) high CMRR and low slew rate

Which of the following option correctly depicts performance parameters of an instrumentation amplifier?

(1) (b) and (d) are correct

(2) (a) and (d) are correct

(3) (a) and (c) are correct

(4) (b) and (c) are correct

Options :

61547522529. 1

61547522530. 2

61547522531. 3

61547522532. 4

Question Number : 109 Question Id : 6154755777 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 about Schmitt trigger

(a) The output of a Schmitt Trigger is a square wave when input is a sine wave

(b) Schmitt Trigger can be used in Triangular wave and saw tooth wave generators

(c) The comparator with negative feedback is said to exhibit hysteresis, a dead band condition

(d) The output is impulse waveform when the input to Schmitt Trigger is saw tooth wave

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (b) and (d)

Options :

61547522533. 1

61547522534. 2

61547522535. 3

61547522536. 4

Question Number : 109 Question Id : 6154755777 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 about Schmitt trigger

(a) The output of a Schmitt Trigger is a square wave when input is a sine wave

(b) Schmitt Trigger can be used in Triangular wave and saw tooth wave generators

(c) The comparator with negative feedback is said to exhibit hysteresis, a dead band condition

(d) The output is impulse waveform when the input to Schmitt Trigger is saw tooth wave

Which of the above statements are correct?

(1) (a) and (b)

(2) (b) and (c)

(3) (c) and (d)

(4) (b) and (d)

Options :

61547522533. 1

61547522534. 2

61547522535. 3

61547522536. 4

Question Number : 110 Question Id : 6154755778 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 circuits belong to class of combinational logic circuits?

(a) Full adder

(b) Shift register

(c) Counter

(d) Multiplexer

Options are:

(1) (a) and (b)

(2) (a) and (d)

(3) (b) and (c)

(4) (c) and (d)

Options :

61547522537. 1

61547522538. 2

61547522539. 3

61547522540. 4

Question Number : 110 Question Id : 6154755778 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 circuits belong to class of combinational logic circuits?

(a) Full adder

(b) Shift register

(c) Counter

(d) Multiplexer

Options are:

(1) (a) and (b)

(2) (a) and (d)

(3) (b) and (c)

(4) (c) and (d)

Options :

61547522537. 1

61547522538. 2

61547522539. 3

61547522540. 4

Question Number : 111 Question Id : 6154755779 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 set of instructions will lead to same result in AX register?

(a) MOV AX, 0305 H OR AX, 3030 H

(b) MOV AX, 0305 H ADD AX, 3030 H

(c) MOV AX, 0305 H XOR AX, 3030 H

(d) MOV AX, 0305 H AND AX , 3F3 FH

Choose the correct answer :

(1) (a) and (d)

(2) (d) and (c)

(3) (a) and (b)

(4) (b) and (d)

Options :

61547522541. 1

61547522542. 2

61547522543. 3

61547522544. 4

Question Number : 111 Question Id : 6154755779 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 set of instructions will lead to same result in AX register?

(a) MOV AX, 0305 H OR AX, 3030 H

(b) MOV AX, 0305 H ADD AX, 3030 H

(c) MOV AX, 0305 H XOR AX, 3030 H

(d) MOV AX, 0305 H AND AX , 3F3 FH

Choose the correct answer :

(1) (a) and (d)

(2) (d) and (c)

(3) (a) and (b)

(4) (b) and (d)

Options :

61547522541. 1

61547522542. 2

61547522543. 3

61547522544. 4

Question Number : 112 Question Id : 6154755780 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 correct for 8051 micro controller?

(a) RAM location 20 H to 2 FH are set aside for bit-addressable read/write memory

(b) Bits P 3.4 and P 3.5 are used to provide the $\overline{WR}$ and $\overline{RD}$ signals of external memories

(c) Direct addressing mode is allowed for pushing onto the stack

(d) T × D and R × D pins are TTL compatible and therefore don't require line driver to make these RS 232 compatible

Choose the correct answer:

(1) (a) and (d)

(2) (b) and (c)

(3) (a) and (c)

(4) (b) and (d)

Options :

61547522545. 1

61547522546. 2

61547522547. 3

61547522548. 4

Question Number : 112 Question Id : 6154755780 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 correct for 8051 micro controller?

(a) RAM location 20 H to 2 FH are set aside for bit-addressable read/write memory

(b) Bits P 3.4 and P 3.5 are used to provide the $\overline{WR}$ and $\overline{RD}$ signals of external memories

(c) Direct addressing mode is allowed for pushing onto the stack

(d) T × D and R × D pins are TTL compatible and therefore don't require line driver to make these RS 232 compatible

Choose the correct answer:

(1) (a) and (d)

(2) (b) and (c)

(3) (a) and (c)

(4) (b) and (d)

Options :

61547522545. 1

61547522546. 2

61547522547. 3

61547522548. 4

Question Number : 113 Question Id : 6154755781 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 linearly polarized plane wave travelling is x-direction with 'E' in the Y-direction can be represented as $-\frac{\partial H_z}{\partial x} = \sigma E_y + jw \in E_y$

The following statements are given for the above equation

(a) it is scalar phasor equation

(b) σE_y represents displacement current density

(c) $jw \in E_y$ represents conduction current density

(d) If $\sigma \neq 0$ and the displacement current is much greater than conduction current, the medium behaves like imperfect dielectric

Choose the correct option :

