

Telangana State Council Higher Education

Notations :

- Options shown in **green** color and with  icon are correct.
- Options shown in **red** color and with  icon are incorrect.

Question Paper Name :	Mathematics 3rd Oct 2020 Shift 1
Subject Name :	Mathematics
Creation Date :	2020-10-03 13:13:52
Duration :	120
Number of Questions :	146
Total Marks :	150
Display Marks:	Yes
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console? :	Yes

Mathematics

Group Number :	1
Group Id :	78948447
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	150
Is this Group for Examiner? :	No

General English

Section Id :	789484209
Section Number :	1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	21
Number of Questions to be attempted :	21
Section Marks :	25
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	789484255
Question Shuffling Allowed :	No

Question Id : 7894846947 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes
Group Comprehension Questions : No
Question Numbers : (1 to 5)

1-5

Read the passage carefully and mark the correct answers for the questions that follow:

My father's family is not a musical family. They are a family of words, a family that thrives on long discussions, Sunday crossword puzzles and puns. My brother has my father's dark hair, his love of a good argument and his incisive wit. I take after my mother. From her I inherited a curious nature, a sense of adventure and bright red hair. I did not, contrary to her hopes, inherit a talent for the piano. That fact was established beyond doubt after prolonged and futile attempts to draw music from me.

The piano lessons began when I was four. My mother was convinced that I would be a child prodigy, one of the rare, startling creatures who sits down at the piano for the first time and discovers how to make the piano sing. She had made some phone calls and found the ideal teacher to nurture such a prodigy – Madame Oblenka, a stern Russian woman. Madame Oblenka, who expected a little Mozart, was not overly delighted to find herself saddled with a little girl banging her fists on the keys.

Sub questions

Question Number : 1 Question Id : 7894846948 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

According to the passage, which of these statements is NOT true?

Options :

1. ✖ The narrator's family loves lengthy discussions.
2. ✖ The narrator's family is witty.
3. ✔ The narrator's family enjoys music
4. ✖ The narrator's family loves the Sunday crossword puzzles.

Question Number : 2 Question Id : 7894846949 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of these qualities did the narrator's mother have ?

Options :

1. ✔ musical talent
2. ✖ love for crossword puzzles
3. ✖ razor-sharp wit
4. ✖ dark hair

Question Number : 3 Question Id : 7894846950 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

How old was the narrator when music lessons began?

Options :

1. ✖ 2 years
2. ✖ 14 years
3. ✖ 6 years

4. ✓ 4 years

Question Number : 4 Question Id : 7894846951 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

What was firmly established about the narrator?

Options :

1. ✗ The narrator was a child prodigy.
2. ✓ The narrator had no musical talent.
3. ✗ The narrator was excellent at words.
4. ✗ The narrator knew how to make the piano sing.

Question Number : 5 Question Id : 7894846952 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The 'I' in the passage refers to

Options :

1. ✗ the father
2. ✗ the mother
3. ✗ a little boy
4. ✓ a little girl

Sub-Section Number :

2

Sub-Section Id :

789484256

Question Shuffling Allowed :

Yes

Question Number : 6 Question Id : 7894846953 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify which part of the sentence is grammatically **incorrect**.

Options :

1. ✖ If we
2. ✖ exercise regularly.
3. ✖ we will be
4. ✔ more healthier.

Question Number : 7 Question Id : 7894846954 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the grammatically **incorrect** sentence.

Options :

1. ✔ If you are not regular, you face difficulties.
2. ✖ If you are not regular, you may face difficulties.
3. ✖ If you are not regular, you will face difficulties.
4. ✖ If you are not regular, you might face difficulties.

Question Number : 8 Question Id : 7894846955 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the grammatically **correct** sentence.

Options :

1. ✖ She will not be happy unless her friends do not help her.

2. ✓ She will not be happy unless her friends help her.
3. ✗ She will not be happy unless her friends will not help her.
4. ✗ She will not be happy unless her friends will help her.

Question Number : 9 Question Id : 7894846956 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Complete the sentence using appropriate auxiliary verbs.
If you _____ see clearly, then you _____ wear spectacles.

