TS SET

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Subject Name :	PHYSICAL SCIENCES
Duration :	180
Total Marks :	300
Display Marks:	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No
Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Group 1

Group Number :	1
Group Id :	51714467
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	300
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Paper I

Section Id :	517144133
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	42
Number of Questions to be attempted :	42
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	517144409
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 1 Question Id : 51714410045 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following factors can influence a student's motivation to learn?
ఈ దిగువ ఏ అంశాలు విద్యార్థి అభ్యాస ప్రేరణను ప్రభావితం చేస్తాయి.

Options :

1. ✖ Genetic makeup
జన్యుపరమైన నిర్మాణం

2. ✔ Socioeconomic status
సామాజిక ఆర్థిక అంతస్తు

3. ✖ Weather conditions
వాతావరణ పరిస్థితులు

4. ✖ Political affiliation
రాజకీయ అనుబంధం

Question Number : 2 Question Id : 51714410046 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

You are a school administrator aiming to improve the institution's learning environment. What steps could you take to achieve this goal? Select the most appropriate options.
నువ్వు ఒక బడి నిర్వాహకుడివి.సంస్థ అభ్యాస వాతావరణము మెరుగు చేయాలని ఆశిస్తున్నావు ఈ లక్ష్యానికి ఏ చర్యలు తీసుకుంటావు. మిక్కిలి సరియైన వాటిని ఎంపిక చేయుము

Options :

1. ✖ Implement rigid rules without student input.
విద్యార్థుల ఉత్పాదకత లేకుండా కఠిన నియమాలను అమలుచేయుట

2. ✔ Offer a variety of extracurricular activities.
వివిధ పాఠ్యాంశేతర కార్యక్రమాలను ప్రతిపాదించుట

3. ✖ Ignore feedback from teachers and students.
ఉపాధ్యాయులు, విద్యార్థుల అభిప్రాయాలను పట్టించుకోకుండుట

4. ✖ Keep the institution's culture unchanged.
సంస్థ సంస్కృతిని మార్పు చేయకుండుట

Question Number : 3 Question Id : 51714410047 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What is a primary objective of learner-centered teaching?
విద్యార్థి కేంద్రీకృత బోధన ప్రాథమిక లక్ష్యం ఏది ?

Options :

1. ✖ Transmitting facts and information to students.
వాస్తవాలను, సమాచారాన్ని విద్యార్థులకు పంపుట

2. ✖ Encouraging rote memorization of concepts.
వల్లేవేయుచూ జ్ఞాపక శక్తి భావనలను ప్రోత్సహించుట

3. ✔ Fostering critical thinking and independent learning.
కీలక ఆలోచన స్వతంత్ర అభ్యాసములను పెంపొందించుట

4. ✖ Limiting student engagement to assessments only
విద్యార్థుల నియోగించుటను మదింపులకు మాత్రమే పరిమితం చేయుట

Question Number : 4 Question Id : 51714410048 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What is the main objective of MOOCs?
MOOCs ప్రధాన లక్ష్యమేమి

Options :

1. ✖ To offer degree programs exclusively online.
డిగ్రీ కార్యక్రమాలను ఆన్‌లైనులో మాత్రమే అందచేయుట

2. ✖ To provide high-cost specialized courses.
అత్యంత వ్యయ ప్రత్యేక పాఠ్యక్రమములను ఏర్పాటు చేయుట

3. ✔ To offer free and open access to a wide range of courses.
విస్తృత వ్యాప్తి పాఠ్యక్రమాలకు అందరికి ఉచిత ప్రవేశం కల్పించుట

4. ✖ To limit access to courses for enrolled students only.
పాఠ్యక్రమాలకు ప్రవేశాన్ని నమెదుచేసుకున్న విద్యార్థులకు మాత్రమే పరిమితం చేయుట

Question Number : 5 Question Id : 51714410049 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What does ICT stand for in the context of education?
విద్యకు సంబంధించి ICT దీనికి సంబంధించింది ?

Options :

1. ✖ Interactive Classroom Teaching

2. ✖ Integrated Curriculum Training

3. ✔ Information and Communication Technology

4. ✖ International Computer Tools

Question Number : 6 Question Id : 51714410050 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What is the primary objective of descriptive research?
వర్ణనాత్మక పరిశోధన ముఖ్య లక్ష్యం ఏమి?

Options :

1. ✖ To manipulate variables and establish cause-and-effect relationships
చలాంశాలను మార్చి, కారణ ప్రభావ సంబంధాన్ని నెలకొల్పుట

2. ✔ To explore and understand a phenomenon in its natural setting
దాని సహజ అమరికల దృగ్విషయాన్ని అన్వేషించి, అర్థంచేసుకొనుట

3. ✖ To predict future outcomes based on historical data
చారిత్రాత్మక దత్తాంశ ఆధారంతో భవిష్యత్తు ఫలితాలను అంచనావేయుట

4. ✖ To test hypotheses and theories using statistical analysis
గణాంక విశ్లేషణ ఉపయోగిస్తు పరికల్పనలను సిద్ధాంతాలను పరీక్షించుట

Question Number : 7 Question Id : 51714410051 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

What is a central tenet of positivist research philosophy?
ధనాత్మక పరిశోధనాతత్వపు కేంద్ర సూత్రమేది?

Options :

1. ✖ Reality is subjective and can be understood differently by different individuals.
వాస్తవికత ఆత్మగతమైనది వివిధ వ్యక్తులకు వివిధ రకాలుగా అర్థంకావచ్చును

2. ✖ Research findings are shaped by personal biases and opinions.
పరిశోధనా ఫలితాలను వ్యక్తిగత పక్షపాతాలతో, అభిప్రాయాలతో ముడివేస్తారు.

3. ✖ Research should focus on understanding the underlying meanings and interpretations of participants.
పాల్గొనే వారి అంతర్లీనమైన అర్థాలను, వివరణలను అర్థం చేసుకొనుటలో పరిశోధన దృష్టిపెట్టాలి.

4. ✔ Knowledge can be acquired through objective observation and measurement.
నిష్పక్షపాత పరిశీలనతో, కొలతతో జ్ఞానాన్ని సంపాదించవచ్చును.

Question Number : 8 Question Id : 51714410052 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

What is the purpose of the literature review in the research process?
పరిశోధనా ప్రక్రియలో గ్రంథ సమీక్ష ఉద్దేశమేమి ?

Options :

1. ✖ To collect primary data from participants
పాల్గొనే వారినుండి ప్రాథమిక దత్తాంశ సేకరణ

2. ✖ To summarize the research findings
పరిశోధనా ఫలితాలను సంగ్రహించుట

3. ✔ To identify gaps in existing knowledge and establish a theoretical framework
నేటి జ్ఞానంలో అంతరాలను గుర్తించి, సిద్ధాంత రూపకల్పన పెంపొందించుట

4. ✖ To draw conclusions and make recommendations
ముగింపులను చేసి సూచనలు చేయుట

Question Number : 9 Question Id : 51714410053 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No Correct Marks : 2 Wrong Marks : 0

The abstract in a thesis typically:
రూపక పరిశోధనా వ్యాస సంగ్రహము

Options :

1. ✖ Contains detailed descriptions of all research methods
అన్ని పరిశోధనా పద్ధతుల విస్తృత వివరణములను కలిగి ఉంటాయి

2. ✖ Is placed at the end of the thesis
సిద్ధాంత వ్యాసం చివర ఇస్తారు

3. ✔ Summarizes the main points of the thesis in a concise manner
సిద్ధాంతా వ్యాసపు ముఖ్య విషయాలు సంక్లిప్త రూపంలో సంగ్రహీస్తుంది.

4. ✖ Lists all the references used in the thesis
సిద్ధాంతా వ్యాసములో ఉపయోగించిన అన్ని సంప్రదింపులను జాబితా చేస్తుంది.

Question Number : 10 Question Id : 51714410054 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Plagiarism in research refers to:
పరిశోధనలో గ్రంధ చౌర్యము అనగా

Options :

1. ✖ Collecting data from multiple sources to ensure accuracy
ఖచ్చితత్వమును పొందుటకు బహుథ వనరుల నుండి దత్తాంశ సేకరణ

2. ✖ Properly citing and referencing sources used in the research
పరిశోధనలో ఉపయోగించిన వనరులను సరిగా అనులేఖించి ప్రస్తావించుట

3. ✔ Using others' ideas, words, or work without giving proper credit
వారికి సరియైన గౌరవం యివ్వకుండా ఇతరుల ఆలోచనలు, మాటలు, పని ఉపయోగించుట

4. ✖ Sharing research findings with the public
పరిశోధనా ఫలితాలను ప్రజలతో పంచుకొనుట

Sub-Section Number :	2
Sub-Section Id :	517144410
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 51714410055 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Question Numbers : (11 to 15)

Question Label : Comprehension

Note: Answer the questions 11-15 by reading the following passage:

గమనిక: క్రింద ఇవ్వబడిన సమాచారం ఆధారంగా Q. 11 నుండి Q. 15 ప్రశ్నలకు సమాధానాలలు వ్రాయండి.

