TS SET

Question Paper Name :	PHYSICAL SCIENCES 6th July 2019 Shift1 Set1
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Teaching and Research Aptitude

Group Number :	1
Group Id :	552131187
Group Maximum Duration :	60
Group Minimum Duration :	60
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	100
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

Teaching and Research Aptitude

Section Id :	552131187
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 :	5521311247
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 55213114210 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Which of the following is/are not true about teaching?

బోధనకు సంబంధించి క్రింది వానిలో సరికానిది

Options :

Analysis and Assessment of Teaching Provide Feedback for Further Improvement in Teaching Method.

బోధన అంచన మరియు విశ్లేషణల పరిపుష్టి బోధనా పద్ధతిని మెరుగుపరచడానికి దోహదపడును

55213155801.

It Involves Communication Skill.

భావ వ్యక్తీకరణ నైపుణ్యాలతో కూడినది

55213155802.

It is a Process Not an Act.

ఇది ఒక కృత్యం మాత్రమే కాదు, ఒక ప్రక్రియ

55213155803.

It is the only means to provide knowledge.

విషయ పరిజ్ఞానాన్ని అందజేయడానికి ఏకైక సాధనం

55213155804.

Question Number : 2 Question Id : 55213114211 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

According to modern concept of teaching learning process the position of a teacher in the class-room is

అధునిక బోధనాభ్యసన ప్రక్రియ భావన ప్రకారం తరగతి గదిలో ఉపాధ్యాయుని పాత్ర

Options :

A chairperson

ఒక అధ్యక్షునిగా

55213155805.

The Umpire

న్యాయ నిర్ణేతైన ఎంపైర్‌గా

55213155806.

One of the member of the group

సమూహంలో ఒక్కరిగా

55213155807.

The director of the group

సమూహానికి దర్శకుడిగా

55213155808.

Question Number : 3 Question Id : 55213114212 Question Type : MCQ Option Shuffling : Yes Is

Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following statements is correct with regard to relationship between syllabus and curriculum?

విషయ ప్రణాళిక మరియు విద్యా ప్రణాళికల మధ్య సంబంధాన్ని సూచించే సరైన ప్రతిపాదన

Options :

Syllabus is a part of curriculum.

విషయ ప్రణాళిక విద్యా ప్రణాళికలో భాగం

55213155809.

Curriculum is a part of Syllabus

విద్యా ప్రణాళిక విషయ ప్రణాళికలో భాగం

55213155810.

Syllabus is an annexure to curriculum.

విషయ ప్రణాళిక విద్యా ప్రణాళికకు అనుబంధం

55213155811.

Curriculum is an annexure to Syllabus

విద్యా ప్రణాళిక విషయ ప్రణాళికకు అనుబంధం

55213155812.

Question Number : 4 Question Id : 55213114213 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following skills are not a must for present day teacher to adjust effectively with the classroom teaching?

నేటి తరం ఉపాధ్యాయునికి తరగతి గది బోధనకు ప్రభావంతమైన సర్దుబాటు చేసుకోవడానికి తప్పనిసరి కాని నైపుణ్యం ఏది?

Options :

Knowledge of technology

సాంకేతిక పరిజ్ఞానం

55213155813.

Use of technology in teaching learning

బోధనాభ్యాసనలో సాంకేతికత వినియోగం

55213155814.

Knowledge of students' technology based needs

విద్యార్థులకు సంబంధించిన సాంకేతికత ఆధారిత అవసరాల పరిజ్ఞానం

55213155815.

Mastery of preparing technology based programs

సాంకేతిక ఆధారిత కార్యక్రమాల తయారీలో నిపుణత

55213155816.

Question Number : 5 Question Id : 55213114214 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The students who keep on asking questions in the class should be:

తరగతిలో తరచుగా ప్రశ్నలడిగే విద్యార్థులను

Options :

encouraged to find answer independently

స్వయంగా సమాధానాలు కనుక్కోవడానికి ప్రోత్సహించాలి

55213155817.

advised to meet the teacher after the class
తరగతి తర్వాత ఉపాధ్యాయున్ని కలవమనాలి

55213155818.

encouraged to continue questioning
ప్రశ్నించడాన్ని ప్రోత్సహించాలి

55213155819.

advised not to disturb during the lecture
ఉపన్యాసం మధ్యలో ఆటంకం కల్గించరాదని సూచించాలి

55213155820.

Question Number : 6 Question Id : 55213114215 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The depth of any research can be judged by:
ఒక పరిశోధన లోతును దీని ద్వారా నిర్ధారించవచ్చు

Options :

title of the research.
పరిశోధన శీర్షిక

55213155821.

objectives of the research.
పరిశోధన లక్ష్యాలు

55213155822.

total expenditure on the research.
పరిశోధనకై వెచ్చించిన ఖర్చు

55213155823.

duration of the research.
పరిశోధన కాలవ్యవధి

55213155824.

Sub-Section Number : 2

Sub-Section Id : 5521311248

Question Shuffling Allowed : Yes

Question Number : 7 Question Id : 55213114216 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Which of the following is not a Method of Research?
క్రింది వానిలో ఏది పరిశోధన పద్ధతి కాదు

Options :

Observation
పరిశీలన

55213155825.

Historical
చారిత్రాత్మక

55213155826.

Survey
సర్వే

55213155827.

Philosophical
తాత్వాక

55213155828.

Sub-Section Number : 3

Sub-Section Id : 5521311249

Question Shuffling Allowed : Yes

Question Number : 8 Question Id : 55213114217 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Action research is
చర్యాత్మక పరిశోధన అనగా

Options :

55213155829. An applied research
ఒక అనువర్తిత పరిశోధన

55213155830. A research carried out to solve immediate problems
తక్షణ సమస్యను పరిష్కరించడానికి ఉద్దేశించిన పరిశోధన

55213155831. A longitudinal research
దీర్ఘకాల పరిశోధన

55213155832. Simulative research
కల్పిత సారూప్య పరిశోధన

Question Number : 9 Question Id : 55213114218 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Generalised conclusion on the basis of a sample is technically known as:
ఒక ప్రతిచయానికి పరిశీలించిన అంశాలను సామాన్యీకరించడం అనేది...

Options :

Data analysis and interpretation
దత్తాంశ విశ్లేషణ మరియు వ్యాఖ్యానానికి చెందినది
55213155833.

Parameter inference
స్థితిమాపనల అనుమతి
55213155834.

Statistical treatment
సాంఖ్యక పద్ధతు అనువర్తనం
55213155835.

Subjective interpretation
అత్మాశ్రయ వ్యాఖ్యానం
55213155836.

Question Number : 10 Question Id : 55213114219 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

When a research problem is related to heterogeneous population, the most suitable sampling method is:
ఒక పరిశోధనాంశం వైవిధ్య జనాభాకు చెందినదైన తగిన ప్రతిచయన పద్ధతి

Options :

Cluster Sampling
సమూహ ప్రతిచయనం
55213155837.

Stratified Sampling

వర్గీకృత ప్రతిచయనం

55213155838.

Convenient Sampling

అనుకూలత ప్రతిచయనం

55213155839.

Lottery Method

లాటరీ పద్ధతి

55213155840.

Sub-Section Number : 4

Sub-Section Id : 5521311250

Question Shuffling Allowed : No

Question Id : 55213114220 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Question Numbers : (11 to 15)

Question Label : Comprehension

Read the passage and answers the questions from 11 to 15:

George Stephenson and his son Robert Stephenson made a tremendous contribution to the development of railways. George did not invent the steam locomotive, but he ensured that the insights and discoveries, which were beginning to come together from a variety of sources, were engineered into a practical machine. In this context, a man of relatively humble origins became one of the world's greatest engineers. He was brilliantly pragmatic in ensuring that his son, Robert, was given all encouragement in assisting the engineering of the early railways.

The passage of time has done nothing to pale the remarkable achievements of the two Stephensons (for it is unwise to separate father and son). Their inventive genius was most brilliantly displayed, probably, during the year 1829-30, but this was surely not the end. They stamped their final mark on the shape of the locomotive when in 1833 they added a pair of carrying wheels behind the firebox to produce the first 2-2-2 engine 'Patentee'. This became a benchmark passenger type in both France and Great Britain and was built in the Great Britain until 1894. Their final major contribution was in 1842 when they were the first to provide engines with a link motion valve gear. This was a fascinating invention, which was so extremely suitable for locomotives that it was still being used for new construction in the last phase of the great days of steam.