(1) both (a) and (b) are correct

(2) both (a) and (d) are correct

(3) both (b) and (c) are correct

(4) both (b) and (d) are correct

Options :

61547522549. 1

61547522550. 2

61547522551. 3

61547522552. 4

Question Number : 113 Question Id : 6154755781 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 linearly polarized plane wave travelling is x-direction with 'E' in the Y-direction can be represented as $-\frac{\partial H_z}{\partial x} = \sigma E_y + jw \in E_y$

The following statements are given for the above equation

(a) it is scalar phasor equation

(b) σE_y represents displacement current density

(c) $jw \in E_y$ represents conduction current density

(d) If $\sigma \neq 0$ and the displacement current is much greater than conduction current, the medium behaves like imperfect dielectric

Choose the correct option :

(1) both (a) and (b) are correct

(2) both (a) and (d) are correct

(3) both (b) and (c) are correct

(4) both (b) and (d) are correct

Options :

61547522549. 1

61547522550. 2

61547522551. 3

61547522552. 4

Question Number : 114 Question Id : 6154755782 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following statements

(a) Wave impedance of TM wave in z-direction is $Z_z(TM)=\eta\sqrt{1-\frac{(w_c)^2}{(w)^2}}$

(b) Wave impedance of TE wave in z-direction is $Z_z(TE)=\frac{\eta}{\sqrt{1-w_c^2/w^2}}$

(c) Wave impedance of TEM wave in z-direction is $Z_z(TEM)=\frac{1}{\eta}$

(d) The characteristic impedance Z_0 is defined for short length line

Which of the above statements are correct?

(1) (a) and (d) are correct

(2) (a) is correct but (b) is wrong

(3) (c) and (d) are correct

(4) (a) and (b) are correct

Options :

61547522553. 1

61547522554. 2

61547522555. 3

61547522556. 4

Question Number : 114 Question Id : 6154755782 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following statements

(a) Wave impedance of TM wave in z-direction is $Z_z(TM)=\eta\sqrt{1-\frac{(w_c)^2}{(w)^2}}$

(b) Wave impedance of TE wave in z-direction is $Z_z(TE)=\frac{\eta}{\sqrt{1-w_c^2/w^2}}$

(c) Wave impedance of TEM wave in z-direction is $Z_z(TEM)=\frac{1}{\eta}$

(d) The characteristic impedance Z_0 is defined for short length line

Which of the above statements are correct?

(1) (a) and (d) are correct

(2) (a) is correct but (b) is wrong

(3) (c) and (d) are correct

(4) (a) and (b) are correct

Options :

61547522553. 1

61547522554. 2

61547522555. 3

61547522556. 4

Question Number : 115 Question Id : 6154755783 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) LASER diode generates monochromatic coherent light which reduces chromatic dispersion

(b) LASER source is useful for high power long distance optical communication

(c) LASERs have longer life time than LEDs

(d) LASER diodes are less temperature sensitive that LEDs

Which of the above statements are correct?

(1) (a) and (b)

(2) (a) and (c)

(3) (b) and (d)

(4) (b) and (c)

Options :

61547522557. 1

61547522558. 2

61547522559. 3

61547522560. 4

Question Number : 115 Question Id : 6154755783 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) LASER diode generates monochromatic coherent light which reduces chromatic dispersion

(b) LASER source is useful for high power long distance optical communication

(c) LASERs have longer life time than LEDs

(d) LASER diodes are less temperature sensitive that LEDs

Which of the above statements are correct?

(1) (a) and (b)

(2) (a) and (c)

(3) (b) and (d)

(4) (b) and (c)

Options :

61547522557. 1

61547522558. 2

61547522559. 3

61547522560. 4

Question Number : 116 Question Id : 6154755784 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following expression regarding mutual informations $I(X,Y)$

(a) $I(X;Y) = H(X) - H(Y/X)$

(b) $I(X;Y) = H(X) - H(X/Y)$

(c) $I(X;Y) = H(X) + H(Y) - H(X,Y)$

(d) $I(X;Y) = H(X) + H(Y) + H(X,Y)$

Which of the above expressions are correct?

(1) (a) and (c)

(2) (b) and (c)

(3) (a) and (d)

(4) (b) and (d)

Options :

61547522561. 1

61547522562. 2

61547522563. 3

61547522564. 4

Question Number : 116 Question Id : 6154755784 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Read the following expression regarding mutual informations $I(X,Y)$

(a) $I(X;Y) = H(X) - H(Y/X)$

(b) $I(X;Y) = H(X) - H(X/Y)$

(c) $I(X;Y) = H(X) + H(Y) - H(X,Y)$

(d) $I(X;Y) = H(X) + H(Y) + H(X,Y)$

Which of the above expressions are correct?

(1) (a) and (c)

(2) (b) and (c)

(3) (a) and (d)

(4) (b) and (d)

Options :

61547522561. 1

61547522562. 2

61547522563. 3

61547522564. 4

Question Number : 117 Question Id : 6154755785 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding the steady state error of type '0' system.

(a) With unit step input $e_{ss} = \frac{1}{1+k}$ where k is a constant

(b) With unit ramp input $e_{ss} = \frac{1}{k}$, where k is a constant

(c) With unit parabolic input $e_{ss} = \frac{1}{k}$, where k is a constant

(d) With unit parabolic input $e_{ss} = \infty$

Which of the above statements are correct?