Some of my critics have said, "Oh, he is a good observer, but he has no power of reasoning!" I do not think that this can be true, for my 'Origin of Species' is one long argument from the beginning to the end, and it has convinced not a few able men. No one could have written it without having some power of reasoning. I have a fair share of invention, and of common sense or judgment, such as every fairly successful lawyer or doctor must have, but not, I believe, in any higher degree. On the favourable side of the balance, I think that I am superior to the common run of men in noticing things which easily escape attention, and in observing them carefully. My industry has been nearly as great as it could have been in the observation and collection of facts. What is far more important, my love of natural science has been steady and ardent.

నా విమర్శకులలో కొందరు ఇలా అన్నారు, "ఓహ్, అతను మంచి పరిశీలకుడు, కానీ అతనికి తార్కిక శక్తి లేదు !" ఇది నిజం కావచ్చని నేను అనుకోను, ఎందుకంటే నేను రచించిన ఆరిజిన్ అఫ్ స్పీసీస్ అనేది మొదటి నుండి చివరి వరకు ఒక సుదీర్ఘ వాదన, మరియు ఇది కొంతమంది సమర్థులైన వ్యక్తులను కూడ ఒప్పించగలిగింది. కొంత తార్కిక శక్తి లేకుండా ఎవరు వ్రాయలేరు. ప్రతి విజయవంతమైన న్యాయవాది లేదా వైద్యుడు తప్పనిసరిగా కలిగి ఉండవలసిన లక్షణాలు ఇంగితజ్ఞానం లేదా తీర్పులో చాకచక్యం. నాకు కూడ ఆ లక్షణాలు పుష్కలంగా ఉన్నాయనే నేను నమ్ముతున్నాను.
నిజానికి, నేను సులభంగా దృష్టిని తప్పించుకునే విషయాలను సూక్ష్మంగా గమనించడంలో మరియు వాటిని జాగ్రత్తగా గమనించడంలో సాధారణ వ్యక్తుల కంటే మెరుగైన వాడిని అని భావిస్తాను. వాస్తవాల పరిశీలన మరియు సేకరణలో నా పరిశ్రమ దాదాపుగా గొప్పగానే ఉందని చెప్పాలి. చాలా ముఖ్యమైన విషయం ఏమిటంటే, సహజ శాస్త్రంపై నాకు స్థిరమైన మక్కువ.

Sub questions

Question Number : 11 Question Id : 51714410056 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Critics condemned the author for want of _____.
విమర్శకులు రచయితను _____విషయములో ఖండించారు.

Options :

1. ✖ common sense
ఇంగితజ్ఞానం

2. ✔ reasoning
తార్కికం

3. ✖ communication skills
భాష నైపుణ్యం

4. ✖ creativity
సృజనాత్మకత

Question Number : 12 Question Id : 51714410057 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The above excerpt is taken from the autobiography of _____
పై సారాంశం_____ఆత్మకథ నుండి తీసుకోబడింది

Options :

1. ✔ Charles Darwin
చార్లెస్ డార్విన్

2. ✔ Erasmus Darwin
ఎరాస్మస్ డార్విన్

3. ✔

Alfred Russel Wallace
ఆల్ఫ్రెడ్ రస్సెల్ వాలెస్

Charles Lyell.
చార్లెస్ లియెల్

4. ✔

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 13 Question Id : 51714410058 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The author feels that successful lawyers and doctors are _____
విజయవంతమైన న్యాయవాదులు మరియు వైద్యులు_____ అని రచయిత భావిస్తాడు.

Options :

generous
ఉదారస్వభావులు

1. ✖

observers
పరిశీలకులు

2. ✖

industrious
శ్రమ జీవులు

3. ✖

decision makers
సరి అయిన నిర్ణయం తీసుకునేవారు

4. ✔

Question Number : 14 Question Id : 51714410059 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The author's inclination for compiling facts, reflects his _____
వాస్తవాలను సంకలనం చేయడంలో రచయిత యొక్క మొగ్గు, అతని_____ని ప్రతిబింబిస్తుంది

Options :

1. ✔ Diligence
కష్టపడే తత్వాన్ని

2. ✖ Reasoning
తార్కికం

3. ✖ decision making
నిర్ణయం తీసుకునే తీరు

4. ✖ motivation
ప్రేరణ

Question Number : 15 Question Id : 51714410060 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The synonym for the word-"ardent" is _____
మక్కువ అనే పదానికి పర్యాయపదం

Options :

1. ✖ insubstantial
అసంబద్ధమైన

2. ✖ impatience
అసహనం

3. ✔ eager
ఉత్సాహం

4. ✖ frail
బలహీనమైన

Sub-Section Number : 3

Sub-Section Id : 517144411

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 16 Question Id : 51714410061 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

_____ communication helps in remembering details of earlier conversations and interactions.
_____కమ్యునికేషన్ మునుపటి సంభాషణలు మరియు పరస్పర చర్యల వివరాలను గుర్తించుకోవడంలో సహాయపడుతుంది

Options :

1. ✔ retentive
ధారణ శక్తి

2. ✖ reliable
నమ్మదగిన

3. ✖ inquisitive
జిజ్ఞాస

4. ✖ consistent
స్థిరమైన

Question Number : 17 Question Id : 51714410062 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

_____ provided by teacher in the classroom helps in building students' confidence.
తరగతి గదిలో ఉపాధ్యాయులు అందించిన_____ విద్యార్థుల విశ్వాసాన్ని పెంపొందించడంలో సహాయపడుతుంది

Options :

1. ✖ assignment
అసైన్మెంట్

2. ✔ positive feedback
సానుకుల స్పందన

3. ✖ lecture
ఉపన్యాసం

4. ✖

negative feedback
వ్యతిరేకమైన స్పందన

Question Number : 18 Question Id : 51714410063 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Effective communication across cultural boundaries relies heavily on maintaining _____ attitude.
ప్రభావవంతమైన అంతర్సంస్కృతి సంభాషణ ఈ వైఖరిని కొనసాగించడంపై ఎక్కువగా ఆధారపడి ఉంటుంది.

Options :

1. ✖ negative
ప్రతికూల

2. ✔ positive
సానుకూల

3. ✖ indifferent
ఉదాసీన

4. ✖ aggressive
దూకుడు

Question Number : 19 Question Id : 51714410064 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

Lack of clarity and coherence in providing information, is an example of _____ barrier.
సమాచారాన్ని అందించడంలో స్పష్టత మరియు పొందిక లేకపోవడం_____ అడ్డంకికి ఉదాహరణ

Options :

1. ✖ organizational
సంస్థాగత

2. ✖ psychological
మానసిక

3. ✖ emotional
భావోద్వేగ

4. ✔ semantic
అర్థసంబంధమైన

Question Number : 20 Question Id : 51714410065 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The usage of mobile phones for many functions like : to talk , to watch movies, to send emails is an example of _____
మాట్లాడటం, సినిమాలు చూడటం, ఇమెయిలు పంపడం వంటి అనేక విధుల కోసం మొబైల్ ఫోన్‌ల వినియోగం_____కి ఉదాహరణ

Options :

1.

media convergence
మాధ్యమ కలయిక

2. out-door media
బహిరంగ మాధ్యమం

3. transit media
రవాణా మాధ్యమం

4. traditional media
సాంప్రదాయ మాధ్యమం

Question Number : 21 Question Id : 51714410066 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

10, 14, 22, 38, 70, ___

Options :

1. 130

2. 134

3. 138

4. 140

Question Number : 22 Question Id : 51714410067 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

XTV, UQS, RNP, OKM, ____

Options :

1. ✖ HLJ

2. ✖ JHL

3. ✖ HJL

4. ✔ LHJ

Question Number : 23 Question Id : 51714410068 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In a certain code language if the word LOCAL is coded as MPDBM, then which word is coded as DBMMFS ?

ఒక నిర్దిష్ట కోడ్ భాషలో LOCAL అనే పదం MPDBM గా కోడ్ చేయబడితే, ఏ పదం DBMMFS గా కోడ్ చేయబడింది?