Options :

1. ✗ can, must
2. ✗ need, used
3. ✓ can't, must
4. ✗ may, will

Question Number : 10 Question Id : 7894846957 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Complete the sentence using appropriate tense.
Yesterday, he _____ from his official trip to Delhi

Options :

1. ✗ returns
2. ✓ returned

3. ✖ has returned

4. ✖ was returned

Question Number : 11 Question Id : 7894846958 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Complete the following using suitable prepositions.

His daughter was born ____ 12 midnight ____ 14 August ____ 1947.

Options :

1. ✔ at, on, in

2. ✖ at, of, in

3. ✖ at, from, during

4. ✖ at, at, in

Question Number : 12 Question Id : 7894846959 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the sentence with the **incorrect** use of preposition.

Options :

1. ✔ The loud noise prevented him to sleep.

2. ✖ She is planning to take a one year course in Japanese.

3. ✖ We arrived at her house and knocked on the door.

4. ✖ The TV campaign is aimed at the 16-24 age group.

Question Number : 13 Question Id : 7894846960 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which is a synonym of the word “MOMENTOUS”?

Options :

1. ✖ trivial
2. ✔ historic
3. ✖ frightening
4. ✖ moving

Question Number : 14 Question Id : 7894846961 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which is an antonym of the word “DILIGENT”?

Options :

1. ✖ hardworking
2. ✖ industrious
3. ✔ lazy
4. ✖ productive

Question Number : 15 Question Id : 7894846962 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Choose the pair which are NOT synonyms of each other.

Options :

1. ✖ happy-elated
2. ✖ commonplace -boring
3. ✖ stupid-dumb
4. ✔ adversary-supporter

Question Number : 16 Question Id : 7894846963 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the misspelt word.

Options :

1. ✔ occassion
2. ✖ acknowledgement
3. ✖ receive
4. ✖ pronunciation

Question Number : 17 Question Id : 7894846964 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Identify the correctly spelt word.

Options :

1. ✖ acquaintence
2. ✔ acquaintance

3. ✖ acquaintance

4. ✖ acqwentance

Question Number : 18 Question Id : 7894846965 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of these can be used as a prefix to the word “ACTIVE”?

Options :

1. ✖ UN

2. ✖ DIS

3. ✖ MICRO

4. ✔ HYPER

Question Number : 19 Question Id : 7894846966 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which suffix can be added to the word “PRESENT”?

Options :

1. ✖ MENT

2. ✖ IBLE

3. ✔ ABLE

4. ✖ LESS

Question Number : 20 Question Id : 7894846967 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Complete the sentence using appropriate articles .

I opened ____ door and found ____ old man waring ____ dhoti standing before me.

Options :

1. ✖ the, the, a

2. ✖ a, an, the

3. ✔ the, an, a

4. ✖ a, an, the

Question Number : 21 Question Id : 7894846968 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence with the correct article use.

Options :

1. ✔ He is the best player in the team.

2. ✖ Do you play the football?

3. ✖ I have an urgent business.

4. ✖ The gold is precious metal.

Question Number : 22 Question Id : 7894846969 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the appropriate tag.

It hasn't rained since morning. _____ ?

Options :

1. ✖ isn't it ?
2. ✔ has it ?
3. ✖ hasn't it ?
4. ✖ did it?

Question Number : 23 Question Id : 7894846970 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Change the following to Direct Speech.

They said they were exercising every day.

Options :

1. ✖ They say, "We were exercising every day".
2. ✔ They said, "We are exercising every day".
3. ✖ They said, "They are exercising every day".
4. ✖ They said, "We exercise every day".

Question Number : 24 Question Id : 7894846971 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Change the following into Passive Voice.

They conducted gender training in six villages.

Options :

1. ✖ Gender training is conducted in six villages.
2. ✖ Gender training has been conducted in six villages.
3. ✖ Gender training had been conducted by them in six villages.
4. ✔ Gender training was conducted in six villages.

Question Number : 25 Question Id : 7894846972 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Rewrite the sentence without changing the meaning.

I did not invite him, still he came to my party.

Options :

1. ✖ As I did not invite him, but he came to my party.
2. ✖ Because I did not invite him, so he came to my party.
3. ✔ He came to my party though I did not invite him.
4. ✖ However I did not invite him, yet he came to my party.