(1) (a) and (b)

(2) (a) and (c)

(3) (b) and (c)

(4) (a) and (d)

Options :

61547522565. 1

61547522566. 2

61547522567. 3

61547522568. 4

Question Number : 117 Question Id : 6154755785 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the following statements regarding the steady state error of type '0' system.

(a) With unit step input $e_{ss} = \frac{1}{1+k}$ where k is a constant

(b) With unit ramp input $e_{ss} = \frac{1}{k}$, where k is a constant

(c) With unit parabolic input $e_{ss} = \frac{1}{k}$, where k is a constant

(d) With unit parabolic input $e_{ss} = \infty$

Which of the above statements are correct?

(1) (a) and (b)

(2) (a) and (c)

(3) (b) and (c)

(4) (a) and (d)

Options :

61547522565. 1

61547522566. 2

61547522567. 3

61547522568. 4

Question Number : 118 Question Id : 6154755786 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Following statements are given for DC motors

(a) DC motors require less maintenance than AC motors

(b) DC motors cannot provide high starting torque

(c) DC motors are not suitable for very high speed applications

(d) The methods of speed control of DC motors are simpler and less expensive than those of AC motors

Which of the following statements are correct?

(1) (a) and (c)

(2) (a) and (b)

(3) (b) and (c)

(4) (c) and (d)

Options :

61547522569. 1

61547522570. 2

61547522571. 3

61547522572. 4

Question Number : 118 Question Id : 6154755786 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Following statements are given for DC motors

(a) DC motors require less maintenance than AC motors

(b) DC motors cannot provide high starting torque

(c) DC motors are not suitable for very high speed applications

(d) The methods of speed control of DC motors are simpler and less expensive than those of AC motors

Which of the following statements are correct?

(1) (a) and (c)

(2) (a) and (b)

(3) (b) and (c)

(4) (c) and (d)

Options :

61547522569. 1

61547522570. 2

61547522571. 3

61547522572. 4

Question Number : 119 Question Id : 6154755787 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 list of different resistor configurations are given below

(a) Shunt resistor

(b) Series multiplier resistor

(c) Ayrton shunt

(d) Swamping resistor

Which of the above are used in DC Ammeter?

(1) (a) and (b)

(2) (b) and (d)

(3) (b) and (c)

(4) (a) and (c)

Options :

61547522573. 1

61547522574. 2

61547522575. 3

61547522576. 4

Question Number : 119 Question Id : 6154755787 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 list of different resistor configurations are given below

(a) Shunt resistor

(b) Series multiplier resistor

(c) Ayrton shunt

(d) Swamping resistor

Which of the above are used in DC Ammeter?

(1) (a) and (b)

(2) (b) and (d)

(3) (b) and (c)

(4) (a) and (c)

Options :

61547522573. 1

61547522574. 2

61547522575. 3

61547522576. 4

Question Number : 120 Question Id : 6154755788 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

List of different transducers are given below

(a) Hot-wire meter

(b) Ionization chamber

(c) Magnetostriction gage

(d) Photoconductive cell

Which of the above are passive transducers producing variation in resistance?

(1) (c) and (d)

(2) (a) and (b)

(3) (a) and (d)

(4) (b) and (c)

Options :

61547522577. 1

61547522578. 2

61547522579. 3

61547522580. 4

Question Number : 120 Question Id : 6154755788 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

List of different transducers are given below

(a) Hot-wire meter

(b) Ionization chamber

(c) Magnetostriction gage

(d) Photoconductive cell

Which of the above are passive transducers producing variation in resistance?

(1) (c) and (d)

(2) (a) and (b)

(3) (a) and (d)

(4) (b) and (c)

Options :

61547522577. 1

61547522578. 2

61547522579. 3

61547522580. 4

Question Number : 121 Question Id : 6154755789 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 elements of the lists given below :

List I	List II
(a) P-N junction diode	(i) $\varphi_m - \left(\chi + \frac{Eg}{2} - \psi_B\right) = 0$
(b) MOSFET	(ii) $\frac{z}{L}\mu_0 C_{ox}(V_G - V_T)V_D$
(c) JFET	(iii) $I = I_0(e\frac{qV}{kT} - 1)$
(d) Ideal MIS diode	(iv) $I_{DS} = I_{DSS}\left[1 - \frac{V_{GS}}{V_p}\right]^2$

The correct option is

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

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

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

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

Options :

61547522581. 1

61547522582. 2

61547522583. 3

61547522584. 4

Question Number : 121 Question Id : 6154755789 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 elements of the lists given below :

	List I		List II
(a)	P-N junction diode	(i)	$\varphi_m - \left(\chi + \frac{Eg}{2} - \psi_B\right) = 0$
(b)	MOSFET	(ii)	$\frac{z}{L}\mu_0 C_{ox}(V_G - V_T)V_D$
(c)	JFET	(iii)	$I = I_0(e\frac{qV}{kT} - 1)$
(d)	Ideal MIS diode	(iv)	$I_{DS} = I_{DSS}\left[1 - \frac{V_{GS}}{V_p}\right]^2$

The correct option is

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

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

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

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

Options :

61547522581. 1

61547522582. 2

61547522583. 3

61547522584. 4

Question Number : 122 Question Id : 6154755790 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 elements of List I and List II

	List I (Colour)		List II (Layer)
(a)	Green	(i)	Contact cut
(b)	Red	(ii)	Metal
(c)	Blue	(iii)	Thinox
(d)	Black	(iv)	Polysilicon

The correct option is

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

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

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

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

Options :