Options :

1. ✖ CARROT

2. ✖ CODING

3. ✔ CALLER

4. ✖ CARING

Question Number : 24 Question Id : 51714410069 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Two numbers are in the ratio 9:11. If 6 is added to the first and subtracted from the second, the ratio reverses. Then the first number is ___

రెండు సంఖ్యలు 9:11 నిష్పత్తిలో ఉన్నాయి. మొదటి దానికి 6 జోడించబడి, రెండవదాని నుండి తీసివేస్తే, నిష్పత్తి రివర్స్ అవుతుంది. అప్పుడు మొదటి సంఖ్య ___

Options :

1. ✖ 18

2. ✔ 27

3. ✖ 36

4. ✖ 45

Question Number : 25 Question Id : 51714410070 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A loss of 12% is incurred by selling an article for Rs. 132. Its cost price **(in Rs.)** is ____

ఒక వస్తువును రూ.132 కి అమ్మడం ద్వారా 12% నష్టం వస్తుంది. దీని ధర ____

Options :

1. ✔ 150

2. ✖ 120

3. ✖ 88

4. ✖ 176

Question Number : 26 Question Id : 51714410071 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Statements:
No building is wall.
Some walls are rooms.
All buildings are rocks.
ప్రకటనలు:
ఏ భవనమూ గోడ కాదు.
కొన్ని గోడలు గదులు.
భవనాలన్నీ రాళ్లే.
Conclusions:
I. No building is room.
II. Some rooms are buildings.
III. Some rocks which are not buildings being walls is possibility.
తీర్మానాలు:
I. ఏ భవనమూ గది కాదు.
II. కొన్ని గదులు భవనాలు.
III. భవనాలు కాని కొన్ని శిలలు గోడలుగా ఉండే అవకాశం ఉంది.

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. III follows

2. Either I or II follows

3. I and III follow

4. III and either I or II follow.

Question Number : 27 Question Id : 51714410072 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In a class of 95 students, 40 play cricket, 50 play football and 10 play both cricket and football. How many students play only football?

95 మంది విద్యార్థుల తరగతిలో, 40 మంది క్రికెట్ ఆడతారు, 50 మంది ఫుట్ బాల్ ఆడతారు మరియు 10 మంది క్రికెట్ మరియు ఫుట్ బాల్ రెండింటినీ ఆడతారు. ఎంత మంది విద్యార్థులు ఫుట్ బాల్ మాత్రమే ఆడతారు?

Options :

1. ✖ 45

2. ✖ 30

3. ✔ 40

4. ✖ 28

Question Number : 28 Question Id : 51714410073 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

How is my father's daughter's mother's only daughter-in-law related to my wife's son ?

నా తండ్రి కుమార్తె తల్లి ఏకైక కోడలు నా భార్య కొడుకుతో ఎలాంటి భాంధవ్యం కలిగి ఉంది ?

Options :

1. ✔ Mother

2. ✖ Father

3. ✖ Brother

4. ✖ Sister

Question Number : 29 Question Id : 51714410074 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The distinction between laukika and alaukika is made with reference to which one of the following pramanas '?

లౌకిక మరియు అలౌకిక మధ్య వ్యత్యాసం ఈ క్రింది వాటిలో ఏ ప్రమాణానికి సంబంధించి చేయబడింది?

Options :

1. ✖ Anumana (Inference)

2. ✖ Upamana (Comparison)

3. ✔ Pratyaksa (Perception)

4. ✖ S'abda (Verbal testimony)

Question Number : 30 Question Id : 51714410075 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which one of the following is signified by the term 'hetu' in the process of anumana (inference) in classical Indian School of Logic?

క్లాసికల్ ఇండియన్ స్కూల్ ఆఫ్ లాజిక్ లో అనుమాన (నిర్ధారణ) ప్రక్రియలో 'హేతు' అనే పదాన్ని ఈ క్రింది వాటిలో ఏది సూచిస్తుంది?

Options :

1. ✖ Example Provided
ఉదాహరణ అందించబడింది

2. ✔ Statement of reason
కారణం యొక్క ప్రకటన

3. ✖ Proposition to be proved
నిరూపించవలసిన ప్రతిపాదన

4. ✖ Conclusion Proved
ముగింపు నిరూపించబడింది

Sub-Section Number :	4
Sub-Section Id :	517144412
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 51714410076 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval

to replay(In Seconds) : 0 Allow Volume Control : No

Question Numbers : (31 to 35)

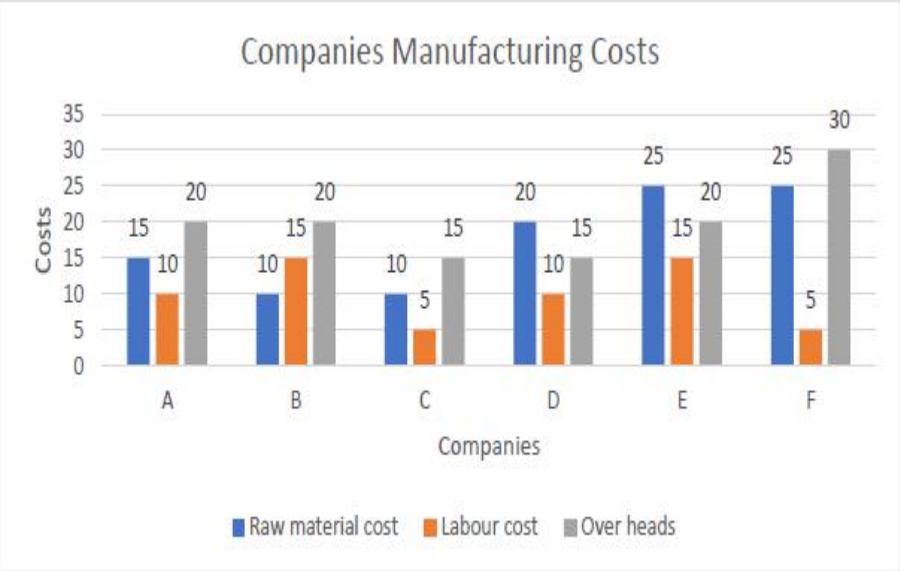
Question Label : Comprehension

Note: Answer the questions Q. 31 to Q. 35 on the basis of the information given below.

గమనిక: క్రింద ఇవ్వబడిన సమాచారం ఆధారంగా Q. 31 నుండి Q. 35 ప్రశ్నలకు సమాధానాలు వ్రాయండి.

Six different companies A, B, C, D, E and F manufactures a similar product . the costs of raw material, labour cost and overheads per unit are given in the following Multiple bar chart.

A, B, C, D, E మరియు F అను ఆరు వేర్వేరు కంపెనీలు ఒకే విధమైన ఉత్పత్తిని తయారు చేస్తాయి. ముడిసరుకు ఖర్చులు, లేబర్ ఖర్చు మరియు యూనిట్‌కు ఓవర్‌హెడ్‌లు క్రింది బహుళ బార్ చార్ట్‌లో ఇవ్వబడ్డాయి.



Sub questions

Question Number : 31 Question Id : 51714410077 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the companies has the maximum cost per unit?
ఏ కంపెనీ యూనిట్‌కు గరిష్ట ధరను కలిగి ఉంది?

Options :

1. ✖ A

2. ✖ B

3. ✖ D

4. ✔ F

Question Number : 32 Question Id : 51714410078 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If company B produces 5,000 units and sells them at Rs. 68, then the profit of the company is __
కంపెనీ B, 5,000 యూనిట్లను ఉత్పత్తి చేసి యూనిట్ ను రూ. 68, అమ్మిన, అప్పుడు కంపెనీ లాభం __

Options :

1. ✖ Rs. 1,65,000

2. ✖ Rs. 1,40,000

3. ✔ Rs. 1,15,000

4. ✖ Rs. 1,55,000

Question Number : 33 Question Id : 51714410079 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following statements is true?
కింది ప్రకటనలలో ఏది నిజం?

Options :

1. ✖ The labour costs, of E and F are same.
E మరియు F యొక్క లేబర్ ఖర్చులు ఒకేలా ఉంటాయి.

2. ✖ The ratio of costs, Overheads and labour is same for A, B and E.
ఖర్చులు, ఓవర్‌హెడ్‌లు మరియు లేబర్‌ల నిష్పత్తి A, B మరియు Eలకు సమానంగా ఉంటుంది.