General Knowledge

Section Id :	789484210
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	15
Mark As Answered Required? :	Yes

Sub-Section Number : 1
 Sub-Section Id : 789484257
 Question Shuffling Allowed : Yes

Question Number : 26 Question Id : 7894846973 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Jaya Arunachalam, who died recently, is associated with one of the following
 ఇటీవలే మరణించిన జయ అరుణాచలం, ఈ రంగానికి చెందిన వ్యక్తి

Options :

1. ✖ Painting
పెయింటింగ్
2. ✔ Self Help Group Movement
స్వయం సహాయక సంఘాల ఉద్యమం
3. ✖ Dancing
నాట్యం
4. ✖ Chemical Industry
రసాయన పరిశ్రమలు

Question Number : 27 Question Id : 7894846974 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Viveka Deepini is authored by
 వివేక దీపిని రచించిన వారు

Options :

1. ✖ Abdul Kalam
అబ్దుల్ కలాం
2. ✔ Venkaiah Naidu
వెంకయ్య నాయుడు
3. ✖ Dasarathi
దాశరథి

Yandamuri Veerendranath

యండమూరి వీరేంద్రనాథ్

4. ✖

Question Number : 28 Question Id : 7894846975 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The range of ASTRA is

అస్ట్రా క్షిపణి పరిధి

Options :

1. ✖ 50 KM

2. ✔ 70 KM

3. ✖ 90 KM

4. ✖ 100 KM

Question Number : 29 Question Id : 7894846976 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

PONUNG DOMING is associated with

పోనుంగ్ దోమింగ్ దీనికి సంబంధించిన వారు

Options :

1. ✔ Army
పైన్యం2. ✖ Science
సైన్స్3. ✖ Culture
సంస్కృతి

Sports
క్రీడలు

4. ✖

Question Number : 30 Question Id : 7894846977 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Recently International Astronomical Union has approved the name of a Minor Planet after

ఇటీవలే ఒక చిన్న గ్రహానకు అంతర్జాతీయ అస్ట్రోనామికల్ సంఘం వారు నిర్ధారించిన పేరు

Options :

M.S Subbalakshmi

M.S సుబ్బలక్ష్మి

1. ✖

Hari Prasad Chaurasya

హరి ప్రసాద్ చౌరాస్య

2. ✖

Sonal Mansingh

సోనాల్ మాన్సింగ్

3. ✖

Pandit Jasraj

పండిట్ జస్ రాజ్

4. ✔

Question Number : 31 Question Id : 7894846978 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Financial Action Task Force is based in

ఫైనాన్షియల్ యాక్షన్ టాస్క్ ఫోర్స్ కేంద్రం ఇక్కడ కలదు

Options :

Geneva

జెనీవా

1. ✖

Washington

వాషింగ్టన్

2. ✖

3. ✓ Paris
పారిస్

4. ✗ Rome
రోమ్

Question Number : 32 Question Id : 7894846979 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Voyager 2 do not study one of the following planets
వోయేజెర్ 2 ఈ క్రింది గ్రహానికి సంబంధించిన పరిశోధన చేయదు

Options :

1. ✓ Mercury
బుధుడు

2. ✗ Jupiter
బృహస్పతి

3. ✗ Neptune
నెప్ట్యూన్

4. ✗ Uranus
యురేనస్

Question Number : 33 Question Id : 7894846980 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

First woman to walk in space is
రోదసిలో నడచిన మొదటి మహిళ

Options :

1. ✓ Svetlana Savitsakaya
స్వెట్లానా సావిత్సాయ

2. ✗ Jesica Meir
జేసికా మేఇర్

3. ✖ Christina Koch
క్రిస్టినా కోచ్

4. ✖ Valentina Tereshkova
వలెన్టినా తెరిష్కోవ

Question Number : 34 Question Id : 7894846981 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

“Gottiprolu” is in the news recently because
గొట్టిప్రోలు దీనికి సంబంధించి వార్తలలో నిలిచింది

Options :