11 నుంచి 15 వరకు గల ప్రశ్నలకు సంబంధించిన పాఠ్యభాగము ఈ క్రింద ఇవ్వబడినది. దానితోపాటు 5 బహుళ ఐచ్ఛిక ప్రశ్నలు ఇవ్వబడినవి. సరైన జవాబును ఎంచుకొని రాయండి.

జార్జ్ స్టీఫెన్సన్, అతని కుమారుడైన రాబర్ట్ స్టీఫెన్సన్లు రైల్వేల అభివృద్ధికి మహత్తరమైన దోహదం చేసారు. జార్జ్ ఆవిరి యంత్రాన్ని కనుగోనకపోయినా వివిధ వనరుల నుంచి ప్రారంభమైన అంతర్ దృష్టి అలోచనలు, ఆవిష్కరణలను ఒక చోటికి చేర్చి ఆచరణాత్మకంగా యంత్రాన్ని నిర్మించాడు. ఆ నేపథ్యంగా, సాధారణ మూలాల నుంచి మొదలై ప్రపంచంలోనే గొప్ప ఇంజనీరుగా అవతరించాడు. అతను కార్యసాధకమైన సూక్ష్మ బుద్ధితో తన కుమారుడైన రాబర్టుకు అన్ని రకాల ప్రోత్సాహాన్ని అందిస్తూ తొలితరం రైల్వే ఇంజనీరింగుకు సహకరించాడు.

కాలం గడిసినా కూడా ఇద్దరూ స్టీఫెన్సన్ల (తండ్రి కొడుకులను వేరు చేయడం అవివేకం అవుతుంది) అసాధారణ విజయాల తేజస్సు తగ్గలేదు. వారి ఆవిష్కరణాత్మక మేధస్సు 1829-30ల మధ్య బాగా ప్రాచుర్యంలోకి వచ్చినా అదే చివరిది కాదు. 1833వ సంవత్సరంలో నిప్పు పెట్టె వెనకాల రెండు చక్రాలను జోడించి మొదటి 2-2-2 యంత్రం 'పెటేంటి'ను తయారు చేసి రైలు బండికి రూపమిచ్చి తమదైన ముద్ర వేశారు. ఇది ఫ్రాన్స్, గ్రేట్ బ్రిటన్ రెండు దేశాలలో ప్రయాణికుల రైలు రకానికి ప్రమాణ చిహ్నంగా నిలిచి 1894 వ సంవత్సరం వరకు గ్రేట్ బ్రిటన్ నిర్మితమైంది. వారు 1842వ సంవత్సరంలో మొదటిసారిగా ఇంజన్‌కు కొక్కాల గమన వాల్వ్ గేర్ సమకూర్చి అంతిమంగా ప్రధానమైన దోహదం చేశారు. ఇది ఒక అద్భుతమైన ఆవిష్కరణ కావడం చేత రైలు బళ్ళకు ఎంతో ఉపయుక్తంగా ఉంటూ ఆవిరియంత్రం యొక్క చివరి దశ వరకు కొత్త ఆవిరి యంత్రాల నిర్మాణాలకు ఉపయోగిస్తూనే వచ్చారు.

Sub questions

Question Number : 11 Question Id : 55213114221 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Both George and Robert Stephenson's contribution to Railways was

జార్జ్ మరియు రాబర్ట్ స్టెఫెన్సన్లు రైల్వేలకు చేసిన దోహదం_____

Options :

55213155841. Immense

గొప్పనైనట్టిది

55213155842. Sparse

కొద్దికొద్దిగా

55213155843. Outlandish

విచిత్రమైనది

55213155844. Impractical

అచరణయోగ్యం కానిది

Question Number : 12 Question Id : 55213114222 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 : Yes

Correct Marks : 2 Wrong Marks : 0

George in his younger days was a man of _____

జార్జ్ తన యుక్త వయస్సులో _____

Options :

55213155845. Wealth

ధనవంతుడు

Hard work only

కేవలం కష్టపడే వాడు

55213155846.

Poverty

పేదరికం

55213155847.

Lowly background

తక్కువ స్థాయి నేపథ్యం కలవాడు

55213155848.

Question Number : 13 Question Id : 55213114223 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 : Yes

Correct Marks : 2 Wrong Marks : 0

George was brilliantly_____

జార్జ్ సూక్ష్మబుద్ధి గల _____

Options :

Idealistic

ఆదర్శవాది

55213155849.

Foolish

మూర్ఖుడు

55213155850.

Practical

ఆచరణవాది

55213155851.

Selfish

స్వార్థపరుడు

55213155852.

Question Number : 14 Question Id : 55213114224 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The first 2-2-2 engine 'Patentee' became a / an _____ passenger type in both France and Great Britain

ఫ్రాన్స్, గ్రేట్ బ్రిటన్‌లలో మొదటి 2-2-2 యంత్రం 'పేటెంటీ' _____ ప్రయాణికుల రైలు రకమునకు చెందినది.

Options :

Standard

ప్రమాణమైన

55213155853.

Enviable

అసూయ కలిగించే

55213155854.

Routine

మామూలైన

55213155855.

55213155856.

Mundane

ఐహికమైన

Question Number : 15 Question Id : 55213114225 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 : Yes

Correct Marks : 2 Wrong Marks : 0

In 1842, they were the first to provide engines with a link motion valve gear which was a _____ invention.

1842 వ సంవత్సరంలో వారు మొదటిసారిగా కొక్కాల గమన వాల్వ్ గేర్ సమకూర్చిన రైలు ఇంజన్‌ను తయారు చేయడమనేది _____

Options :

Multipurpose

బహుళ ప్రయోజనకారి

55213155857.

Utilitarian

ఉపయోగకారి

55213155858.

Multilevel

బహుళస్థాయి

55213155859.

Mesmerizing

సంభ్రమాశ్చర్యం కలిగించేది

55213155860.

Sub-Section Number : 5

Sub-Section Id : 5521311251

Question Shuffling Allowed : Yes

Question Number : 16 Question Id : 55213114226 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The speaker and the listener carry with them certain ideologies, world-views, beliefs, likes and dislikes which form the _____

వక్త, శ్రోత కలిగి ఉండే కొన్ని నిర్దిష్ట భావజాలాలు, ప్రపంచ దృక్పథాలు, నమ్మకాలు, ఇష్టాలు, అయిష్టాలు కలిసి ఏర్పడేవి _____

Options :

55213155861. Style
శైలీ

55213155862. Aptitude
సహజ సామర్థ్యం

55213155863. Attitudes
వైఖరులు

55213155864. Views
దృక్పథాలు

Question Number : 17 Question Id : 55213114227 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The speaker has to possess adequate _____ of the message that is to be transmitted.

వక్త తాను చేరవేయాల్సిన సందేశానికి సంబంధించి తగినంత కలిగి ఉండవలసినది _____

Options :

55213155865. Replies

సమాధానాలు

55213155866. Feeds

పోషణ

55213155867. Reactions

ప్రతిచర్యలు

55213155868. Knowledge

జ్ఞానం

Question Number : 18 Question Id : 55213114228 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Fluency, clarity and intelligibility of____ pave the way to effective communication.

దేనికి సంబంధించిన అనర్గళత, స్పష్ఠత, చతురతులు ప్రభావవంతమైన భావ ప్రసరణకు దారితీస్తాయి.

Options :

55213155869. Command

శాసించు

Channel

ఛానల్

55213155870.

Path

పథం

55213155871.

Expression

అభివ్యక్తీకరణ

55213155872.

Question Number : 19 Question Id : 55213114229 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The effective use of _____ consists in selecting appropriate words and patterns of sentences while communicating.

భావ ప్రసరణ చేసేటప్పుడు సరైన పదాలు, వాక్యాల రీతులను ఎంపిక చేసుకోవడానికి ప్రభావవంతంగా ఉపయోగపడేది _____

Options :

Language

భాష

55213155873.

Circumstance

పరిస్థితి

55213155874.

Idioms

నుడికారం

55213155875.

Connectives

సంధాయకాలు

55213155876.

Question Number : 20 Question Id : 55213114230 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Communication is sustained and it becomes effective only in a / an _____ _ ambience.

ఎటువంటి పరిసరాలలో భావ ప్రసరణ ప్రభావవంతంగా ఉండి నిర్వహణకు అనుకూలంగా ఉంటుంది.

Options :

Intellectual

భౌద్ధికత

55213155877.

Individual

వ్యక్తిగత

55213155878.

Clean

శుభ్రత

55213155879.

Complex

సంక్లిష్టత

55213155880.