3. ✔ The ratio of total cost of A and that of D is same as the ratio of total cost of E and that of F
A మరియు D యొక్క మొత్తం ధర యొక్క నిష్పత్తి E మరియు F యొక్క మొత్తం ధర యొక్క నిష్పత్తికి సమానంగా ఉంటుంది

4. ✖ Labour cost of E is less then labour cost of F
E లేబర్ కాస్ట్ F లేబర్ కాస్ట్ కన్నా తక్కువ

Question Number : 34 Question Id : 51714410080 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Company D can produce a maximum of 1000 units per day and company F can produce upto 800 units per day. If these companies sell their products at Rs 60 and Rs 80 respectively, then what percentage of D's profit is F's profit in the total maximum production of 10 days?
కంపెనీ D రోజుకు గరిష్ఠంగా 1000 యూనిట్లను ఉత్పత్తి చేయగలదు మరియు కంపెనీ F రోజుకు 800 యూనిట్ల వరకు ఉత్పత్తి చేయగలదు. ఈ కంపెనీలు తమ ఉత్పత్తులను వరుసగా రూ. 60 మరియు రూ. 80కి విక్రయిస్తే, 10 రోజుల గరిష్ఠ ఉత్పత్తిలో, F యొక్క లాభం లో D యొక్క లాభం ఎంత శాతం ?

Options :

1. ✔ 15: 16

2. ✖ 3: 4

3. ✖ 7 : 8

4. ✖ 9 : 10

Question Number : 35 Question Id : 51714410081 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If after a few changes in the production process, the labour costs of B and C become equal, then what will be the ratio of the total cost of the companies?
ఉత్పత్తి ప్రక్రియలో కొన్ని మార్పుల తర్వాత, B మరియు C యొక్క లేబర్ ఖర్చులు సమానంగా మారితే, కంపెనీల మొత్తం ఖర్చు నిష్పత్తి ఎంత ఉంటుంది?

Options :

1. ✖ 1 : 1

2. ✖ 1 : 2

3. ✖ 1 : 3

4. ✔ Can not be determined
నిర్ణయించడం సాధ్యం కాదు

Sub-Section Number : 5

Sub-Section Id : 517144413

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 36 Question Id : 51714410082 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

VIRUS stands for ?
వైరస్ అనగా

Options :

1. ✖ Very Important Record User Searched

2. ✖ Verified Interchanged Result Under Source

3. ✖ Very Important Resource Under Search

4. ✔ Vital Information Resource Under Siege

Question Number : 37 Question Id : 51714410083 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The term Internet means .....
ఇంటర్నెట్ అనగా

Options :

1. ✔ Interconnected Network

2. ✖ International Network

3. ✖ Interactive Network

4. ✖ Internal Network

Question Number : 38 Question Id : 51714410084 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

SWAYAM platform was developed by Ministry of Education, IIT Madras and .....
స్వయం వేదికను అభివృద్ధి చేసినది విద్యామంత్రిత్వ శాఖ, ఐ.ఐ.టి మద్రాసు, మరియు.....

Options :

1. ✔ NPTEL

2. ✖ NCERT

3. ✖ UGC

4. ✖ Both A and B
A మరియు B రెండును

Question Number : 39 Question Id : 51714410085 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What is the full form of USB as used in computer-related activities?
కంప్యూటర్‌కు సంబంధించిన కార్యక్రమాలలో ఉపయోగించిన యు.ఎస్.బి
పూర్తి నామం

Options :

1. ✖ Universal Security Block

2. ✔ Universal Serial Bus

3. ✖ United Serial Bus

None of the above

పైవేవి కావు

4. ✖

Question Number : 40 Question Id : 51714410086 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

..... is a type of memory circuitry that holds the computer's start-up routine.
కంప్యూటరు ప్రారంభ దినచర్యను పట్టుకొనే జ్ఞాపక శక్తి, మెమొరి రన్‌ను

Options :

1. ✖ RAM

2. ✔ ROM

3. ✖ RIM

4. ✖ Cache Memory

Question Number : 41 Question Id : 51714410087 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In which year did the word 'sustainable development' come into existence?
నిలకడ అభివృద్ధి' ఏ సంవత్సరం వాడుకలోనికి వచ్చినది?

Options :

1. ✖ 1992

2. ✖ 1978

3. ✖ 1980

4. ✔ 1987

Question Number : 42 Question Id : 51714410088 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The tropical region lays between ……^{0}N to ……^{0}S
ఉష్ణమండల ప్రాంతము ……^{0}ఉ నుండి……^{0}ద మధ్య ఉంటుంది

Options :

1. ✔ 10, 10

2. ✖ 20, 20

3. ✖ 30, 30

4. ✖ 40, 40

Question Number : 43 Question Id : 51714410089 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

What is the total percentage of nitrogen gas in the air?
గాలిలో నైట్రోజను వాయువు మొత్తం శాతం ఎంత ?

Options :

1. ✖ 12 per cent
12 శాతం

2. ✖ 21per cent
21 శాతం

3. ✔ 78 per cent
78 శాతం

4. ✖ 87 per cent
87 శాతం

Question Number : 44 Question Id : 51714410090 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following processes explains the working of a geothermal power plant?
దిగువ ఏ ప్రక్రియ జియోథెర్మాల్ పవరు ప్లాంటు పనితీరును వివరిస్తుంది

Options :

1. ✖ use of potential energy to produce electricity
విద్యుచ్ఛక్తి ఉత్పదనకు సంభావ్య శక్తి వినియోగం

2. ✔ use of thermal energy to produce electricity
విద్యుచ్ఛక్తి ఉత్పదనకు ఉష్ణశక్తి వినియోగం

3. ✖ use of kinetic energy to produce electricity
విద్యుచ్ఛక్తి ఉత్పదనకు గతితార్కిక శక్తి వినియోగం

4. ✖ use of tidal energy to produce electricity
విద్యుచ్ఛక్తి ఉత్పదనకు అలల శక్తి వినియోగం

Question Number : 45 Question Id : 51714410091 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Kyoto Protocol (1997) was related to.....
1997 క్యోటో ప్రోటోకాల్ దీనికి సంబంధించినది

Options :

1. ✖ Protection of Ozone Layer
ఓజోన్ పొరను రక్షించుట

2. ✔ Reduction in Green House Gas emissions
ఆకుపచ్చ గృహ వాయు ఉద్గారాలను తగ్గించుట

3. ✖ Conservation of Biodiversity
బయోడైవర్సిటీ పరిరక్షణ

4. ✖ Limiting the rise in global temperature
ప్రపంచ వేడిమిలో పెరుగుదలను పరిమితం చేయుట

Question Number : 46 Question Id : 51714410092 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which was a famous Cultural and Educational Center of Northern University in ancient India
ప్రాచీన భారత ఉత్తర విశ్వవిద్యాలయపు పేరొందిన సాంస్కృతిక విద్యాకేంద్రమేది

Options :

1. ✖ Takhyasila

2. ✖ Bikramshila

3. ✖ Valabi University

4. ✔ Nalanda

Question Number : 47 Question Id : 51714410093 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Educational TV was first introduced in India in the year.....
ఇండియాలో మొదటిసారిగా విద్యా టి.వి ని ప్రవేశపెట్టిన సంవత్సరం

Options :

1. ✖ 1961

2. ✔ 1959

3. ✖ 1968

4. ✖ 1965

Question Number : 48 Question Id : 51714410094 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following is an example of non-conventional learning programme in India?
ఇండియాలో సాంప్రదాయేతర అభ్యాస కార్యక్రమమునకు ఉదాహరణ

Options :

1. ✖ Information Technology
సమాచార సాంకేతికత

2. ✖ Dentistry
దంతవైద్యము

3. ✖ Journalism
పాత్రికేయము

4. ✔ Hotel Management
హోటల్ నిర్వహణ

Question Number : 49 Question Id : 51714410095 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Every system of education is based on?
ప్రతీ విద్యా పద్ధతీ దీనిపై ఆధారపడి ఉంది

Options :

1. ✔ Ideology of nation
దేశ భావజాలము

2. ✖ Social development
సాంఘికాభివృద్ధి

3. ✖ Intellectual development
మేధోవృద్ధి

4. ✖

Skill development
నైపుణ్యాభివృద్ధి

Question Number : 50 Question Id : 51714410096 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

CLASS stands for
CLASS అనగా

Options :

1. ✖ Complete Literacy and Studies in Schools

2. ✖ Computer Literates and Students in Schools

3. ✔ Computer Literacy and Studies in Schools

4. ✖ Centre for Literacy and Studies in Schools

Paper II

Section Id :	517144134
Section Number :	2
Section type :	Online

Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	200
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	517144414
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 51 Question Id : 51714410097 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The divergence of the vector field $F = 4xi+3xy^2j+xyz^3k$ at the point (2, 2, 1) is

Options :

1. ✖ 80

2. ✖ 50

3. ✔ 40

4. ✖ 24

Question Number : 52 Question Id : 51714410098 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If x and y are two complex numbers, then which of the following is true?