1. ✔ Human settlements were discovered
మానవ ఆవాసాలు కనుగొనబడినవి

2. ✖ Uranium reserves were discovered
యురేనియం నిక్షేపాలు కనుగొనబడినవి

3. ✖ Skeletal remains of a Dinosaur discovered
రాక్షస బల్లి అవశేషాలు కనుగొనబడినవి

4. ✖ Both (a) and (b)
(ఎ) మరియు (బి)

Question Number : 35 Question Id : 7894846982 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Shaala Darpan Portal is of
శాలా దర్పణ పోర్టల్ దీనికి సంబంధించినది

Options :

1. ✖ UGC
యుజిసి

2. ✓ Navodaya Schools
నవోదయ స్కూల్స్

3. ✗ Agricultural University
వ్యవసాయ విశ్వవిద్యాలయాలు

4. ✗ Banks
బ్యాంక్‌లు

Question Number : 36 Question Id : 7894846983 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Hornbill Festival is associated with one of the following states
హార్న్ బిల్ పండుగ ఈ రాష్ట్రానికి సంబంధించినది

Options :

1. ✗ Manipur
మణిపూర్

2. ✗ Tripura
త్రిపుర

3. ✗ Meghalaya
మేఘాలయ

4. ✓ Nagaland
నాగాలాండ్

Question Number : 37 Question Id : 7894846984 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

“Tetralogy” is a study of
టెట్రాలజీ వీటిని అధ్యయనం చేస్తుంది

Options :

1. ✓ Birth defects
పుట్టుకతో ఏర్పడిన లోపాలు
2. ✗ Weeds
కలుపు మొక్కలు
3. ✗ Micro Organisms
సూక్ష్మజీవులు
4. ✗ Fishes
చేపలు

Question Number : 38 Question Id : 7894846985 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Cereals belong to the _____ family
 ధాన్యాలు(Cereals) ఈ కుటుంబానికి చెందినవి

Options :

1. ✗ Apiaceae
అపియాసియే
2. ✗ Caesalpiniaceae
సీసల్పినియాసియా
3. ✓ Graminae
గ్రామినే
4. ✗ Solanaceae
సోలనాసియే

Question Number : 39 Question Id : 7894846986 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

“Satyameva Jayate”, contained in the national emblem, is derived from
 భారత జాతీయ చిహ్నంలోని “సత్యమేవ జయతే” దీని నుండి సంగ్రహించారు

Options :

1. ✖ Kena Upanishad
కేన ఉపనిషత్తు
2. ✖ Katha Upanishad
కథా ఉపనిషత్తు
3. ✖ Aitareya Upanishad
ఐతరేయ ఉపనిషత్తు
4. ✔ Mundaka Upanishad
ముండక ఉపనిషత్తు

Question Number : 40 Question Id : 7894846987 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Great Indian Bustard is a _____ as per International Union for Conservation of Nature (IUCN)

అంతర్జాతీయ ప్రకృతి పరిరక్షణ సమితి ప్రకారం బట్ట మేక పిట్ట (Great Indian Bustard)

Options :

1. ✖ Extinct
అంతరించిపోయిన జాతి
2. ✔ Critically Endangered
తీవ్రంగా అంతరించిపోతున్న జాతి
3. ✖ Endangered
అంతరించిపోతున్న జాతి
4. ✖ Vulnerable
అంతరించిపోవడానికి అవకాశమున్న జాతి

Section Id :	789484211
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	789484258
Question Shuffling Allowed :	Yes

Question Number : 41 Question Id : 7894846988 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Main purpose of giving home work is that the students.

ఇంటి పని ఇవ్వడం యొక్క ప్రధాన ఉద్దేశ్యం, విద్యార్థులు

Options :

1. ✖ ☐ Remain busy at home
ఇంటి వద్ద పనిలో నిమగ్నమై ఉండటానికి
2. ✖ ☐ Study at home
ఇంటి వద్ద చదవడానికి
3. ✖ ☐ Their progress can be enhanced
వారి ప్రగతిని పెంపొందించవచ్చు
4. ✔ ☒ Develop the habit of self study
స్వీయ అధ్యయన అలవాట్లను పెంపొందించడానికి

Question Number : 42 Question Id : 7894846989 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

On the basis of summative tests, a teacher is interpreting student's performance in term of their wellness life style evident in behaviour. This will be called.