Sub-Section Number : 6

Sub-Section Id : 5521311252

Question Shuffling Allowed : Yes

Question Number : 21 Question Id : 55213114231 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

A car covers a certain distance with speed 60 kmph and returns to the starting point with a speed of 40 kmph. The average speed (in kmph) for the whole journey is

ఒక కారు వేగం గంటకు 60 కిలోమీటర్లతో కొంత నిర్దిష్ట దూరం ప్రయాణానించి మరియు తిరిగి గంటకు 40 కిలోమీటర్ల వేగంతో ప్రారంభ బిందువుకు తిరిగి వచ్చింది. మొత్తం ప్రయాణానికి సగటు వేగం (గంటకు కిలోమీటర్లలో)

Options :

55213155881. 50

55213155882. 48

55213155883. 100

55213155884. 52

Question Number : 22 Question Id : 55213114232 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In a certain population, the ratio of number of women to the number of men is 6 : 5. If the average age of the women is 34 years and the average age of the men is 32 years, then the average age of the population (in years) is

ఒక నిర్దిష్ట జనాభాలో మహిళల సంఖ్య పురుషుల సంఖ్య 6 : 5. మహిళల సగటు వయసు 34 సంవత్సరాలు మరియు పురుషుల సగటు వయసు 32 సంవత్సరాలు ఉంటే, అప్పుడు జనాభా సగటు వయస్సు (సంవత్సరాలలో)

Options :

55213155885. $32\frac{1}{11}$

55213155886. $32\frac{6}{11}$

55213155887. $33\frac{1}{11}$

55213155888. $33\frac{5}{11}$

Question Number : 23 Question Id : 55213114233 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

'A' loses 10% by selling an article. If the cost of the article is Rs. 15, then the selling price of the article is (in Rs.)

'A' ఒక వస్తువును అమ్మడం ద్వారా 10% నష్టపోతాడు. ఆ వస్తువు యొక్క ధర రూ. 15, అయిన వస్తువు యొక్క అమ్మకం ధర (రూ. లలో)

Options :

13.20

55213155889.

16.50

55213155890.

12.30

55213155891.

13.50

55213155892.

Question Number : 24 Question Id : 55213114234 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Tap 'A' will fill a tank in 30 minutes, Tap 'B' will empty the tank in 3 hours and tap 'C' will empty the tank in 4 hours. If all the taps are open at the same time, then time required to fill the tank is (in minutes)

ట్యాప్ 'A' 30 నిమిషాలలో ట్యాంక్ నింపుతుంది. ట్యాప్ 'B', 3 గంటల్లో ట్యాంక్ ఖాళీ చేస్తుంది మరియు 'C' 4 గంటల్లో ట్యాంక్ను ఖాళీ చేస్తుంది. అన్ని కుళాయిలు తెరిస్తే ట్యాంక్ నిండటానికి అవసరమైన సమయం (నిమిషాలలో)

Options :

17 / 720

55213155893.

720 / 17

55213155894.

420 / 17

55213155895.

390 / 17

55213155896.

Question Number : 25 Question Id : 55213114235 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The missing number in the sequence: 6, 27, 128, ___ , 3130

అనుక్రమంలో లోపించిన సంఖ్య: 6, 27, 128, ___ , 3130

Options :

529

55213155897.

629

55213155898.

729

55213155899.

829

55213155900.

Question Number : 26 Question Id : 55213114236 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

'PROFESSOR' is coded as 'KILUVHHLI', then 'STUDENT' is coded as

'PROFESSOR', 'KILUVHHLI' గా కోడ్ చేయబడింది. అప్పుడు 'STUDENT' యొక్క కోడ్

Options :

55213155901. HGEUVNG

55213155902. HGEUWNG

55213155903. HGFWVMG

55213155904. HGEWVNG

Question Number : 27 Question Id : 55213114237 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

'ROCKET' is coded as '913564'and 'LITTLE' coded as '024406' then the code for 'CRICKET' is

'ROCKET', '913564' గా కోడ్ చేయబడింది మరియు 'LITTLE', '024406' గా కోడ్ చేయబడింది. అయిన 'CRICKET' యొక్క కోడ్

Options :

55213155905. 3943654

55213155906. 3932464

55213155907. 3923564

55213155908. 3923654

Question Number : 28 Question Id : 55213114238 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Pointing to a person, A said, "He is the only brother of my father's mother's daughter". The relation of the person to A is

ఒక వ్యక్తికి గురి పెట్టి, 'A' అన్నాడు, "నా తండ్రి తల్లి కుమార్తె యొక్క ఏకైక సోదరుడు". అయిన ఆ వ్యక్తికి A తో గల సంబంధం

Options :

55213155909. Brother
సోదరుడు

55213155910. Father
తండ్రి

55213155911. Uncle
బాబాయి / మామ

55213155912. Nephew
మేనల్లుడు / తోడబుట్టిన వారి కుమారుడు

Question Number : 29 Question Id : 55213114239 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The odd one among the following is
క్రింది వానిలో నున్న, ఒక సరిపోలనిది

Options :

55213155913. Baseball
బేస్బాల్

55213155914. Boxing
బాక్సింగ్

55213155915. Chess
చదరంగం

55213155916. Wrestling
రెజ్లింగ్

Question Number : 30 Question Id : 55213114240 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

In a certain code, '+' mean 'x', 'x' mean '–' , '–' means '/ ' and '/ ' means '+'.
Using these code operators, $16 - 2 + 4 / 16 - 8 \times 2$ is
ఒక నిర్దిష్ట కోడ్లో, '+' అంటే 'x'; 'x'అంటే '-'; '-' అంటే '/'; మరియు '/' అంటే '+'. ఈ కోడ్ ను ఉపయోగించి,16-2+4/16-8x2 అంటే

Options :

55213155917. 15

55213155918.

2

4

55213155919.

32

55213155920.

Sub-Section Number : 7

Sub-Section Id : 5521311253

Question Shuffling Allowed : No

Question Id : 55213114241 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Question Numbers : (31 to 35)

Question Label : Comprehension

Note: The questions Q. 31 to Q. 35 are based on the following information.

గమనిక: ప్రశ్నలు Q. 31 నుండి Q. 35 వరకు , క్రింది సమాచారం ఆధారంగా ఉన్నాయి.

The population, literacy rate, No. of women for 1000 men and percentage of rural populations of five states are presented in the following table.

ఐదు రాష్ట్రాల జనాభా, అక్షరాస్యత రేటు, 1000 మంది పురుషులకు మహిళల సంఖ్య మరియు గ్రామీణ జనాభా శాతం, ఈ క్రింది పట్టికలో ఇవ్వబడింది.

States (రాష్ట్రాలు)	Population (జనాభా) (Lakhs) (లక్షలు)	Literacy Rate (అక్షరాస్యత రేటు)	No. of women per 1000 men (మహిళల సంఖ్య 1000 పురుషులకు)	% of rural Population (గ్రామీణ శాతం జనాభా)
A	1500	70%	970	45%
B	2500	61%	951	62%
C	600	85%	1021	51%
D	400	90%	992	39%
E	850	80%	989	42%

Sub questions

Question Number : 31 Question Id : 55213114242 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Which state has the highest number of illiterate people?

నిరక్షరాస్యుల అత్యధిక సంఖ్యలో ఉన్న రాష్ట్రం

Options :

55213155921.

State A
రాష్ట్రం A

State B
రాష్ట్రం B

55213155922.

State C
రాష్ట్రం C

55213155923.

State D
రాష్ట్రం D

55213155924.

Question Number : 32 Question Id : 55213114243 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The total Urban population is
మొత్తం పట్టణ జనాభా

Options :

3044

55213155925.

2806

55213155926.

1725

55213155927.

4125

55213155928.

Question Number : 33 Question Id : 55213114244 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The number of women population in the state A is (rounded to integer)

'A' రాష్ట్రంలో మహిళల జనాభా సంఖ్య (పూర్ణ సంఖ్య)

Options :

739

55213155929.

761

55213155930.

970

55213155931.

1455

55213155932.

Question Number : 34 Question Id : 55213114245 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The total percentage (nearly) of rural population is
మొత్తం గ్రామీణ జనాభా శాతం (దగ్గరగా)

Options :

55213155933. 41

55213155934. 45

55213155935. 52

55213155936. 50

Question Number : 35 Question Id : 55213114246 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 : Yes

Correct Marks : 2 Wrong Marks : 0

On the overall, percentage of literacy rate (nearly) is
మొత్తం మీద, అక్షరాస్యత రేటు శాతం (దగ్గరగా)

Options :

55213155937. 52.0

55213155938. 65.3

55213155939. 68.2

70.5

55213155940.