61547522585. 1

61547522586. 2

61547522587. 3

61547522588. 4

Question Number : 122 Question Id : 6154755790 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 elements of List I and List II

	List I (Colour)		List II (Layer)
(a)	Green	(i)	Contact cut
(b)	Red	(ii)	Metal
(c)	Blue	(iii)	Thinox
(d)	Black	(iv)	Polysilicon

The correct option is

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

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

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

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

Options :

61547522585. 1

61547522586. 2

61547522587. 3

61547522588. 4

Question Number : 123 Question Id : 6154755791 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 elements of List I with List II

	List I (Y - parameters)		List II (Transmission parameter)
(a)	Y_{11}	(i)	$-\frac{DT}{B}$
(b)	Y_{12}	(ii)	A/B
(c)	Y_{21}	(iii)	D/B
(d)	Y_{22}	(iv)	$-1/B$

The correct option is

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

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

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

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

Options :

61547522589. 1

61547522590. 2

61547522591. 3

61547522592. 4

Question Number : 123 Question Id : 6154755791 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 elements of List I with List II

	List I (Y - parameters)		List II (Transmission parameter)
(a)	Y_{11}	(i)	$-\frac{DT}{B}$
(b)	Y_{12}	(ii)	A/B
(c)	Y_{21}	(iii)	D/B
(d)	Y_{22}	(iv)	$-1/B$

The correct option is

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

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

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

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

Options :

61547522589. 1

61547522590. 2

61547522591. 3

61547522592. 4

Question Number : 124 Question Id : 6154755792 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 elements in List I and List II

	List I (Feedback type)		List II (Amplifier type)
(a)	Voltage-series	(i)	Current amplifier
(b)	Voltage-shunt	(ii)	Voltage amplifier
(c)	Current-series	(iii)	Trans resistance amplifier
(d)	Current-shunt	(iv)	Trans conductance amplifier

Choose the correct option

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

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

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

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

Options :

61547522593. 1

61547522594. 2

61547522595. 3

61547522596. 4

Question Number : 124 Question Id : 6154755792 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 elements in List I and List II

	List I (Feedback type)		List II (Amplifier type)
(a)	Voltage-series	(i)	Current amplifier
(b)	Voltage-shunt	(ii)	Voltage amplifier
(c)	Current-series	(iii)	Trans resistance amplifier
(d)	Current-shunt	(iv)	Trans conductance amplifier

Choose the correct option

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

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

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

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

Options :

61547522593. 1

61547522594. 2

61547522595. 3

61547522596. 4

Question Number : 125 Question Id : 6154755793 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 elements of List I and List II

	List I (Type of memory)		List II (Feature)
(a)	Field-programmable	(i)	Referring to a PROM that can be programmed only by manufacturer
(b)	Mask-programmable	(ii)	Referring to the content addressable memory
(c)	Associative	(iii)	Non-volatile memory which can be written and erased electrically
(d)	Flash	(iv)	Referring to a PROM that can be programmed by the user

Choose the correct option

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

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

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

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

Options :

61547522597. 1

61547522598. 2

61547522599. 3

61547522600. 4

Question Number : 125 Question Id : 6154755793 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 elements of List I and List II

	List I (Type of memory)		List II (Feature)
(a)	Field-programmable	(i)	Referring to a PROM that can be programmed only by manufacturer
(b)	Mask-programmable	(ii)	Referring to the content addressable memory
(c)	Associative	(iii)	Non-volatile memory which can be written and erased electrically
(d)	Flash	(iv)	Referring to a PROM that can be programmed by the user

Choose the correct option

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

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

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

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

Options :

61547522597. 1

61547522598. 2

61547522599. 3

61547522600. 4

Question Number : 126 Question Id : 6154755794 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 elements of List I and List II

	List I (8051 instructions)		List II (Equivalent instructions for timer controlled register)
(a)	SET B TRO	(i)	SET B TCON.5
(b)	CLR TR1	(ii)	CLR TCON.7
(c)	SET B TFO	(iii)	SET B TCON.4
(d)	CLR TF1	(iv)	CLR TCON.6

Choose the correct option

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

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

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

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

Options :

61547522601. 1

61547522602. 2

61547522603. 3

61547522604. 4

Question Number : 126 Question Id : 6154755794 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 elements of List I and List II

	List I (8051 instructions)		List II (Equivalent instructions for timer controlled register)
(a)	SET B TRO	(i)	SET B TCON.5
(b)	CLR TR1	(ii)	CLR TCON.7
(c)	SET B TFO	(iii)	SET B TCON.4
(d)	CLR TF1	(iv)	CLR TCON.6

Choose the correct option

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

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

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

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

Options :

61547522601. 1

61547522602. 2

61547522603. 3

61547522604. 4

Question Number : 127 Question Id : 6154755795 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 elements of List I and List II

	List I (Band name)		List II (Frequency range, GHz)
(a)	L	(i)	3.9 – 8.0
(b)	C	(ii)	1.0 – 1.5
(c)	Ka	(iii)	18.0 – 26.5
(d)	K	(iv)	26.5 – 40

Choose the correct option :

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

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

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

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

Options :

61547522605. 1

61547522606. 2

61547522607. 3

61547522608. 4

Question Number : 127 Question Id : 6154755795 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 elements of List I and List II

	List I (Band name)		List II (Frequency range, GHz)
(a)	L	(i)	3.9 – 8.0
(b)	C	(ii)	1.0 – 1.5
(c)	Ka	(iii)	18.0 – 26.5
(d)	K	(iv)	26.5 – 40