సమకలన మూల్యంకన పరీక్షల ఫలితాల ఆధారంగా, ఒక ఉపాధ్యాయుడు విద్యార్థుల యొక్క ప్రవర్తనలో కనిపించే ఆరోగ్యకరమైన జీవన విధాన నిష్పాదనను వ్యాఖ్యానించడాన్ని ఇలా పేర్కొనవచ్చును.

Options :

Continuous and comprehensive evaluation

1. ✖

నిరంతర సమగ్ర మూల్యాంకనము

Norm-referenced testing

2. ✖

ప్రమాణ ఆధారిత పరీక్ష

Criterion-referenced testing.

3. ✔

పూర్వ నిర్ధారిత ఆధారిత పరీక్ష

Formative testing.

4. ✖

రూపణ పరీక్ష

Question Number : 43 Question Id : 7894846990 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

To raise the achievement standards of students in education, it is necessary.

విద్యలో పిల్లల సాధనా స్థాయిని పెంచడానికి అవశ్యకమైనది

Options :

To evaluate students continuously

1. ✔

విద్యార్థుల నిరంతర మూల్యాంకనము

To give high salary to teachers

2. ✖

ఉపాధ్యాయులకు అధికంగా జీతాలు ఇవ్వడం

To change curriculum

3. ✖

పాఠ్యప్రణాళికను (కరికులంను) మార్చడం

To construct good school building
మంచి పాఠశాల భవనాన్ని నిర్మించడము

4. ✖

Question Number : 44 Question Id : 7894846991 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A successful teacher is one who is:

విజయవంతమైన ఉపాధ్యాయుడనగా :

Options :

Compassionate and disciplinarian

సహృదయత మరియు క్రమశిక్షణగలవారు.

1. ✔

Quite and reactive

మౌనంగా ఉంటూ ప్రతిచర్యలను కనబరుచువారు

2. ✖

Tolerant and dominating

సహనశీలత మరియు అధిపత్యదోరణి గలవారు.

3. ✖

Passive and active.

నిశ్శబ్దంగా ఉంటూ చురుకుదనం చూపేవారు

4. ✖

Question Number : 45 Question Id : 7894846992 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A Teacher's major contribution towards the self-realization of the student is affected through.

ఒక విద్యార్థి స్వీయ అవగాహనను పెంపొందించడంలో ఉపాధ్యాయుని సహకారం ప్రధానంగా ఇలా ఉంటుంది :

Options :

Constant fulfillment of the students' needs

విద్యార్థి అవసరాలను నిరంతరంగా సంతృప్తిపరచడం

1. ✖

Strict control of class-room activities

తరగతిగది కృత్యాలను కఠినంగా నియంత్రించడం

2. ✖

Sensitivity to students' needs, goals and purposes
విద్యార్థుల అవసరాలను, గమ్యాలను, ఉద్దేశ్యాలను అర్థంచేసుకోవడం

3. ✓

Strict reinforcement of academic standards.
విద్యాప్రమాణాలను నిక్కచ్చిగా అమలుపరచడం

4. ✗

Question Number : 46 Question Id : 7894846993 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

విషయ ప్రణాళిక (సెలబస్) మరియు విద్యాప్రణాళిక (కరికులమ్) ల మధ్య సంబంధాన్ని సూచించే సరైన ప్రవచనం :

Options :

Syllabus is a part of curriculum
విషయ ప్రణాళిక విద్యాప్రణాళికలో భాగం

1. ✓

Curriculum is a part of syllabus
విద్యా ప్రణాళిక విషయ ప్రణాళికలో భాగం

2. ✗

Syllabus is an annexure to curriculum
విషయ ప్రణాళిక విద్యాప్రణాళికకు అనుబంధం

3. ✗

Curriculum is an annexure to syllabus
విద్యాప్రణాళిక విషయ ప్రణాళికకు అనుబంధం

4. ✗

Question Number : 47 Question Id : 7894846994 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The students who keep on asking questions in the class should be
తరగతిలో తరచుగా ప్రశ్నలను అడిగే విద్యార్థులను

Options :

Encouraged to find answer independently

1. ✓ స్వయంగా సమాధానాలు కనుక్కోవడానికి ప్రోత్సహించాలి

Advised to meet the teacher after the class

2. ✗ తరగతి బోధన తర్వాత ఉపాధ్యాయున్ని కలవమనాలి

Encouraged to continue questioning

3. ✗ ప్రశ్నించడాన్ని ప్రోత్సహించాలి

Advised not to disturb during the lecture.