Sub-Section Number : 8

Sub-Section Id : 5521311254

Question Shuffling Allowed : Yes

Question Number : 36 Question Id : 55213114247 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following is a low level language ?

ఈ క్రింది వాటిలో ఏది Low Level భాష ?

Options :

Assembly

అసెంబ్లీ

55213155941.

Java

జావా

55213155942.

ADA

ఎడిఎ

55213155943.

C

సి

55213155944.

Question Number : 37 Question Id : 55213114248 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Number of bytes in 1 GB is _____

1 GB లోని bytes ల సంఖ్య.....

Options :

55213155945. 1024TB

1024 టెరా బైట్లు

55213155946. 1024 B

1024 బైట్లు

55213155947. 1024 MB

1024 మెగా బైట్లు

55213155948. 1024 KB

1024 కిలో బైట్లు

Question Number : 38 Question Id : 55213114249 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The full form of MODEM is

MODEM యొక్క విస్తారం

Options :

Modulator and demodulator

మాడ్యులేటర్ మరియు డిమాడ్యులేటర్

55213155949.

Modern mobile

అధునిక మోబైల్

55213155950.

Modulator embedded

మాడ్యులేటర్ ఎంబెడిడ్

55213155951.

Moderator demoderator

మోడరేటర్ డిమాడ్యులేటర్

55213155952.

Question Number : 39 Question Id : 55213114250 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

..... are set of rules and procedures to control the data transmission over the internet

ఇంటర్‌నెట్‌లో డేటా ప్రసారానికి వాడే నియమాలు మరియు పద్ధతుల సమితులు....

Options :

IP address

IP చిరునామ

55213155953.

Domains

డొమైన్ (క్షేత్రము)

55213155954.

Protocol

ప్రోటోకాల్

55213155955.

Gateway

గేట్‌వే

55213155956.

Question Number : 40 Question Id : 55213114251 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

NMEICT stands for

NMEICT అనగా

Options :

Nation Mission for Education through ICT

నేషన్ మిషన్ ఫర్ ఎడ్యుకేషన్ త్రూ ఐసిటి

55213155957.

Nation Mission for E-commerce through ICT

నేషన్ మిషన్ ఫర్ ఇ-కామర్స్ త్రూ ఐసిటి

55213155958.

Nation Mission for E-governance through ICT

నేషన్ మిషన్ ఫర్ ఇ-గవర్నెన్స్ త్రూ ఐసిటి

55213155959.

Nation Mission for Entertainment through ICT

నేషన్ మిషన్ ఫర్ ఎంటర్‌టైన్‌మెంట్ త్రూ ఐసిటి

55213155960.

Sub-Section Number : 9

Sub-Section Id : 5521311255

Question Shuffling Allowed : Yes

Question Number : 41 Question Id : 55213114252 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which agreement set in target of 5% reduction in carbon emissions against 1990 levels?

కర్బన ఉద్గారాలను 1990 స్థాయి కంటే 5 శాతం తగ్గించాలనే లక్ష్యాన్ని నిర్ణయించిన ఒప్పందం ఏది?

Options :

Paris agreement

పారిస్ ఒప్పందం

55213155961.

Stockholm Agreement

స్టాక్ హోం ఒప్పందం

55213155962.

Kyoto Protocol

క్యోటో ప్రోటోకాల్

55213155963.

Berlin Agreement

బెర్లిన్ ఒప్పందం

55213155964.

Question Number : 42 Question Id : 55213114253 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The main gas responsible for 'climate change' is

'క్లైమేట్ మార్పు'కు కారణమైన ప్రధాన వాయువు

Options :

55213155965. NO_3

నైట్రేట్

55213155966. CO_2

కార్బన్ డై ఆక్సైడ్

55213155967. CO

కార్బన్ మోనాక్సైడ్

55213155968. NO_2

నైట్రైట్

Question Number : 43 Question Id : 55213114254 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Eutrophication of fresh water lakes occur due to

మంచినీటి సరస్సుల 'యూట్రాఫికేషన్' దీనివలన జరుగును

Options :

Addition of excessive organic matter, phosphates, Nitrates

సేంద్రియ పదార్థం ఫాస్ఫేట్లు, నైట్రేట్లు ఎక్కువగా చేరటం

55213155969.

Addition of only Phosphates

ఫాస్ఫేట్లు మాత్రమే చేరటం

55213155970.

Addition of rain water

వర్షపు నీరు చేరటం వలన

55213155971.

Drying up of lakes

సరస్సులు ఎండిపోవటం

55213155972.

Question Number : 44 Question Id : 55213114255 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following is not a cause of soil pollution?

ఈ క్రింది వాటిలో నేల కాలుష్యానికి ఏది కారణం కాదు?

Options :

Pesticides

పురుగు మందులు

55213155973.

Fertilizers

ఎరువులు

55213155974.

Excess salts

అధిక లవణాలు

55213155975.

Compost

కంపోస్టు

55213155976.

Question Number : 45 Question Id : 55213114256 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The concentration of CO_2 in the atmosphere is kept in balance through

వాతావరణంలో CO_2 గాఢతను సమతుల్యంగా ఉంచేది

Options :

CO_2 fixation in photosynthesis

కిరణజన్య సంయోగ క్రియలో CO_2 స్థాపన

55213155977.

CO_2 release in respiration

శ్వాసక్రియలో CO_2 విడుదల

55213155978.

Carbon cycle

కర్బన చక్రం

55213155979.

55213155980. Degradation of organic matter
సేంద్రియ పదార్థ విచ్ఛిన్నం

Sub-Section Number : 10

Sub-Section Id : 5521311256

Question Shuffling Allowed : Yes

Question Number : 46 Question Id : 55213114257 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following is NOT an integral part of formal education system of our country
మనదేశంలోని సాంప్రదాయ నియత విద్యా వ్యవస్థలో అంతర్భాగం కానిది

Options :

55213155981. Elementary Education
ఎలిమెంటరీ విద్య

55213155982. Primary Education
ప్రాథమిక విద్య

55213155983. Pre-Primary Education
పూర్వ ప్రాథమిక విద్య

55213155984. Higher Education
ఉన్నత విద్య

Question Number : 47 Question Id : 55213114258 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Approach towards Higher Education should be

ఉన్నత విద్య దృక్పథం ఏ విధంగా ఉండాలి?

Options :

55213155985. Employment oriented
వృత్తి ఆధారితం

55213155986. Imparting knowledge
విషయ పరిజ్ఞానాన్ని అందించడం

55213155987. Charity oriented
స్వచ్ఛంద దృక్పథం

55213155988. Investment in human resources
మానవ వనరులలో పెట్టుబడి

Question Number : 48 Question Id : 55213114259 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The main aim of vocationalisation of education is:
వృత్తి విద్యా ప్రధాన ఉద్దేశ్యం

Options :

55213155989. Preparing students for a vocation instead of knowledge
విషయ పరిజ్ఞానం బదులు విద్యార్థులను వృత్తిలో సంసిద్ధులను చేయడం

55213155990. Converting liberal education into vocational education
ఉదార విద్యను వృత్తి విద్యగా మార్చడం

55213155991. Giving more importance to vocational than general education
సాధారణ విద్యకన్నా వృత్తి విద్యకు ఎక్కువ ప్రాధాన్యతను ఇవ్వడం

55213155992. Making liberal education skill based and field experience based
ఉదార విద్యను నైపుణ్యం మరియు అనుభవ ఆధారిత విద్యగా తయారుచేయడం

Question Number : 49 Question Id : 55213114260 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The purpose of value education is best served by focusing on
విలువల విద్య లక్ష్యం దీనిపై దృష్టి కేంద్రీకరించడం ద్వారా నెరవేరుతుంది

Options :

55213155993. Cultural practices prevailing in the society.
సమాజంలో ఉన్న సాంస్కృతిక ఆచారాలను పాటించడం

55213155994.

Norms of conduct laid down by a social group.
ఒక సామాజిక వర్గం నిర్దేశించిన నియమాలు పాటించడం

Concern for human values.
మానవ విలువల పట్ల ఆందోళన
55213155995.

Religious and moral practices and instructions.
మతపరమైన మరియు నైతికపరమైన ఆచారాలు మరియు సూచనలు
55213155996.

Question Number : 50 Question Id : 55213114261 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Indian Parliament can legislate on matters listed in the State list:
భారత పార్లమెంట్ రాష్ట్రానికి చెందిన అంశాల పట్టికలో గల ఒక అంశంపై ఎప్పుడు చట్టం చేయవచ్చును.