Options :

1. ✖ $|x + y| = |x| + |y|$ and $|x - y| = |x| - |y|$

2. ✖ $|x + y| \geq |x| + |y|$ and $|x - y| \leq |x| - |y|$

3. ✔ $|x + y| \leq |x| + |y|$ and $|x - y| \geq |x| - |y|$

4. ✖ $|x + y| \geq |x| + |y|$ and $|x - y| \geq |x| - |y|$

Question Number : 53 Question Id : 51714410099 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The general heat conduction equation which gives the temperature distribution conduction heat flow in an isotropic solid reduce to Laplace equation when the body is in

Options :

1. ✖ unsteady-state with heat generation

2. ✖ steady-state with heat generation

3. ✖ unsteady-state with no heat generation

4. ✔ steady-state with no heat generation

Question Number : 54 Question Id : 51714410100 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The order of convergence of the Newton-Raphson method is

Options :

1. ✖ 0

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 55 Question Id : 51714410101 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If 'n' is the number of trials and 'p' is the probability of success in a Binomial distribution, then the mean value is given by

Options :

1. ✖ n

2. ✖ p

3. ✔ np

4. ✖ n/p

Question Number : 56 Question Id : 51714410102 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The value of $J_{1/2}$, J is a Bessel function, is

Options :

1. ✖ $\sqrt{(2\pi/x)}\sin x$

2. ✔ $\sqrt{(2/\pi x)}\sin x$

3. ✖ $\sqrt{(2/\pi x)} \cos x$

4. ✖ $\sqrt{(2x/\pi)} \sin x$

Question Number : 57 Question Id : 51714410103 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The central limit theorem states that the sample size

Options :

1. ✔ increases sampling distribution must approach normal distribution

2. ✖ decreases then the sample distribution must approach normal distribution

3. ✖ increases then the sampling distribution much approach an exponential distribution

4. ✖ decreases then the sampling distribution much approach an exponential distribution

Question Number : 58 Question Id : 51714410104 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following function f(x), of complex variable, is not analytic at all the points of the complex plane?

Options :

1. ✖ $f(x) = e^x$

2. ✖ $f(x) = \sin x$

3. ✖ $f(x) = \cos x$

4. ✔ $f(x) = \log x$

Question Number : 59 Question Id : 51714410105 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The functions in Green's theorem are mathematically

Options :

1. ✖ Continuous derivatives

2. ✖ Discrete derivatives

3. ✔ Continuous partial derivatives

4. ✖ Discrete partial derivatives

Question Number : 60 Question Id : 51714410106 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The final corrector of the fourth-order Runge-Kutta method uses

Options :

1. ✖ Midpoint rule

2. ✖ Backward Euler method

3. ✖ Trapezoidal rule

4. ✔ Simpson's rule

Question Number : 61 Question Id : 51714410107 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The number of intervals in the Simpson's ⅓rd rule must be

Options :

1. ✖ odd

2. ✔ even

3. ✖ multiples of 3

4. ✖ multiples of 6

Question Number : 62 Question Id : 51714410108 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The Lagrange's interpolation method can be used for

Options :

1. ✖ unequal intervals only

2. ✖ equal intervals only

3. ✔ both equal and unequal intervals

4. ✖ none of these

Question Number : 63 Question Id : 51714410109 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The most unstable average is

Options :

1. ✖ geometric mean

2. ✖ mean

3. ✔ mode

4. ✖ median

Question Number : 64 Question Id : 51714410110 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the force applied to a body is doubled and the mass is cut in half, then the accelerations' ratio?

Options :

1. ✖ 1 : 2

2. ✖ 2 : ½

3. ✖ ½ : 2

4. ✔ 1 : 4

Question Number : 65 Question Id : 51714410111 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The mass of a body is 2 kg, and it is moving on a horizontal surface with a velocity of 4 m/s, but comes to rest after 2 seconds. If one wants the body to move with the same initial velocity, the force to be applied to it is

Options :

1. ✖ 8 N

2. ✔ 4 N

3. ✖ 2 N

4.

0 N

Question Number : 66 Question Id : 51714410112 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If P, Q, and R be the functions of phase space variables of coordinates and momenta of a mechanical system, then the value of
$\{P, \{Q, R\}\} - \{\{P, Q\}, R\}$ is given by
here $\{\ ,\ \}$ represents the Poisson's bracket.

Options :

1. $\{\{R, P\}, Q\}$

2. $\{Q,\{R, P\}\}$

3. $\{P, \{R, Q\}\}$

4. 0

Question Number : 67 Question Id : 51714410113 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The hours hand of a clock has how many degrees of freedom?

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 6

Question Number : 68 Question Id : 51714410114 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The D' Alembert Principle and Principle of virtual work

Options :

1. ✖ both are same

2. ✖ one exists and other one never

3. ✔ one is for motion and other is for rest

4. ✖ none of these

Question Number : 69 Question Id : 51714410115 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The dynamics of a particle governed by the Lagrangian $L = \frac{1}{2} m\dot{x}^2 - \frac{1}{2} kx^2$ describes

Options :

1. ✖ a free particle

2. ✖ a damped harmonic oscillator

3. ✖ an undamped harmonic oscillator with a time dependent frequency

4. ✔ an undamped simple harmonic oscillator

Question Number : 70 Question Id : 51714410116 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

When an elevator is stationary, a coin dropped from height 'h' reaches the floor in time t_1 and if elevator is moving uniformly the same coin is dropped from the same height reaches floor in time t_2, then which of the following is correct?

Options :

1. ✖ $t_1 > t_2$

2. ✖ $t_1 < t_2$

3. ✔ $t_1 = t_2$

4. ✖ $t_1 < t_2$ or $t_1 > t_2$ depending on whether the lift is going up or down

Question Number : 71 Question Id : 51714410117 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The Poisson bracket $\{x, a\, p_x - y\, p_z + b\, z^2\}$ is equal to
where a and b are constants.

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

1. x

2. y

3. z

4. p_x

Question Number : 72 Question Id : 51714410118 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The relation between phase velocity, u, and group velocity, v_g, is

Options :

1. ✔ $v_g = u + k\frac{du}{dk}$

2. ✖ $u = v_g + k\frac{du}{dk}$

3. ✖ $v_g = u - k\frac{du}{dk}$

4. ✔ $u = v_g - k\frac{du}{dk}$

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 73 Question Id : 51714410119 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the kinetic energy of a particle is equal to its rest energy, then the speed of it is

Options :

1. ✖ 0

2. ✖ $c/2$

3. ✖ $2c/3$

4. ✔ $\frac{\sqrt{3}}{2}c$

Question Number : 74 Question Id : 51714410120 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If $I_1 = I_2 \neq I_3$, then the body is called _____ top.

Options :

1. ✖ asymmetrical

2. ✔ symmetrical

3. ✖ spherical

4. ✖ none of these

Question Number : 75 Question Id : 51714410121 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The rank of moment of inertia is

Options :

1. ✖ zero

2. ✖ one

3. ✔ two

4. ✖ three

Question Number : 76 Question Id : 51714410122 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

To contract the length of a rod to 95% of its original length, the speed of the rod relative to an observer is
Where c is the speed of the light?