Choose the correct option :

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

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

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

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

Options :

61547522605. 1

61547522606. 2

61547522607. 3

61547522608. 4

Question Number : 128 Question Id : 6154755796 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 elements of List I and List II

	List I (Signaling scheme)		List II (Bit error rate)
(a)	Coherent Binary PSK	(i)	$\frac{1}{2} erfc(\sqrt{E_b / 2N_0})$
(b)	Coherent Binary FSK	(ii)	$\frac{1}{2} \exp(-E_b / 2N_0)$
(c)	DPSK	(iii)	$\frac{1}{2} \exp(-E_b \mid N_0)$
(d)	Non coherent binary FSK	(iv)	$\frac{1}{2} erfc(\sqrt{E_b \mid N_0})$

Choose the correct option :

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

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

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

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

Options :

61547522609. 1

61547522610. 2

61547522611. 3

61547522612. 4

Question Number : 128 Question Id : 6154755796 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 elements of List I and List II

	List I (Signaling scheme)		List II (Bit error rate)
(a)	Coherent Binary PSK	(i)	$\frac{1}{2} erfc(\sqrt{E_b / 2N_0})$
(b)	Coherent Binary FSK	(ii)	$\frac{1}{2} \exp(-E_b / 2N_0)$
(c)	DPSK	(iii)	$\frac{1}{2} \exp(-E_b \mid N_0)$
(d)	Non coherent binary FSK	(iv)	$\frac{1}{2} erfc(\sqrt{E_b \mid N_0})$

Choose the correct option :

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

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

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

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

Options :

61547522609. 1

61547522610. 2

61547522611. 3

61547522612. 4

Question Number : 129 Question Id : 6154755797 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 elements of List I and List II with respect to SCR triggering techniques

List I (Triggering Technique)		List II (Operation)	
(a)	High Voltage	(i)	A light wave strikes the junction of SCR
(b)	dV/dT	(ii)	A positive gate voltage is applied between the gate and cathode terminals
(c)	Gate current	(iii)	Rate of rise of anode-cathode voltage is high
(d)	Light	(iv)	Anode to cathode voltage is greater than forward break down voltage

Choose the correct option

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

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

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

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

Options :

61547522613. 1

61547522614. 2

61547522615. 3

61547522616. 4

Question Number : 129 Question Id : 6154755797 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 elements of List I and List II with respect to SCR triggering techniques

List I (Triggering Technique)		List II (Operation)	
(a)	High Voltage	(i)	A light wave strikes the junction of SCR
(b)	dV/dT	(ii)	A positive gate voltage is applied between the gate and cathode terminals
(c)	Gate current	(iii)	Rate of rise of anode-cathode voltage is high
(d)	Light	(iv)	Anode to cathode voltage is greater than forward break down voltage

Choose the correct option

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

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

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

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

Options :

61547522613. 1

61547522614. 2

61547522615. 3

61547522616. 4

Question Number : 130 Question Id : 6154755798 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 elements of List I and List II

	List I (DVM)		List II (Characteristic)
(a)	Ramp-type	(i)	Automatic zero correction
(b)	Dual-slope convertor	(ii)	Linear ramp voltage rises from oV to level of input voltage
(c)	Stair-case ramp	(iii)	Binary regression
(d)	Successive approximation	(iv)	Internally generated stair case ramp voltage

Choose the correct option

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

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

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

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

Options :

61547522617. 1

61547522618. 2

61547522619. 3

61547522620. 4

Question Number : 130 Question Id : 6154755798 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 elements of List I and List II

	List I (DVM)		List II (Characteristic)
(a)	Ramp-type	(i)	Automatic zero correction
(b)	Dual-slope convertor	(ii)	Linear ramp voltage rises from oV to level of input voltage
(c)	Stair-case ramp	(iii)	Binary regression
(d)	Successive approximation	(iv)	Internally generated stair case ramp voltage

Choose the correct option

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

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

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

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

Options :

61547522617. 1

61547522618. 2

61547522619. 3

61547522620. 4

Question Number : 131 Question Id : 6154755799 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Important elements of sampling circuit of sampling oscilloscope are given below

(a) Voltage comparator

(b) Blocking oscillator

(c) Staircase generator

(d) Ramp generator

The correct sequence of the above elements in the sampling circuit in the direction from trigger input to horizontal signal is

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

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

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

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

Options :

61547522621. 1

61547522622. 2

61547522623. 3

61547522624. 4

Question Number : 131 Question Id : 6154755799 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Important elements of sampling circuit of sampling oscilloscope are given below

(a) Voltage comparator

(b) Blocking oscillator

(c) Staircase generator

(d) Ramp generator

The correct sequence of the above elements in the sampling circuit in the direction from trigger input to horizontal signal is

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

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

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

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

Options :

61547522621. 1

61547522622. 2

61547522623. 3

61547522624. 4

Question Number : 132 Question Id : 6154755800 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 8051, Program Status Word (PSW) is 8-bit flag register having following status flag bits

(a) AC

(b) RS1

(c) CY

(d) OV

Arrange these in ascending order of bit position in PSW register

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

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

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

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

Options :

61547522625. 1

61547522626. 2

61547522627. 3

61547522628. 4

Question Number : 132 Question Id : 6154755800 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 8051, Program Status Word (PSW) is 8-bit flag register having following status flag bits