Options :

With the prior permission of the President.
రాష్ట్రపతి ముందస్తు అనుమతితో
55213155997.

Only after the constitution is amended suitably.
తగిన విధంగా రాజ్యాంగ సవరణ చేసిన తర్వాత మాత్రమే
55213155998.

In case of inconsistency among State legislatures.
రాష్ట్రాల చట్టాల మధ్య అసంబద్ధత ఉన్నపుడు
55213155999.

55213156000.

At the request of two or more States.

రెండు లేదా అంతకన్నా ఎక్కువ రాష్ట్రాల విజ్ఞప్తి మేరకు

PHYSICAL SCIENCES

Group Number :	2
Group Id :	552131188
Group Maximum Duration :	120
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No

PHYSICAL SCIENCES

Section Id :	552131188
Section Number :	1
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 : 5521311257

Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 55213114262 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Match the following physical quantities in List - I with their dimensions in List - II

List - I	List - II
1. Work	a. ML^2T^{-3}
2. Power	b. $ML^{-1}T^{-1}$
3. Momentum	c. ML^2T^{-2}
4. Modulus of elasticity	d. ML^1T^{-1}
5. Dynamic viscosity	e. $ML^{-1}T^{-2}$

Options :

55213156001. 1-c, 2-a, 3-d, 4-e, 5-b

55213156002. 1-a, 2-c, 3-d, 4-e, 5-b

55213156003. 1-c, 2-a, 3-e, 4-b, 5-d

55213156004. 1-d, 2-e, 3-b, 4-a, 5-c

Question Number : 52 Question Id : 55213114263 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

If a= i+j –k ; b= i-j+k; c= i-j-k, then the value of aX(bXc) is (here a,b,c are vectors and i,j,k are unit vectors)

Options :

55213156005. $\mathrm{I} - \mathrm{j} + \mathrm{k}$

55213156006. $2\mathrm{i} - 2\,\mathrm{j}$

55213156007. $3\mathrm{i} - \mathrm{j} + \mathrm{k}$

55213156008. $2\mathrm{i} + 2\mathrm{j} - \mathrm{k}$

Question Number : 53 Question Id : 55213114264 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Eigen values of $\begin{bmatrix} 1 & i \\ -i & 1 \end{bmatrix}$ are

Options :

55213156009. +1 and -1

55213156010. 0 and 1

55213156011. 0 and 2

55213156012. 1 and 1

Question Number : 54 Question Id : 55213114265 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following statements are true for dimensional analysis

i. The functional relation between dependent and non-dependent variables can be expressed into dimensionless terms by dimensional analysis
ii. In model testing, it reduces the variables into three numbers
iii. It it used to change the theoretical equation into dimensionless form
iv. It helps to convert the units of quantities from one system to another system

Options :

55213156013. i, ii and iii

55213156014. ii, iii and iv

55213156015. i, iii, iv

55213156016. i, ii, iii and iv

Question Number : 55 Question Id : 55213114266 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The eigen values of the matrix $\begin{bmatrix} 2 & 3 & 0 \\ 3 & 2 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ are

Options :

55213156017. 5, 2, -2

55213156018. -5, -1, -1

55213156019. 5, 1, -1

55213156020. -5, 1, 1

Question Number : 56 Question Id : 55213114267 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Two matrices A and B are said to be similar if $B = P^{-1}AP$ for some invertible matrix P. Which of the following statements is NOT TRUE?

Options :

55213156021. Det$A$= Det$B$

55213156022. Trace of A = Trace of B

55213156023. A and B have the same eigenvectors

55213156024. A and B have the same eigenvalues

Question Number : 57 Question Id : 55213114268 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

A 3x3 matrix has elements such that its trace is 11 and its determinant is 36. The Eigen values of the matrix are all known to be positive integers. The largest eigenvalues of the matrix is

Options :

55213156025. 18

55213156026. 12

55213156027. 9

55213156028. 6

Question Number : 58 Question Id : 55213114269 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following represents laplace transform of Sinh (a t)

Options :

55213156029. $\frac{a}{s^2-a^2}$

55213156030. $\frac{a}{s^2+a^2}$

55213156031. $\frac{1}{s^2-a^2}$

55213156032. $\frac{1}{s^2+a^2}$

Question Number : 59 Question Id : 55213114270 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If r(n+1)=$\int_0^\infty x^n e^{-x} dx$ then

Options :

55213156033. r(n+1)=n r(n)

55213156034. r(n)=n!

55213156035. r(n+1)=$\frac{n!}{2}$

55213156036. r(3)=3!

Question Number : 60 Question Id : 55213114271 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The Fourier transformation of the function f(x) is F(k).Then Fourier transform of $\frac{df}{dx}$ is

Options :

55213156037. $\frac{dF(k)}{Dk}$

55213156038. -ikF(k)

55213156039. ikF(k)

55213156040. $\int F(k)\,dk$

Question Number : 61 Question Id : 55213114272 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

At what speed should a clock be moved so that it may appear to lose 1minute in each hour

Options :

55213156041. 18c

55213156042. 1.8c

55213156043. 0.18c

55213156044. 0.018c

Question Number : 62 Question Id : 55213114273 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If the Hamiltonian does not depend on time explicitly then,

Options :

55213156045. the Lagrangian is constant

55213156046. the Lagrangian cannot be constant

55213156047. kinetic energy is constant

55213156048. potential energy is constant

Question Number : 63 Question Id : 55213114274 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The product of generalized coordinate and its conjugate momentum has the dimensions of

Options :

55213156049. energy

55213156050. force

55213156051. linear momentum

55213156052. angular momentum

Question Number : 64 Question Id : 55213114275 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The homogeneity of time leads to the law of conservation of

Options :

55213156053. linear momentum

55213156054. energy

55213156055. parity

55213156056. angular momentum

Question Number : 65 Question Id : 55213114276 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If the Lagrangian (L) for the simple pendulum describing its motion is given by

$L = \frac{1}{2}ml\dot{\theta}^2 - mgl(1 - cos\theta)$, the generalized coordinate used in the above expression as

Options :

55213156057. θ

55213156058. l

55213156059. m

55213156060. g

Question Number : 66 Question Id : 55213114277 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

For a system with Lagrangian $L=\frac{1}{2}(\dot{x}^2+\dot{y}^2)-\frac{1}{2}\omega_0^2(x^2+y^2)+\alpha xy : \alpha>0$ what should be the value of ω_0 to have two normal modes of vibrations

Options :

55213156061. $\omega_0 < \sqrt{\alpha}$

55213156062. $\omega_0 > \sqrt{\alpha}$

55213156063. $\omega_0 = \sqrt{\alpha}$

55213156064. $\omega_0 \neq \sqrt{\alpha}$

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 : 67 Question Id : 55213114278 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The Hamiltonian can be expressed in terms of Lagrangian using the following formula

Options :

55213156065. $$H \equiv \sum_{k=1}^{n} p_k \dot{q}_k - L$$

55213156066. $$H \equiv \sum_{k=1}^{n} \dot{p}_k q_k - L$$

55213156067. $$H = \frac{\partial L}{\partial \dot{p}_k}$$

55213156068. $$H = L + \frac{\partial F}{\partial t}$$

Question Number : 68 Question Id : 55213114279 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If a generalized coordinate q_k does not occur explicitly in the Lagrangian function,

Options :

55213156069. The corresponding momentum (p_k) is constant of motion

55213156070. q_k is constant

55213156071. Hamiltonian is constant

55213156072. p_k is cyclic coordinate

Question Number : 69 Question Id : 55213114280 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If p_k is the generalized momentum and q_k is the associated conjugate coordinate, then the product $p_k q_k$ has the dimension of

Options :

55213156073. energy

55213156074. linear momentum

55213156075. action

55213156076. power

Question Number : 70 Question Id : 55213114281 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Two small identical conducting spheres have changes of 2.0 X 10-9 C and 0.5 X 10-9 C respectively. When they are placed 4 cms apart, the force between them is (given $\frac{1}{4\pi\varepsilon_0} = 9X10^9$)

Options :

55213156077. $0.5625 \text{ X } 10^{-5} \text{ N}$

55213156078. $5.625 \text{ X } 10^{-5} \text{ N}$

55213156079. $56.25 \text{ X } 10^{-5} \text{ N}$

55213156080. $562.5 \text{ X } 10^{-5} \text{ N}$

Question Number : 71 Question Id : 55213114282 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The energy of a uniformly changed spherical shell of total change (q) and radius (R) is

Options :