Options :

1. ✖ 0.1 c

2. ✖ 0.2 c

3. ✔ 0.3 c

4. ✖ 0.4 c

Question Number : 77 Question Id : 51714410123 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The electric field and magnetic fields associated with magnetic vector potential are

Options :

1. ✖ $E = \nabla \times A$ and $H = -\frac{\partial A}{\partial t}$

2. ✔ $E = -\frac{1}{c}\frac{\partial A}{\partial t}$ and $H = \nabla \times A$

3. ✖ $E = -\frac{1}{c}\frac{\partial A}{\partial t}$ and $H = \nabla . A$

4. ✖ $E = \nabla \cdot A$ and $H = -\frac{\partial A}{\partial t}$

Question Number : 78 Question Id : 51714410124 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the two thin parallel wires carrying currents in opposite direction, then the force experienced by one due to other is

Options :

1. ✖ Zero

2. ✖ Parallel to the lines

3. ✖ Perpendicular to the lines and attractive

4. ✔ Perpendicular to the lines and repulsive

Question Number : 79 Question Id : 51714410125 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the speed of the electromagnetic wave in the medium is 1.5×10^{10} m/s then the refractive index of a medium is (Take the speed of the electromagnetic wave in free space as 3×10^{10} m/s)

Options :

1. ✔ 0.2

2. ✔ 0.5

3. ✔ 2

4. ✔ 4.5

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 80 Question Id : 51714410126 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If a plane wave in the free space is normally incident on an infinitely thick dielectric slab having dielectric constant 9 then the magnitude of the reflection coefficient is

Options :

1. ✖ 1

2. ✔ 0.5

3. ✖ 0.3

4. ✖ 0

Question Number : 81 Question Id : 51714410127 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The following two parameters are same in conductors

Options :

1. ✖ Skin depth and phase constant

2. ✖ Skin depth and wavelength

3. ✖ Attenuation constant and skin depth

4. ✔ Phase and attenuation constant

Question Number : 82 Question Id : 51714410128 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The following condition always holds good in a wave guide

Options :

1. ✖ group velocity is equal to light velocity

2. ✖ phase velocity is equal to light velocity

3. ✔ phase velocity is greater than light velocity

4. ✖ phase velocity is less than light velocity

Question Number : 83 Question Id : 51714410129 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In a collision less plasma, when the radio frequency is equal to the plasma frequency, the displacement current due to electromagnetic wave is

Options :

1. ✖ equal to conduction current

2. ✔ equal and opposite to the conduction current

3. ✖ equal to eddy currents

4. ✖ the product of conduction current and vacuum permittivity

Question Number : 84 Question Id : 51714410130 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The wavelength of electromagnetic waves produced by the charged oscillator, which oscillates about its mean position with a frequency of 300 MHz, is

Options :

1. ✔ 1 m

2. ✖ 3 m

3. ✖ 10 m

4. ✖ 100 m

Question Number : 85 Question Id : 51714410131 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

One of the Lienard-Wiechert Potentials is

Options :

1. ✔ $V(\mathbf{r}, t) = \frac{1}{4\pi\varepsilon_0}\frac{q}{r - \mathbf{r}.\mathbf{v}/c}$

2. ✖ $V(\mathbf{r}, t) = \frac{1}{4\pi\varepsilon_0}\frac{r - \mathbf{r}.\mathbf{v}/c}{q}$

3. ✖ $V(\mathbf{r}, t) = \frac{1}{4\pi\varepsilon_0}\frac{q}{1 - \mathbf{r}.\mathbf{v}/c}$

4. ✖ $V(\mathbf{r}, t) = \frac{1}{4\pi\varepsilon_0}\frac{q}{r - \mathbf{v}/c}$

Question Number : 86 Question Id : 51714410132 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Match the following

A: Stern-Gerlach experiment	1: Wave nature of electrons
B: Davisson-Germer experiment	2: Quantization of energy of electrons in the atoms
C: Frank-Hertz experiment	3: Existence of electron spin
D: Zeeman effect	4: Space quantization of angular Momentum

Options :

1. ✖ A-3, B-2, C-4, D-1

2. ✖ A-3, B-4, C-1, D-2

3. ✔ A-3, B-1, C-2, D-4

4. ✖ A-2, B-3, C-4, D-1

Question Number : 87 Question Id : 51714410133 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the perturbation energy is proportional to x^3 then the first order perturbation energy for a perturbed harmonic oscillator is

Options :

1. ✔ zero

2. ✖ $-\hbar\omega$

3. ✖ $-$ const. $n\hbar\omega$

4. ✖ $(n + ½)\ \hbar\omega$

Question Number : 88 Question Id : 51714410134 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the life time of a state of an atom is 2×10^{-2} sec then the uncertainty in its energy
(given $h = 6.63 \times 10^{-34}$ Joule-sec)

Options :

1. ✖ 3×10^{-16} eV

2. ✔ 1.6×10^{-14} eV

3. ✖ 9×10^{-15}

4. ✖ 9×10^{-10} eV

Question Number : 89 Question Id : 51714410135 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The commutator $[L_x, p_y] =$
Where L_x and p_y are the angular and linear momentum operators of a particle?

Options :

1. ✖ $-i\hbar p_z$

2. ✖ 0

3. ✖ $i\hbar p_y$

4. ✔ $i\hbar p_z$

Question Number : 90 Question Id : 51714410136 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

By coupling three p electrons, the total angular momentum states are

Options :

1. ✔ 27

2. ✖ 16

3. ✖ 9

4. ✖ 3

Question Number : 91 Question Id : 51714410137 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The relation between magnetic dipole moment, μ, and vector angular momentum, L, is

Options :

1. ✖ $\mu = -\frac{e}{m}L$

2. ✔ $\mu = -\frac{e}{2m}L$

3. ✖ $-e\,m\,L$

4. ✖ $\frac{2m}{e}$ L

Question Number : 92 Question Id : 51714410138 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

According to first Born approximation, the scattering amplitude

Options :

1. ✔ depends on the momentum transfer only and not on the initial momentum

2. ✖ depends on the initial momentum and not on the momentum transfer

3. ✖ does not depend on the initial momentum and momentum transfer

4. ✖ depends on both initial momentum and momentum transfer

Question Number : 93 Question Id : 51714410139 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In the scattering theory, the optical theorem relates the total scattering cross-section to the _____ scattering amplitude

Options :

1. ✔ imaginary part of the forward

2. ✖ real part of the forward

3. ✖ real and imaginary parts of forward

4. ✖ real part of the backward

Question Number : 94 Question Id : 51714410140 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In the time dependent perturbation theory, the first order transition amplitude, $a_f^{(1)}(t)$, is

Options :

1. ✖ $a_f^{(1)}(t) = \frac{1}{i\hbar}\int_0^t H'_{fi}(t')\, e^{i(kx-\omega_{fi}t')}dt'$

2. ✔ $a_f^{(1)}(t) = \frac{1}{i\hbar}\int_0^t H'_{fi}(t')\, e^{i\omega_{fi}t'}dt'$

3.

✖ $a_f^{(1)}(t) = \frac{1}{i\hbar}\int_0^t H'_{fi}(t')\, e^{ikx'}\ dx'$

4. ✖ $a_f^{(1)}(t) = \int_0^t H'_{fi}(t')\, e^{i(kx-\omega_{fi}t')}dt'$

Question Number : 95 Question Id : 51714410141 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The commutator $[\alpha_x\alpha_y, \alpha_x] =$

Where α's are Dirac matrices?

Options :

1. ✔ $-2\alpha_y$

2. ✖ $-2\alpha_x$

3. ✖ $2\alpha_z$

4. ✖ $2\alpha_x$

Question Number : 96 Question Id : 51714410142 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Major predictions of the Dirac theory of the spin ½ particle is

Options :

1. ✖ magnetic moment

2. ✖ spin orbit interaction

3. ✖ concept of hole

4. ✔ all of these

Question Number : 97 Question Id : 51714410143 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In the Hydrogen spectra, the wavelength (in nanometers) of the spectral line of Balmer series for n = 3 is
(Rydberg constant R = 1.1 x 10^7 m^{-1})

Options :

1. ✔ 685

2. ✖ 485

3. ✖ 285

4. ✖ 185

Question Number : 98 Question Id : 51714410144 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The emitter coupled multivibrator is designed so that its hysteresis is negligible. The circuit is referred as

Options :

1. ✔ square wave generator

2. ✖ saw tooth wave generator

3. ✖ triangular wave generator

4. ✖ rectangular wave generator

Question Number : 99 Question Id : 51714410145 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A

Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Transistor is a _____ device.