(a) AC

(b) RS1

(c) CY

(d) OV

Arrange these in ascending order of bit position in PSW register

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

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

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

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

Options :

61547522625. 1

61547522626. 2

61547522627. 3

61547522628. 4

Question Number : 133 Question Id : 6154755801 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 logic families

(a) MOS

(b) TTL

(c) RTL

(d) ECL

Rearrange these logic families according to their propagation delay in descending order

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

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

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

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

Options :

61547522629. 1

61547522630. 2

61547522631. 3

61547522632. 4

Question Number : 133 Question Id : 6154755801 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 logic families

(a) MOS

(b) TTL

(c) RTL

(d) ECL

Rearrange these logic families according to their propagation delay in descending order

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

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

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

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

Options :

61547522629. 1

61547522630. 2

61547522631. 3

61547522632. 4

Question Number : 134 Question Id : 6154755802 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Four sources are generating information as given below

(a) Source $1 \rightarrow p_1 = \frac{1}{4},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{4}, p_4 = \frac{1}{4}$

(b) Source $2 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{8}, p_4 = \frac{1}{8}$

(c) Source $3 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{2}, p_3 = \frac{1}{4}, p_4 = \frac{1}{8}$

(d) Source $4 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{4}, p_4 = \frac{1}{8}$

Arrange these sources in the descending order of their entropy (H)

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

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

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

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

Options :

61547522633. 1

61547522634. 2

61547522635. 3

61547522636. 4

Question Number : 134 Question Id : 6154755802 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Four sources are generating information as given below

(a) Source $1 \rightarrow p_1 = \frac{1}{4},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{4}, p_4 = \frac{1}{4}$

(b) Source $2 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{8}, p_4 = \frac{1}{8}$

(c) Source $3 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{2}, p_3 = \frac{1}{4}, p_4 = \frac{1}{8}$

(d) Source $4 \rightarrow p_1 = \frac{1}{2},\ p_2 = \frac{1}{4}, p_3 = \frac{1}{4}, p_4 = \frac{1}{8}$

Arrange these sources in the descending order of their entropy (H)

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

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

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

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

Options :

61547522633. 1

61547522634. 2

61547522635. 3

61547522636. 4

Question Number : 135 Question Id : 6154755803 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Arrange the following materials in order of increasing mobility of holes (at 300 K)

(a) C

(b) Ge

(c) SiC

(d) GaAs

The correct sequence is

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

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

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

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

Options :

61547522637. 1

61547522638. 2

61547522639. 3

61547522640. 4

Question Number : 135 Question Id : 6154755803 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Arrange the following materials in order of increasing mobility of holes (at 300 K)

(a) C

(b) Ge

(c) SiC

(d) GaAs

The correct sequence is

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

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

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

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

Options :

61547522637. 1

61547522638. 2

61547522639. 3

61547522640. 4

Question Number : 136 Question Id : 6154755804 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 the other is labelled as reason (R) :

Assertion (A) : Gain margin is the factor by which the system gain can be decreased to drive it to the verge of instability

Reasons (R) : Gain margin is the reciprocal at the gain at frequency at which the phase angle becomes 180°

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 :

61547522641. 1

61547522642. 2

61547522643. 3

61547522644. 4

Question Number : 136 Question Id : 6154755804 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 the other is labelled as reason (R) :

Assertion (A) : Gain margin is the factor by which the system gain can be decreased to drive it to the verge of instability

Reasons (R) : Gain margin is the reciprocal at the gain at frequency at which the phase angle becomes 180°

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 :

61547522641. 1

61547522642. 2

61547522643. 3

61547522644. 4

Question Number : 137 Question Id : 6154755805 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 the other is labelled as reason (R) :

Assertion (A) : Optical fibers have higher bandwidth as compared to conventional copper cables.

Reasons (R) : The information carrying capacity of optical fiber is limited by Rayleigh scattering loss.

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 :

61547522645. 1

61547522646. 2

61547522647. 3

61547522648. 4

Question Number : 137 Question Id : 6154755805 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 the other is labelled as reason (R) :

Assertion (A) : Optical fibers have higher bandwidth as compared to conventional copper cables.

Reasons (R) : The information carrying capacity of optical fiber is limited by Rayleigh scattering loss.

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 :

61547522645. 1

61547522646. 2

61547522647. 3

61547522648. 4

Question Number : 138 Question Id : 6154755806 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 the other is labelled as reason (R) :

Assertion (A) : The process of testing the frequency response of amplifier and filters can be done by sweep frequency generator that automatically varies its frequency over a pre-determined range.

Reasons (R) : The sweep frequency generator should have a ramp generator which applies a linear ramp voltage to the input of a voltage tuned oscillator (VTO)

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 :

61547522649. 1

61547522650. 2

61547522651. 3

61547522652. 4

Question Number : 138 Question Id : 6154755806 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 the other is labelled as reason (R) :

Assertion (A) : The process of testing the frequency response of amplifier and filters can be done by sweep frequency generator that automatically varies its frequency over a pre-determined range.

Reasons (R) : The sweep frequency generator should have a ramp generator which applies a linear ramp voltage to the input of a voltage tuned oscillator (VTO)

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 :

61547522649. 1

61547522650. 2

61547522651. 3

61547522652. 4

Question Number : 139 Question Id : 6154755807 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 the other is labelled as reason (R) :

Assertion (A) : Clocked R-S filpflops are considered semi-transparent.

Reasons (R) : The output Q of a clocked R-S flipflop changes state in response to input changes immediately provided ENABLE is high.