55213156081. $1/(8\pi \epsilon_0)$ q^2/R

55213156082. $1/(8\pi \epsilon_0)$ q^2/R^2

55213156083. $1/(8\pi \in_0)\ q/R$

55213156084. $1/(8\pi \in_0)\ \sqrt{q}/R$

Question Number : 72 Question Id : 55213114283 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The speed of electromagnetic radiation is independent of

Options :

55213156085. Wave length

55213156086. Amplitude

55213156087. Time period

55213156088. Frequency

Question Number : 73 Question Id : 55213114284 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Gauss's law can be applied to

Options :

55213156089. Plane surface

55213156090. Curved surface

55213156091. Any surface

55213156092. Closed surface

Sub-Section Number : 2

Sub-Section Id : 5521311258

Question Shuffling Allowed : Yes

Question Number : 74 Question Id : 55213114285 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The potential inside a charged hollow sphere is

Options :

55213156093. zero

55213156094. same as that on the surface

55213156095. less than that on the surface

55213156096. All the above

Sub-Section Number : 3

Sub-Section Id : 5521311259

Question Shuffling Allowed : Yes

Question Number : 75 Question Id : 55213114286 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Equation $\nabla^2 V = -\rho/\epsilon$ is called the

Options :

55213156097. Poisson's equation

55213156098. Laplace equation

55213156099. Continuity equation

55213156100. Stokes equation

Question Number : 76 Question Id : 55213114287 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The inconsistency of continuity equation for time varying fields was corrected by Maxwell and the correction applied was to _____ law as _____

Options :

55213156101. Ampere's law, $\partial D/\partial t$

55213156102.

Gauss's law, J

55213156103. Faraday's law, $\partial B/\partial t$

55213156104. Ampere's law, $\partial \rho / \partial t$

Question Number : 77 Question Id : 55213114288 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The photoelectric effect explains:

Options :

55213156105. The wave nature of light

55213156106. The particle nature of light

55213156107. The wave properties of an electron

55213156108. The particle properties of an electron

Question Number : 78 Question Id : 55213114289 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following operators is Hermitian?

Options :

55213156109. d/dx

55213156110. d^2/dx^2

55213156111. $i\, d^2/dx^2$

55213156112. d^3/dx^3

Question Number : 79 Question Id : 55213114290 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which one of the following objects moving at the same speed is associated with a greatest wavelength?

Options :

55213156113. Neutron

55213156114. Electron

55213156115. Tennis ball

55213156116. Bowling ball

Question Number : 80 Question Id : 55213114291 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which statement below is true with regard to Bohr's model of the atom?

Options :

55213156117. The model accounted for the absorption spectra of atoms but not for the emission spectra.

55213156118. The model could account for the emission spectrum of hydrogen and for the Rydberg equation.

55213156119. The model was based on the wave properties of the electron.

55213156120. The model accounted for the emission spectra of atoms, but not for the absorption spectra.

Question Number : 81 Question Id : 55213114292 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The letter designation for the subshell is based on

Options :

55213156121. The value of the orbital angular momentum quantum number

55213156122. The value of the principal quantum number

55213156123. The value of the magnetic quantum number, m

55213156124. The value of the spin quantum number, m_s

Question Number : 82 Question Id : 55213114293 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

For the parity operator P, which of the following statements is **NOT** true?

Options :

55213156125. $P^{\dagger} = P$

55213156126. $P^2 = -P$

55213156127. $P^2 = I$

55213156128. $P^{\dagger} = P^{-1}$

Question Number : 83 Question Id : 55213114294 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If ψ(x,t) is the solution of Schrödinger's wave equation, then $|\psi(x,t)|^2 d\tau$ is

Options :

55213156129. probability

55213156130. probability density

55213156131. current

55213156132. current density

Question Number : 84 Question Id : 55213114295 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Eigen vectors of two hermitian operators having different eigen values are

Options :

55213156133. orthogonal

55213156134. parallel

55213156135. same

55213156136. null vectors

Question Number : 85 Question Id : 55213114296 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following statements is incorrect about Brownian motion?

Options :

55213156137. The lower the viscosity of the liquid or gas, the greater is the motion.

55213156138. The smaller is the particle size, the greater is the motion

55213156139. The motion is dependent on the mechanical vibration

55213156140. The motion is continuous, eternal, irregular and random

Question Number : 86 Question Id : 55213114297 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In the case of Bose-Einstein condensation

Options :

55213156141. Number of particles decreases in lower energy levels at low temperature and high pressure

55213156142. Number of particles increase in lower energy levels at low temperatures and high pressures

55213156143. Number of particles decreases in lower energy levels at high temperatures and low pressures

55213156144. Number of particles increases in lower energy levels at high temperatures and low pressures

Question Number : 87 Question Id : 55213114298 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

A particle of unit mass is executing simple harmonic vibrations, then the trajectory in phase space is

Options :

55213156145. Ellipse

55213156146. Hyperbola

55213156147. Parabola

55213156148. Circle

Question Number : 88 Question Id : 55213114299 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following statements is correct in equilibrium?

Options :

55213156149. Number of microstates and entropy are multiplicative

55213156150. Entropy and number of microstates are additive

55213156151. Entropy is additive whereas number of microstates are multiplicative

55213156152. Entropy is multiplicative whereas number of microstates are additive

Question Number : 89 Question Id : 55213114300 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If the thermodynamic process remains isothermal as well as isobaric, then which of the following functions remains constant

Options :

55213156153. Helmholtz function

55213156154. Internal energy

55213156155. Gibb's function

55213156156. Enthalpy

Question Number : 90 Question Id : 55213114301 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The internal energy of a real gas depends upon

Options :

55213156157. Volume

55213156158. Pressure

55213156159. Temperature

55213156160. Temperature and volume

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 : 91 Question Id : 55213114302 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The probability density of a canonical ensemble

Options :

55213156161. Depends on temperature

55213156162. Depends on energy

55213156163. Depends on energy and temperature

55213156164. Independent of energy and temperature

Question Number : 92 Question Id : 55213114303 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

When a metal-semiconductor junction is in thermal equilibrium,

Options :

55213156165. The Fermi levels of the two materials coincide

55213156166. The Fermi level in the metal is higher than that in the semiconductor

55213156167. The Fermi level in the semiconductor is higher than that in the metal

55213156168. Surface states do not affect the behavior of metal-semiconductor junction

Question Number : 93 Question Id : 55213114304 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Diffusion capacitance in a p-n junction diode arise due to

Options :

55213156169. Forward biasing and contribution from majority charge carriers

55213156170. Forward biasing and contribution from minority carriers

55213156171. Reverse biasing and contribution from majority carriers

55213156172. Reverse biasing and contribution minority carriers

Question Number : 94 Question Id : 55213114305 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

A Ge transistor with $\alpha = 0.98$ gives reverse saturation current $I_{CO} = 10\mu A$ when used in common base configuration. When the transistor is connected in common emitter configuration with base current of 0.4mA, then the collector current is

Options :

55213156173. 2.01mA

55213156174. 20.1mA

55213156175. 19.6mA

55213156176. 10.4mA

Sub-Section Number :	4
Sub-Section Id :	5521311260
Question Shuffling Allowed :	Yes

Question Number : 95 Question Id : 55213114306 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following transistor configuration can act as buffer stage?

Options :

55213156177. Common base

55213156178. Common Emitter

55213156179. Common Collector

55213156180. All the above

Sub-Section Number : 5

Sub-Section Id : 5521311261

Question Shuffling Allowed : Yes

Question Number : 96 Question Id : 55213114307 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The low frequency and high frequency fall in the gain of an RC-coupled amplifier respectively is due to

Options :

55213156181. Increase in the reactance of bypass capacitance and coupling capacitance

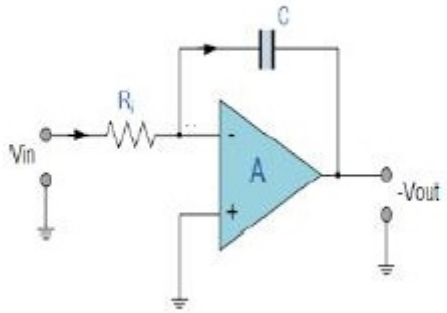
55213156182. Decrease in the reactance of coupling capacitance and bypass capacitance

55213156183. Increase in the reactance of coupling capacitance and decrease in the reactance of bypass capacitance

55213156184. Increase in the reactance of bypass capacitance and decrease in the reactance of coupling capacitance

Question Number : 97 Question Id : 55213114308 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The output of the following circuit is



Options :

55213156185. $$v_o = -\frac{1}{CR}\int_0^t v_i \, dt$$

55213156186. $$v_o = -\frac{R}{C}\int_0^t v_i \quad dt$$

55213156187. $$v_o = -\frac{1}{C}\int_0^t v_i \, dt$$

55213156188. $$v_o = -CR\int_0^t v_i i \, dt$$

Question Number : 98 Question Id : 55213114309 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Which register bank will come into use when we alter RS0 and RS1 of the PSW register by employing SETB PSW.3 in 8051.