Options :

1. ✖ voltage-controlled

2. ✖ resistance controlled

3. ✖ input controlled

4. ✔ current controlled

Question Number : 100 Question Id : 51714410146 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

One of the properties of an ideal OPAMP is

Options :

1. ✖ Infinite output impedance

2. ✖ Zero input impedance

3. ✖ Zero open loop gain

4. ✔ None of these

Question Number : 101 Question Id : 51714410147 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

In A/D converter, the sampling period T should be _____ the duration of sample mode and hold mode

Options :

1. ✖ equal to

2. ✖ smaller than

3. ✔ larger than

4. ✖ smaller than or equals to

Question Number : 102 Question Id : 51714410148 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control :

No

Correct Marks : 2 Wrong Marks : 0

An a.c. signal conditioning system is used for

Options :

1. ✔ Capacitive transducers

2. ✖ Piezoelectric transducers

3. ✖ Resistive transducers

4. ✖ Temperature transducers

Question Number : 103 Question Id : 51714410149 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Number of flip-flops in a flag register of 8085 microprocessor

Options :

1. ✖ 4

2. ✔ 5

3. ✖ 7

4. ✖ 10

Question Number : 104 Question Id : 51714410150 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A microcontroller should at least consist of the following

Options :

1. ✖ RAM, ROM, I/O ports and timers

2. ✖ CPU, RAM, ROM

3. ✔ CPU, RAM, ROM, I/O ports and timers

4. ✖ CPU, ROM, I/O ports and timers

Question Number : 105 Question Id : 51714410151 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If $A = 3.56 \pm 0.05$ and $B = 3.25 \pm 04$, the value of $A + B$

Options :

1. ✔ $6.09 \leq A + B \leq 6.81$

2. ✔ $6.72 \leq A + B \leq 6.90$

3. ✔ $6.81 \leq A + B \leq 6.90$

4. ✔ $6.71 \leq A + B \leq 6.\ 91$

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 106 Question Id : 51714410152 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The best definition of precision is

Options :

1. ✖ The accuracy of a measurement

2. ✖ how close a value is to the true value technique is

3. ✔ a measure of the reproducibility of a result

a measure of how good an expt.

4. ✖

Question Number : 107 Question Id : 51714410153 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The distribution used for testing a hypothesis is

Options :

1. ✔ Normal Distribution

2. ✖ Chi-Squared Distribution

3. ✖ Gamma Distribution

4. ✖ Poisson Distribution

Question Number : 108 Question Id : 51714410154 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A device that transforms one form of energy to another is called

Options :

1. ✖ Transformer

2. ✔ Transducer

3. ✖ Transistor

4. ✖ diode

Question Number : 109 Question Id : 51714410155 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

During Bose-Einstein condensation all the atoms fall back to the

Options :

1. ✖ Highest Exited state

2. ✖ First exited state

3. ✔ Ground state

4. ✖ none of these

Question Number : 110 Question Id : 51714410156 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The Gibb's function G = H - TS, in thermodynamics, in an isothermal, isobaric and reversable process

Options :

1. ✖ is zero

2. ✖ linearly varies

3. ✖ non-linearly varies

4. ✔ remains constant but not zero

Question Number : 111 Question Id : 51714410157 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The incorrect thermodynamic Maxwell relation is

Options :

1. ✔ $(\partial T/\partial v)_s = (\partial p/\partial s)_v$

2. ✖ $(\partial T/\partial p)_s = (\partial v/\partial s)_p$

3. ✖ $(\partial p/\partial T)_v = (\partial s/\partial v)_T$

4. ✖ $(\partial v/\partial T)_p = -(\partial s/\partial p)_T$

Question Number : 112 Question Id : 51714410158 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The relation between thermodynamic probability and entropy is

Options :

1. ✖ thermodynamic probability does not depend on entropy

2. ✖ thermodynamic probability decreases with entropy

3. ✔ thermodynamic probability increases with entropy

4. ✖ none of the above

Question Number : 113 Question Id : 51714410159 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Canonical ensemble is related to

Options :

1. ✖ degrees of the freedom of the system

2. ✖ number of particles in the system

3. ✔ thermal equilibrium of the system

4. ✖ size of the system

Question Number : 114 Question Id : 51714410160 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The number of photons emitted per second by the 100-watt bulb which emits monochromatic light of wavelength 400 nm (given h = 6.623 x 10^{-34} J-Sec)

Options :

1. ✖

$2 \times 10^{25}\ s^{-1}$

2. ✔ $2 \times 10^{20}\ s^{-1}$

3. ✖ $2 \times 10^{10}\ s^{-1}$

4. ✖ $4 \times 10^{-10}\ s^{-1}$

Question Number : 115 Question Id : 51714410161 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following statement is true?

Options :

1. ✖ If ΔH and ΔS are positive, then the reaction is spontaneous at low temperature

2. ✖ If ΔH and ΔS are both negative then the reaction is spontaneous at high temperature

3. ✖ If ΔH is positive and ΔS is negative, then ΔG will always be positive; the reaction is non-spontaneous and exergonic

4.

If $\Delta G=0$, then the system is in equilibrium.

Question Number : 116 Question Id : 51714410162 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The continuous phase transitions are

Options :

1. Fourth-order phase transitions

2. Third-order phase transitions

3. Second-order phase transitions

4. None of these

Question Number : 117 Question Id : 51714410163 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

According to Fermi-Dirac statistics, the number of ways 3 particles can be distributed in 4 energy states are

Options :

1. ✖ 3

2. ✔ 4

3. ✖ 7

4. ✖ 12

Question Number : 118 Question Id : 51714410164 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

When the rotational absorption spectrum of a diatomic molecule with equilibrium lines with spacing 20 cm^{-1} then the position of first Stokes line in the rotational Raman spectrum of a molecule is

Options :

1. ✖ 100 cm^{-1}

2. ✖ 120 cm^{-1}

3. ✖ 140 cm^{-1}

4. ✔ $60\ cm^{-1}$

Question Number : 119 Question Id : 51714410165 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The natural line width of a spectral line in the emission spectrum of an atomic state, with lifetime 10 nanoseconds, is of the order of

Options :

1. ✔ 10^{-7} eV

2. ✖ 10^{-5} eV

3. ✖ 10^{-3} eV

4. ✖ 10^{-1} eV

Question Number : 120 Question Id : 51714410166 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the energy of the first excited state of a rigid rotator is 1.5 meV, then the third excited state energy (in meV) is

Options :

1. ✖ 3

2. ✖ 6

3. ✔ 9

4. ✖ 12

Question Number : 121 Question Id : 51714410167 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Chemical shifts are due to

Options :

1. ✔ electrons shielding

2. ✖ magnetic momentum

3. ✖ nuclear magnetic moment

4. ✖ scalar coupling (J -coupling)

Question Number : 122 Question Id : 51714410168 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The possible transitions in the presence of a weak magnetic field from $2P_{3/2} \rightarrow 2S_{1/2}$ is

Options :

1. ✖ 0

2. ✖ 2

3. ✖ 4

4. ✔ 6

Question Number : 123 Question Id : 51714410169 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Which of the following is the correct order of energies involved in the molecular spectra?

Where E_r, E_v, E_t and E_e represent rotational, vibrational, translational and electronic energies, respectively?

Options :

1. ✖ $E_t > E_r > E_v > E_e$

2. ✔ $E_e > E_v > E_r > E_t$

3. ✖ $E_v > E_r > E_e > E_t$

4. ✖ $E_e < E_v < E_r < E_t$

Question Number : 124 Question Id : 51714410170 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The gyromagnetic ratio is the ratio of _____ of a spinning charged particle

Options :

1. ✖ Angular moment to magnetic moment

2. ✖ potential energy to magnetic moment

3. ✔ magnetic moment to angular momentum

4. ✖ magnetic moment to potential energy

Question Number : 125 Question Id : 51714410171 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

For the normal Zeeman Effect, the selection rules are

Options :

1. ✖ $\Delta M_j = 0$

2. ✔ $\Delta M_l = 0, \pm 1$

3. ✖ $\Delta M_j = \pm 1$

4. ✖ $\Delta M_j = 0, \pm 1$

Question Number : 126 Question Id : 51714410172 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If B_{12} and B_{21} represent the Einstein stimulated absorption and stimulated emission coefficients, then the relation between them is

Options :

1. ✖ $B_{12} < B_{21}$

2. ✖ $B_{12} > B_{21}$

3. ✔ $B_{12} = B_{21}$

4. ✖ no relation

Question Number : 127 Question Id : 51714410173 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The coherence length of a sodium yellow light (5893×10^{-10} m), in 10^{-10} pulse duration, is

Options :

1. ✖ 1×10^{-1} m

2. ✔ 3×10^{-2} m

3. ✖ 2×10^{-4} m

4. ✖ 4×10^{-4} m

Question Number : 128 Question Id : 51714410174 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A point in reciprocal space represents in real space is

Options :

1. ✖ a unit cell

2. ✖ a lattice point

3. ✔ a plane

4. ✖ none of these

Question Number : 129 Question Id : 51714410175 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Match the following

i) Monoclinic	p) $a = b = c$	$\alpha = \beta = \gamma \neq 90$
ii) Tetragonal	q) $a \neq b \neq c$	$\alpha = \beta = \gamma = 90$
iii) Rhombohedral	r) $a \neq b \neq c$	$\alpha = \beta = 90 \neq \gamma$
iv) Orthorhombic	s) $a = b \neq c$	$\alpha = \beta = \gamma = 90$