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 :

61547522653. 1

61547522654. 2

61547522655. 3

61547522656. 4

Question Number : 139 Question Id : 6154755807 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 the other is labelled as reason (R) :

Assertion (A) : Clocked R-S filpflops are considered semi-transparent.

Reasons (R) : The output Q of a clocked R-S flipflop changes state in response to input changes immediately provided ENABLE is high.

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 :

61547522653. 1

61547522654. 2

61547522655. 3

61547522656. 4

Question Number : 140 Question Id : 6154755808 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) : The bipolar junction transistor is designed to get large β.

Reasons (R) : During fabrication, the base width is kept small.

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 :

61547522657. 1

61547522658. 2

61547522659. 3

61547522660. 4

Question Number : 140 Question Id : 6154755808 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) : The bipolar junction transistor is designed to get large β.

Reasons (R) : During fabrication, the base width is kept small.

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 :

61547522657. 1

61547522658. 2

61547522659. 3

61547522660. 4

Sub-Section Number:	2
Sub-Section Id:	615475256
Question Shuffling Allowed :	Yes

Question Id : 6154755809 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (141 to 145)

Question Label : Comprehension

Instruction : Based on the following paragraph, answers the next five questions.

The scaling down of feature size generally leads to improved performance and it is important to understand the effect of scaling. Micro electronic technology may be characterized in terms of several indicators or figure of merit, such as minimum feature size, number of gates on one chip, power dissipation, maximum operating frequency etc. Many of these figure of merits (FOMs) can be improved by shrinking the dimensions of transistors, interconnections and separation between the features and by adjusting the doping levels and supply voltages. The most commonly used models are the constant electric field scaling model and constant voltage scaling model. The two scaling factors 'α' and 'β' are used.

Sub questions

Question Number : 141 Question Id : 6154755810 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 MOSFET, the gate capacitance is scaled by

(1) $\beta\alpha^2$ (2) β/α^2

(3) β/α (4) α/β^2

Options :

61547522661. 1

61547522662. 2

61547522663. 3

61547522664. 4

Question Number : 142 Question Id : 6154755811 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 MOSFET, the carrier density is scaled by

(1) $1/\beta$ (2) $1/\alpha$

(3) β/α (4) 1

Options :

61547522665. 1

61547522666. 2

61547522667. 3

61547522668. 4

Question Number : 143 Question Id : 6154755812 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 saturation current is MOSFET is scaled by

(1) $1/\alpha$ (2) $1/\beta$

(3) α/β (4) β/α

Options :

61547522669. 1

61547522670. 2

61547522671. 3

61547522672. 4

Question Number : 144 Question Id : 6154755813 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 power dissipation per unit area is scaled by

(1) α/β (2) α^2/β^2

(3) α^2/β (4) α/β^2

Options :

61547522673. 1

61547522674. 2

61547522675. 3

61547522676. 4

Question Number : 145 Question Id : 6154755814 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 current density is scaled by

(1) β^2 / α (2) α^2 / β^2

(3) α^2 / β (4) β^2 / α^2

Options :

61547522677. 1

61547522678. 2

61547522679. 3

61547522680. 4

Question Id : 6154755809 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (141 to 145)

Question Label : Comprehension

Instruction : Based on the following paragraph, answers the next five questions.

The scaling down of feature size generally leads to improved performance and it is important to understand the effect of scaling. Micro electronic technology may be characterized in terms of several indicators or figure of merit, such as minimum feature size, number of gates on one chip, power dissipation, maximum operating frequency etc. Many of these figure of merits (FOMs) can be improved by shrinking the dimensions of transistors, interconnections and separation between the features and by adjusting the doping levels and supply voltages. The most commonly used models are the constant electric field scaling model and constant voltage scaling model. The two scaling factors 'α' and 'β' are used.

Sub questions

Question Number : 141 Question Id : 6154755810 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 MOSFET, the gate capacitance is scaled by

(1) $\beta \alpha^2$ (2) β / α^2

(3) β / α (4) α / β^2

Options :

61547522661. 1

61547522662. 2

61547522663. 3

61547522664. 4

Question Number : 142 Question Id : 6154755811 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 MOSFET, the carrier density is scaled by

(1) $1/\beta$ (2) $1/\alpha$

(3) β/α (4) 1

Options :

61547522665. 1

61547522666. 2

61547522667. 3

61547522668. 4

Question Number : 143 Question Id : 6154755812 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 saturation current is MOSFET is scaled by

(1) $1/\alpha$ (2) $1/\beta$

(3) α/β (4) β/α

Options :

61547522669. 1

61547522670. 2

61547522671. 3

61547522672. 4

Question Number : 144 Question Id : 6154755813 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 power dissipation per unit area is scaled by

(1) α/β (2) α^2/β^2

(3) α^2/β (4) α/β^2

Options :

61547522673. 1

61547522674. 2

61547522675. 3

61547522676. 4

Question Number : 145 Question Id : 6154755814 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 current density is scaled by

(1) β^2/α (2) α^2/β^2

(3) α^2/β (4) β^2/α^2

Options :

61547522677. 1

61547522678. 2

61547522679. 3

61547522680. 4

Sub-Section Number:	3
Sub-Section Id:	615475257
Question Shuffling Allowed :	Yes

Question Id : 6154755815 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (146 to 150)

Question Label : Comprehension

Instruction : Based on this paragraph, answer the next five questions.