Options :

55213156189. Bank 0

55213156190. Bank 1

55213156191. Bank 2

55213156192. Bank 3

Question Number : 99 Question Id : 55213114310 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

The rate of convergence of Newton Raphson method of solution of transcendental equations is

Options :

55213156193. linear

55213156194. quadratic

55213156195. cubic

55213156196. exponential

Question Number : 100 Question Id : 55213114311 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In which of the following numerical integration methods, 'n' the number of intervals must be multiple of three

Options :

55213156197. Simpsons 1/3 rule

55213156198. Trapezoidal rule

55213156199. Simpson's 3/8 rule

55213156200. Newton-Coates formula

Question Number : 101 Question Id : 55213114312 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Newton Raphson method is to be used to calculate cube root of 65. Initial guess is taken to be 4, then the first approximation is

Options :

55213156201. 65/16

55213156202. 131/32

55213156203. $191/48$

55213156204. $193/48$

Question Number : 102 Question Id : 55213114313 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If C is outer product of a contra-variant tensor A of rank 2 and a covariant tensor B of rank 2, then rank of tensor C is

Options :

55213156205. 2

55213156206. 1

55213156207. 3

55213156208. 4

Question Number : 103 Question Id : 55213114314 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If A and B are real symmetric matrices of order n, then which of the following is true

Options :

55213156209. $A A^T = I$

55213156210. $A = A^{-1}$

55213156211. $AB = BA$

55213156212. $(AB)^T = B^T A^T$

Question Number : 104 Question Id : 55213114315 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

One dimensional heat conduction equation is a

Options :

55213156213. hyperbolic equation

55213156214. Parabolic equation

55213156215. elliptic equation

55213156216. mixed equation

Question Number : 105 Question Id : 55213114316 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The value of i^i where $i = \sqrt{-1}$ is

Options :

55213156217. 0

55213156218. $e^{-\pi/2}$

55213156219. $e^{\pi/2}$

55213156220. 1

Question Number : 106 Question Id : 55213114317 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If G is a group such that $a^2 = e$, for 'a' belonging to G then G is a _____ group

Options :

55213156221. abelian

55213156222. non-abelian

55213156223. cyclic

55213156224. field

Question Number : 107 Question Id : 55213114318 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The solution of the Hamilton-Jacobi equation is:

Options :

55213156225. Hamilton's principle function which is the generating function of a canonical transformation to canonical variables that are all constants

55213156226. Hamilton's principle

55213156227. Hamilton's principle function which is the generating function of a canonical transformation to canonical variables that are all not constant

55213156228. The time dependent quantum mechanical wave function

Question Number : 108 Question Id : 55213114319 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Canonical transformation can often be verified by using a

Options :

55213156229. Inertia tensor

55213156230.

Lagrange bracket

55213156231. Generating function

55213156232. Degenerating function

Question Number : 109 Question Id : 55213114320 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Hamilton's canonical equations of motion are

Options :

55213156233. $\dot{q}_k = \frac{\partial H}{\partial \dot{p}_k}, \dot{p}_k = - \frac{\partial H}{\partial q_k}$

55213156234. $\dot{q}_k = \frac{\partial H}{\partial p_k}, \dot{p}_k = - \frac{\partial H}{\partial q_k}$

55213156235. $\dot{q}_k = - \frac{\partial H}{\partial p_k}, \dot{p}_k = - \frac{\partial H}{\partial q_k}$

55213156236. $\dot{q}_k = - \frac{\partial H}{\partial p_k}, \dot{p}_k = \frac{\partial H}{\partial q_k}$

Question Number : 110 Question Id : 55213114321 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The incorrect relation for Poisson brackets is

Options :

55213156237. $[L_x, p_x]=0$

55213156238. $[L_y, p_y]=0$

55213156239. $[L_x, p_y] = p_z$

55213156240. $[L_y, p_z] = L_x$

Question Number : 111 Question Id : 55213114322 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The magnetic field corresponding to vector potential $\vec{A} = ix + jy + kx$ (where i,j,k are unit vectors) is

Options :

55213156241. Zero

55213156242. infinity

55213156243. $ix+jy+kz$

55213156244. $ix+jy$

Question Number : 112 Question Id : 55213114323 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Two electromagnetic waves are given by $E_1 = i\,E_o\cos(\omega t)$ and $E_2 = j\,E_o\cos(\omega t+\delta)$, where ω is angular frequency and δ is phase difference (i and j are unit vectors). The intensity of the resultant wave due to the interference of these waves is

Options :

55213156245. Zero

55213156246. $\varepsilon_o E_o$

55213156247. $\varepsilon_o E_o^2 \cos^2(\delta)$

55213156248. $\varepsilon_o E_o^2 \sin^2(\delta)$

Question Number : 113 Question Id : 55213114324 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

For a scalar function φ satisfying Laplace equation, $\nabla\phi$ has

Options :

55213156249. Zero curl, non-zero divergence

55213156250. Zero curl, zero divergence

55213156251. non- Zero curl, zero divergence

55213156252. non- Zero curl, non-zero divergence

Question Number : 114 Question Id : 55213114325 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

For a plane electromagnetic wave propagating in an isotropic non-conducting medium (free space) propagation vector and poynting vector have

Options :

55213156253. Same direction

55213156254. opposite direction

55213156255. same magnitude

55213156256. zero magnitude

Question Number : 115 Question Id : 55213114326 Question Type : MCQ Option Shuffling : Yes

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Poission equation is valid for

Options :

55213156257. Scalar potentials only

55213156258. Both scalar and vector potentials

55213156259. vector potentials only

55213156260. when charge density is zero only

Question Number : 116 Question Id : 55213114327 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following relations is true for Pauli matrices σ_x, σ_y and σ_z

Options :

55213156261. $\boldsymbol{\sigma_x\sigma_y = \sigma_y\sigma_x}$

55213156262. $\boldsymbol{\sigma_x\sigma_y = \sigma_z}$

55213156263. $\boldsymbol{\sigma_x\sigma_y = i\sigma_z}$

55213156264. $\boldsymbol{\sigma_x\sigma_y} = -\sigma_y\sigma_x\alpha\alpha$

Question Number : 117 Question Id : 55213114328 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In quantum mechanical scattering the scattering amplitude has the dimensions of

Options :

55213156265. Time

55213156266. length

55213156267. frequency

55213156268. Area

Question Number : 118 Question Id : 55213114329 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following is a first order differential equation

Options :

55213156269. Klein-Gordon equation

55213156270.

Schrodinger relativistic equation

55213156271. Dirac equation

55213156272. Inhomogeneous wave equation

Question Number : 119 Question Id : 55213114330 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If $\frac{\hbar\Sigma}{2}$ is the spin of electron and p is its momentum, the helicity of the electron is

Options :

55213156273. $\Sigma+p$

55213156274. Σxp

55213156275. $\Sigma.p$

55213156276. Σ/p

Question Number : 120 Question Id : 55213114331 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

According to the Dirac theory of relativistic quantum mehcnaics, which of the following is not a constant of motion

Options :

55213156277. L

55213156278. J

55213156279. p

55213156280. $\Sigma.p$

Question Number : 121 Question Id : 55213114332 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which one of the following is a first order phase transition?

Options :

55213156281. Superconducting to normal state

55213156282. Normal liquid Helium to superfluid liquid Helium

55213156283. Ferrromagnetic to paramagnetic

55213156284. Vapourisation of a liquid at boiling point

Question Number : 122 Question Id : 55213114333 Question Type : MCQ Option Shuffling : Yes

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

For Bose- Einstein condensation ($T < T_C$) pressure varies with temperature as

Options :

55213156285. $P \alpha T^{1/2}$

55213156286. $P \alpha T$

55213156287. $P \alpha T^{5/2}$

55213156288. $P = 0$

Question Number : 123 Question Id : 55213114334 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The one-dimensional Ising model is a chain of N-spins, each spin interacting only with its two nearest neighbors and neglecting external magnetic field (H), the energy of the system is

Options :

55213156289. $NE \coth(\frac{E}{kT})$

55213156290. $-NE \tanh(\frac{E}{kT})$

55213156291.