Options :

1. ✔ i – r; ii – s; iii – p; iv – q

2. ✖ i – s; ii – r; iii – q; iv – p

3. ✖ i – q; ii – s; iii – p; iv – r

4. ✖ i – q; ii – r; iii – s; iv – p

Question Number : 130 Question Id : 51714410176 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The second Brillouin zone range of k-values

Options :

1. ✖ from 0 to $2\pi/a$

2. ✖ 0 to $-2\pi/a$

3. ✖ $-2\pi/a$ to $2\pi/a$

4. ✔ $-\pi/a$ to $-2\pi/a$ and $+\pi/a$ to $+2\pi/a$

Question Number : 131 Question Id : 51714410177 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The drift velocity of free electrons with mobility of 1.5×10^{-3} m^2/Vs in an electric field strength of 0.5 V/m is

Options :

1. ✖ 0.75 m/s

2. ✖ 3.0 m/s

3. ✔ 0.75×10^{-2} m/s

4. ✖ 3.0×10^{2}

Question Number : 132 Question Id : 51714410178 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the Hall Effect coefficient is 3 cm^3/c and carrier mobility is 3 cm^2 /s then the conductivity is

Options :

1. ✔ 1 S/m

2. ✔ 0.1 S/m

3. ✔ 0.001S/m

4. ✔ 0.0001 S/m

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 133 Question Id : 51714410179 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

For HCP and FCC structures the atomic packing factors are

Options :

1. ✔ 0.74 and 0.74

2. ✖ 0.74 and 0.68

3. ✖ 0.68 and 0.52

4. ✖ 0.96 and 0.74

Question Number : 134 Question Id : 51714410180 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The binding energy for a cooper pair is

Options :

1. ✖ 1 eV

2. ✖ 10^{-1} eV

3. ✔ 10^{-4} eV

4. ✖ 10^{-6} eV

Question Number : 135 Question Id : 51714410181 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If X-ray beam of wavelength of 0.1 nm incident at an angle 30^0 diffracts in the first order, then the separations of the sets of planes, in nm, is

Options :

1. ✖ 0.01

2. ✖ 0.05

3. ✔ 0.1

4. ✖ 1.0

Question Number : 136 Question Id : 51714410182 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If the number density of a free electron gas, in three dimensions, is increased by eight times then its Fermi temperature

Options :

1. ✔ increases by a factor of 4

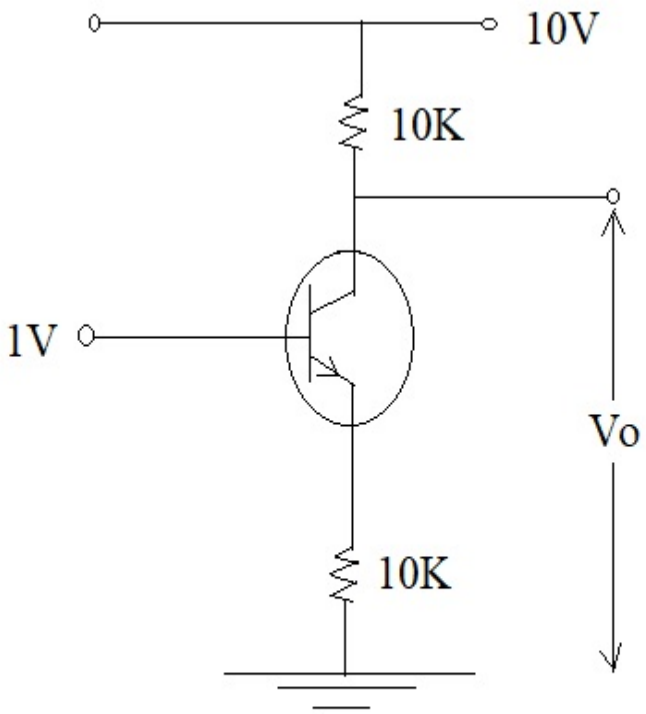
2. ✖ increases by a factor of 8

3. ✖ decreases by a factor of 4

4. ✖ decreases by a factor of 8

Question Number : 137 Question Id : 51714410183 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0



In the circuit shown , the output voltage Vo is equal to

Options :

1. ✖ 10 V

2. ✖ 9 V

3. ✔

0 V

4. ✖ 11 V

Question Number : 138 Question Id : 51714410184 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Assertion: Quasicrystals form when certain molten alloys cool very slowly
Reason: Quasi-crystals have short-range as well as long-range order in their arrangements

Options :

1. ✖ Both assertion and reason are incorrect.

2. ✖ The assertion and the reason are correct.

3. ✖ The assertion is not correct but the explanation of reason is correct.

4. ✔ the assertion as well as the reason are correct, but the reason is not the correct explanation of the assertion.

Question Number : 139 Question Id : 51714410185 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The Majorona force is the _____force.

Options :

1. ✔ Space exchange

2. ✖ spin exchange

3. ✖ space-spin exchange

4. ✖ spin-spin exchange

Question Number : 140 Question Id : 51714410186 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The diameters of the atom and nucleus are of the order of

Options :

1. ✔ 10^{-10} m and 10^{-15} m

2. ✖ 10^{-8} m and 10^{-12} m

3. ✖ 10^{-10} m and 10^{-13} m

4. ✖ 10^{-5} m and 10^{-15} m

Question Number : 141 Question Id : 51714410187 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The half-life of a radioactive material is 24 days. If 8 g of this isotope is present initially, then the amount remains after 72 days is

Options :

1. ✔ 1 g

2. ✖ 2 g

3. ✖ 3 g

4. ✖ 4 g

Question Number : 142 Question Id : 51714410188 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Nuclei having the same number of neutrons and different mass number are called

Options :

1. ✖ isobars

2. ✖ isomers

3. ✔ isotones

4. ✖ isotopes

Question Number : 143 Question Id : 51714410189 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A free neutron decays in to a proton, the decay products are an electron and

Options :

1. ✔ an antineutrino

2. ✖ a neutrino

3. ✖ a positron

pion

4. ✖

Question Number : 144 Question Id : 51714410190 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Nuclear forces have strengths in the order
where P stands for proton and N stands for neutron.

Options :

1. ✖ $P-P>N-N>P-N$

2. ✖ $P-P<N-N<P-N$

3. ✖ $P-N>N-N>P-P$

4. ✔ $P-P=N-N=P-N$

Question Number : 145 Question Id : 51714410191 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The Yukawa potential is proportional to

Options :

1. ✔ $\frac{e^{-\alpha r}}{r}$

2. ✖ $\frac{e^{\alpha r}}{r}$

3. ✖ $\frac{r}{e^{\alpha r}}$

4. ✖ $r\, e^{-\alpha r}$

Question Number : 146 Question Id : 51714410192 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

The surface term in semi empirical formula is proportional to where A is the mass number of the nuclei

Options :

1. ✖ A

2. ✖ $A^{1/3}$

3. ✔ $A^{2/3}$

4. ✖ $A^{3/5}$

Question Number : 147 Question Id : 51714410193 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

If m, m_n, and m_p are the masses of nucleus, neutron, and proton, respectively, of $_zX^A$ nucleus then which of the following is correct?

Options :

1. ✖ $m = Z\, m_p + (A\text{-}Z)\, m_n$

2. ✖ $m = Z\, m_n + (A\text{-}Z)\, m_p$

3. ✖ $m > (A\text{-}Z)\, m_n + Z\, m_p$

4. ✔ $m < (A\text{-}Z)\, m_n + Z\, m_p$

Question Number : 148 Question Id : 51714410194 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On

Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Strangeness is conserved in

Options :

1. ✔ Strong interactions but not in weak interactions

2. ✖ Weak interactions but not in strong interactions

3. ✖ Both strong and weak interactions

4. ✖ None of the above is correct

Question Number : 149 Question Id : 51714410195 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

Nuclear Fission model can be explained using

Options :

1. ✖ Independent particle model

2. ✖ Shell model

3. ✔ liquid drop model

4. ✖ Somerfield model

Question Number : 150 Question Id : 51714410196 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0 Allowed Progression : Yes Number of Replay : 999 Play On Load : No Control Enable : Yes Time interval to replay(In Seconds) : 0 Allow Volume Control : No

Correct Marks : 2 Wrong Marks : 0

A neutron is composed of

Options :

1. ✔ one up quark and two down quarks

2. ✖ an up quark and down antiquark

3. ✖ two up quarks and a down quark

4. ✖ strange quark and an anti-strange quark