4. ✗ ఉపన్యాసం మధ్యలో అటంకం కల్పించరాదని సూచించాలి.

Question Number : 48 Question Id : 7894846995 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When a normal student behaves in an erratic manner in the class, you would.

ఒక సాధారణవిద్యార్థి తరగతి గదిలో అసాధారణ ప్రవర్తనను కనబరచినపుడు నీవు చేయాల్సింది :

Options :

Pull up the student then and there

1. ✗ అప్పుడే, అక్కడే విద్యార్థిని బయటకు పంపడం

Talk to the student after the class

2. ✓ తరగతి తర్వాత విద్యార్థితో మాట్లాడడము

Ask the student to leave the class

3. ✗ ఆ విద్యార్థిని తరగతి విడిచివెళ్ళమనడం

Ignore the student.

4. ✗ ఆ విద్యార్థిని పట్టించుకోకపోవడం

Question Number : 49 Question Id : 7894846996 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A teacher's most important challenge is :

ఒక ఉపాధ్యాయుడు ప్రధానంగా ఎదుర్కొనే సవాలు :

Options :

To make students do their home work

విద్యార్థులచే ఇంటిపని చేయించడం

1. ✖

To make teaching-learning process enjoyable

బోధనాభ్యసన ప్రక్రియను ఆహ్లాదకరం చేయడం

2. ✔

To maintain discipline in the class room

తరగతి గదిలో క్రమశిక్షణను నెలకొల్పడం

3. ✖

To prepare the question paper

ప్రశ్నపత్రాన్ని తయారు చేయడం

4. ✖

Question Number : 50 Question Id : 7894846997 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Maximum participation of students is possible in teaching learning though:

బోధనాభ్యసన ప్రక్రియలో విద్యార్థుల భాగస్వామ్యాన్ని ఎక్కువ చేసే పద్ధతి :

Options :

Discussion method

చర్చా పద్ధతి

1. ✖

Lecture method

ఉపన్యాస పద్ధతి

2. ✖

Use of Audio-visual aids

దృశ్య-శ్రవణ బోధనాపరికరాల వినియోగం

3. ✖

Activity based method.

కృత్యాధార పద్ధతి

4. ✔

Mathematics

Section Id :	789484212
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	789484259
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 7894846998 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

$$\frac{d^n \cos(ax+b)}{dx^n} =$$

Options :

$$a^{-n} \cos\left(\frac{ax+b}{2} + \frac{n\pi}{2}\right).$$

1. ✖

$$a^{n+1} \cos\left(ax+b + \frac{n\pi}{2}\right).$$

2. ✖

$$a^n \cos\left(ax+b + \frac{n\pi}{2}\right).$$

3. ✔

$$a^{-n} \cos\left(\frac{ax+b}{n} + \frac{n\pi}{2}\right).$$

4. ✖

Question Number : 52 Question Id : 7894846999 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y = \sin ax + \cos ax$ Then $\frac{d^n y}{dx^n} =$

Options :

1. ✓ $a^n \sqrt{\{1 + (-1)^n \sin 2ax\}}$

2. ✗ $a^n \sqrt{\{1 + (-1)^n \sin ax\}}$

3. ✗ $a^{\frac{1}{2}} \sqrt{\{1 + (-1)^n \sin 2ax\}}$

4. ✗ $a^{\frac{1}{3}} \sqrt{\{1 + (-1)^n \sin 2ax\}}$

Question Number : 53 Question Id : 7894847000 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $y = \sin(\sin x)$ Then $\frac{d^2 y}{dx^2} + \tan x \frac{dy}{dx} =$

$y = \sin(\sin x)$ అయినపుడు $\frac{d^2 y}{dx^2} + \tan x \frac{dy}{dx} =$

Options :