-NkT log (2 Cosh($\frac{E}{kT}$))

55213156292. -NE Cot^2 ($\frac{hE}{kT}$)

Question Number : 124 Question Id : 55213114335 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following physical quantity is intensive variable?

Options :

55213156293. Pressure

55213156294. Entropy

55213156295. Volume

55213156296. Energy

Question Number : 125 Question Id : 55213114336 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In Gibbs paradox, two equal volumes of the same gas are at the same temperature and pressure and contains the same number of molecules, then the total change in the entropy of the system

Options :

55213156297. Zero

55213156298. $2NK_B\log_e 2$

55213156299. $2K_B\log_e 2$

55213156300. Never changes

Question Number : 126 Question Id : 55213114337 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Transition of anomalous Zeeman into normal Zeeman effect is called

Options :

55213156301. Stark effect

55213156302. Lamb shift

55213156303. Raman Effect

55213156304. Pachen Back effect

Question Number : 127 Question Id : 55213114338 Question Type : MCQ Option Shuffling : Yes

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Visible region Optical absorption of a material is due to

Options :

55213156305. atomic transitions

55213156306. molecular transitions

55213156307. electronic transitions

55213156308. nuclear transitions

Question Number : 128 Question Id : 55213114339 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

NMR can be explained using

Options :

55213156309. Newtons equations

55213156310. Bloch's equations

55213156311. Deslander's table

55213156312. Briett's Scheme

Question Number : 129 Question Id : 55213114340 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In vibrational spectral of a diatomic molecule if $\Delta J = J' - J = 1$ then the resulting transitions belong to

Options :

55213156313. P-branch

55213156314. R branch

55213156315. Q branch

55213156316. S branch

Question Number : 130 Question Id : 55213114341 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In electronic transitions, the bands having constant value of $\Delta\nu = \nu' - \nu''$ where ν' final state frequency and ν'' is initial state frequency, are called

Options :

55213156317. progression

55213156318. sequence

55213156319. series

55213156320. branch

Question Number : 131 Question Id : 55213114342 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Hydrogen atom does not emit X-rays because

Options :

55213156321. its energy levels are too close to each other

55213156322. its energy levels are too far apart

55213156323. it is too small in size

55213156324. it has single electron

Question Number : 132 Question Id : 55213114343 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

What is the frequency of an IR photon with a wavelength of 1.2×10^{-3} cm? c = 3.00×10^{8} m/s.

Options :

55213156325. 3.6×10^{6} Hz

55213156326. 2.5×10^{13} Hz

55213156327. 3600 Hz

55213156328. 2.5×10^{10} Hz

Question Number : 133 Question Id : 55213114344 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The Stokes shift in Raman corresponds to energy being transferred _____ a vibrating bond, and the Anti-Stokes lines correspond to energy being transferred _____ the bond.

Options :

55213156329. from, to

55213156330. to, from

55213156331. elastically to, in elastically from

55213156332. in elastically to, elastically from

Question Number : 134 Question Id : 55213114345 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Super fluidity means

Options :

55213156333. Fluid flow with zero viscosity that occurs in isotopes of He at all temperatures

55213156334. Fluid flow with maximum viscosity in Hg

55213156335. Fluid flow with minimum viscosity in isotopes of He -II

55213156336. Fluid flow with zero viscosity in isotopes of He when reduced to cryogenic temperatures

Question Number : 135 Question Id : 55213114346 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

High temperature superconductors and low temperature superconductors respectively are

Options :

55213156337. Metal and semiconductors

55213156338. Ceramics and metals

55213156339. Metals and ceramics

55213156340. Ceramics and semiconductors

Question Number : 136 Question Id : 55213114347 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

If **k** is a wave vector and **E** is the energy then the effective mass of the electron moving in a crystal is given by

Options :

55213156341. $\frac{\hbar}{dE/dk}$

55213156342. $\frac{dE/dk\hbar}{\hbar}$

55213156343. $\frac{\hbar^2}{d^2E/dk^2}$

55213156344. $\frac{d^2E/dk^2}{\hbar^2}$

Question Number : 137 Question Id : 55213114348 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The ratio of thermal conductivity to electrical conductivity for all metals at a fixed temperature according to Wiedemann –Franz law

Options :

55213156345. Remains constant

55213156346. Varies

55213156347. Zero

55213156348. Infinity

Question Number : 138 Question Id : 55213114349 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In low temperature variation of specific heat of metals

Options :

55213156349. Electronic part is linear and lattice part is quadratic

55213156350. Electric part is cubic and lattice part is linear

55213156351. Electronic part is linear and lattice part is cubic

55213156352. Electric part is quadratic and lattice part is cubic

Question Number : 139 Question Id : 55213114350 Question Type : MCQ Option Shuffling : Yes

Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Which of the following is correct in case of crystal momentum

Options :

55213156353. Momentum of the crystal

55213156354. Momentum of the electron in the crystal

55213156355. Momentum of phonon in the crystal

55213156356. Momentum of the free electron

Question Number : 140 Question Id : 55213114351 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The nuclear magneton is about --------- times ---------- than the Bohr magneton

Options :

55213156357. 1000, smaller

55213156358. 2000, smaller

55213156359. 1000, bigger

55213156360. 2000, bigger

Question Number : 141 Question Id : 55213114352 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Choose the correct answer for the following statements.

Statement-I: A free neutron (neutron outside nucleus) under goes a decay with a half-life of about 12 minutes

Statement-II: No decay of free proton has so far been observed.

Options :

55213156361. Both statements I and II are correct.

55213156362. Both statements I and II are incorrect.

55213156363. Statement I is correct whereas statement II is incorrect.

55213156364. Statement I is incorrect but statement II is correct.

Question Number : 142 Question Id : 55213114353 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

In the deuteron, the probability of finding the neutron and proton within the range of nuclear force is about

Options :

55213156365. 10%

55213156366. 30%

55213156367. 70%

55213156368. 100%

Sub-Section Number : 6

Sub-Section Id : 5521311262

Question Shuffling Allowed : Yes

Question Number : 143 Question Id : 55213114354 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The liquid drop model could not account for the

Options :

55213156369. Nuclear fission

55213156370. variation of nuclear mass with atomic number and mass

55213156371. Discontinuities in binding energies at the magic numbers

55213156372. all the above

Sub-Section Number : 7

Sub-Section Id : 5521311263

Question Shuffling Allowed : Yes

Question Number : 144 Question Id : 55213114355 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The contribution to the binding energy of a nucleus by the pairing energy term is proportional to

Options :

55213156373. $A^{2/3}$

55213156374. $Z(Z-1)/ A^{1/3}$

55213156375. $(A - 2 Z)^2 / A$

55213156376. $A^{-3/4}$

Question Number : 145 Question Id : 55213114356 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

The probability, λ , that nucleus decays with the emission of alpha particle is

Where f represents the probability of finding an alpha particle at the potential barrier with kinetic energy E_α and P represents the probability of its tunnelling through the barrier.

Options :

55213156377. $\lambda = f. P$

55213156378. $\lambda = f/P$

55213156379. $\lambda = P/f$

55213156380. $\lambda = f - P$

Question Number : 146 Question Id : 55213114357 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Nuclei having magic number of protons or neutrons show - - - - - - - - - electric Quadrupole moment.

Options :

55213156381. Almost zero

55213156382. negative

55213156383. More than one

55213156384. positive or negative

Question Number : 147 Question Id : 55213114358 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

Assertion (A): All the nuclear interactions are considered to be invariant under the three combined operations; charge conjugation, parity and time reversal.

Reason (R): The violation of any one is compensated by the combined effect of remaining two.

Options :

55213156385. Both (A) and (R) are incorrect.

55213156386. Both (A) and (R) are correct.

55213156387. (A) is correct, but (R) is incorrect.

55213156388. (A) is correct whereas (R) is not properly explained.

Question Number : 148 Question Id : 55213114359 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes

Correct Marks : 2 Wrong Marks : 0

According to quark model, every baryon is made up of _____ quarks.

Options :

55213156389. 1

55213156390. 2

55213156391. 3

55213156392. 4

Question Number : 149 Question Id : 55213114360 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Particles that participate in the strong interactions are called

Options :

55213156393. Neutrinos

55213156394. hadrons

55213156395. leptons

55213156396. photons

Question Number : 150 Question Id : 55213114361 Question Type : MCQ Option Shuffling : Yes Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : 0 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 : Yes Correct Marks : 2 Wrong Marks : 0

Lepton number is

Options :

55213156397. Violated in weak interactions

55213156398. strong interactions

conserved in all interactions
55213156399.

conserved in weak interactions
55213156400.