The first instrument to measure any sort of spectral content of signals was the harmonic distortion analyzer. More sophisticated analyzers called wave analyzers could separate the harmonics and non-harmonic distortions and evaluate each one. If the wave analyzer could be swept in frequency electronically, while an oscilloscope is used in lieu of the output meter, and if the sweep could be done at rapid rate so that the display appeared constant, a real-time picture of the spectrum of the input signal could be observed. VHF spectrum analyzer usually covers the range from 10 KHz to 300 KHz.

Sub questions

Question Number : 146 Question Id : 6154755816 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Spectrum Analyzer is similar to

(1) Up-converting superheterodyne transmitter

(2) Down-converting superheterodyne transmitter

(3) Down-converting superheterodyne receiver

(4) Up-converting superheterodyne receiver

Options :

61547522681. 1

61547522682. 2

61547522683. 3

61547522684. 4

Question Number : 147 Question Id : 6154755817 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 first local oscillator of a spectrum analyzer usually covers a frequency range of less than an octave is easily turned with which of the following

(1) Low-pass filter

(2) Varactor diode

(3) Light Emitting diode

(4) Zener diode

Options :

61547522685. 1

61547522686. 2

61547522687. 3

61547522688. 4

Question Number : 148 Question Id : 6154755818 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 VHF spectrum Analyzer, two types of frequency instabilities which will cause difficulties, when narrow frequency ranges are displayed. are known as

(a) Short-term instability

(b) Phase-noise

(c) Correlation-noise

(d) Long-term instability

Choose the correct option

(1) (a) and (c)

(2) (b) and (a)

(3) (c) and (d)

(4) (b) and (d)

Options :

61547522689. 1

61547522690. 2

61547522691. 3

61547522692. 4

Question Number : 149 Question Id : 6154755819 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 noise level of the spectrum analyzer can be related to Noise Figure (NF) and IF Bandwidth by which of the following formula

(1) -114 dBm$+20\ \log(BW/1MHz)+NF$

(2) -114 dBm $+\ 10\ \log(BW/1MHz)+NF$

(3) $-14\,dBm+10\log(BW/1GHz)+NF$

(4) $-14\ dBm+20\log(BW/1GHz)+NF$

Options :

61547522693. 1

61547522694. 2

61547522695. 3

61547522696. 4

Question Number : 150 Question Id : 6154755820 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 dynamic range of a spectrum analyzer (in dB) with a third-order intercept point (IP) of +26 dBM and a noise level (MDS) of -85 dBm is

(1) 74 dB

(2) –59 dB

(3) 37 dB

(4) –111 dB

Options :

61547522697. 1

61547522698. 2

61547522699. 3

61547522700. 4

Question Id : 6154755815 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (146 to 150)

Question Label : Comprehension

Instruction : Based on this paragraph, answer the next five questions.

The first instrument to measure any sort of spectral content of signals was the harmonic distortion analyzer. More sophisticated analyzers called wave analyzers could separate the harmonics and non-harmonic distortions and evaluate each one. If the wave analyzer could be swept in frequency electronically, while an oscilloscope is used in lieu of the output meter, and if the sweep could be done at rapid rate so that the display appeared constant, a real-time picture of the spectrum of the input signal could be observed. VHF spectrum analyzer usually covers the range from 10 KHz to 300 KHz.

Sub questions

Question Number : 146 Question Id : 6154755816 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Spectrum Analyzer is similar to

(1) Up-converting superheterodyne transmitter

(2) Down-converting superheterodyne transmitter

(3) Down-converting superheterodyne receiver

(4) Up-converting superheterodyne receiver

Options :

61547522681. 1

61547522682. 2

61547522683. 3

61547522684. 4

Question Number : 147 Question Id : 6154755817 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 first local oscillator of a spectrum analyzer usually covers a frequency range of less than an octave is easily turned with which of the following

(1) Low-pass filter

(2) Varactor diode

(3) Light Emitting diode

(4) Zener diode

Options :

61547522685. 1

61547522686. 2

61547522687. 3

61547522688. 4

Question Number : 148 Question Id : 6154755818 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 VHF spectrum Analyzer, two types of frequency instabilities which will cause difficulties, when narrow frequency ranges are displayed. are known as

(a) Short-term instability

(b) Phase-noise

(c) Correlation-noise

(d) Long-term instability

Choose the correct option

(1) (a) and (c)

(2) (b) and (a)

(3) (c) and (d)

(4) (b) and (d)

Options :

61547522689. 1

61547522690. 2

61547522691. 3

61547522692. 4

Question Number : 149 Question Id : 6154755819 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 noise level of the spectrum analyzer can be related to Noise Figure (NF) and IF Bandwidth by which of the following formula

(1) -114 dBm$+20\ \log(BW/1MHz)+NF$

(2) -114 dBm $+\ 10\ \log(BW/1MHz)+NF$

(3) $-14\,dBm+10\log(BW/1GHz)+NF$

(4) $-14\ dBm+20\log(BW/1GHz)+NF$

Options :

61547522693. 1

61547522694. 2

61547522695. 3

61547522696. 4

Question Number : 150 Question Id : 6154755820 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 dynamic range of a spectrum analyzer (in dB) with a third-order intercept point (IP) of +26 dBM and a noise level (MDS) of -85 dBm is

(1) 74 dB

(2) –59 dB

(3) 37 dB

(4) –111 dB

Options :

61547522697. 1

61547522698. 2

61547522699. 3

61547522700. 4