1. ✗ $y^2 \cos^2 x$

2. ✗ $y^2 \cos x$

3. ✗ $y \cos^2 x$

4. ✓ $-y \cos^2 x$

Question Number : 54 Question Id : 7894847001 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Expansion of $\log(\sin x)$ in powers of $(x-2)$ is

$(x-2)$ యొక్క ఘాతాలలో $\log(\sin x)$ విస్తరణ

Options :

1. ✗ $\log(\sin x) = \log(\sin 2) + (x-2) \cot 2 + (x-2)^2 (-\operatorname{cosec}^2 2) + \dots$

2. ✓ $\log(\sin x) = \log(\sin 2) + (x-2) \cot 2 + \frac{(x-2)^2}{2} (-\operatorname{cosec}^2 2) + \dots$

3. ✗ $\log(\sin x) = \frac{\log(\sin 2)}{2} + \frac{(x-2) \cot 2}{3} + \frac{(x-2)^2}{3} (-\operatorname{cosec}^2 2) + \dots$

4. ✗ $\log(\sin x) = \frac{\log(\sin 2)}{3} + \frac{(x-2) \cot 2}{2} + \frac{(x-2)^2}{3} (-\operatorname{cosec}^2 2) + \dots$

Question Number : 55 Question Id : 7894847002 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Coefficient of x^4 in the expansion of

$y = (\sin^{-1} x)^2$ in powers of x .

$y = (\sin^{-1} x)^2$ ను x యొక్క ఘాతాలలో విస్తరించినపుడు x^4 యొక్క గుణకం

Options :

1. ☒ $\frac{1}{3}$

2. ☐ $\frac{1}{4}$

3. ☐ $\frac{1}{5}$

4. ☐ $\frac{1}{6}$

Question Number : 56 Question Id : 7894847003 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The radius of curvature (ρ) of the curve $r = 8 \sin \theta + 6 \cos \theta$ at $\theta = \frac{\pi}{2}$

$\theta = \frac{\pi}{2}$ వద్ద $r = 8 \sin \theta + 6 \cos \theta$ అనే వక్రానికి వక్రతా వ్యాసార్థం (ρ) =

Options :

1. ☐ 10

2. ☐ 3

3. ☒ 5

4. ☐ 4

Question Number : 57 Question Id : 7894847004 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \rightarrow 0} (\cos x)^{\frac{1}{\sin^2 x}} =$$

Options :

1. ✖ e^{-1}

2. ✖ $e^{\frac{-1}{4}}$

3. ✖ $e^{\frac{-1}{3}}$

4. ✔ $e^{\frac{-1}{2}}$

Question Number : 58 Question Id : 7894847005 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x, y) = \log\left(\frac{2x+4y}{xy}\right)$ then $f_x(2,1) + f_y(2,1) =$

$f(x, y) = \log\left(\frac{2x+4y}{xy}\right)$ అయినపుడు $f_x(2,1) + f_y(2,1) =$

Options :

1. ✔ $-\frac{5}{4}$

2. ✖ $-\frac{7}{4}$

3. ✖ $-\frac{3}{4}$

4. ✖ $-\frac{1}{4}$

Question Number : 59 Question Id : 7894847006 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The radius of curvature of the curve $y = x^2 - 6x + 8$ at $P(5, 3)$ is

$y = x^2 - 6x + 8$ వక్రానికి $P(5, 3)$ వద్ద వక్రతా వ్యాసార్థము

Options :

1. ✖ $\frac{12\sqrt{12}}{5}$

2. ✖ $\frac{14\sqrt{14}}{3}$

3. ✖ $\frac{15\sqrt{15}}{2}$

4. ✔ $\frac{17\sqrt{17}}{2}$

Question Number : 60 Question Id : 7894847007 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x, y) = x \cos y + e^x \sin y$, $x = t^2 + 1$, $y = t^3 + t$, then $\frac{df}{dt}$ at $t = 0$ is

$f(x, y) = x \cos y + e^x \sin y$, $x = t^2 + 1$, $y = t^3 + t$ అయినపుడు, $t = 0$ వద్ద $\frac{df}{dt}$

విలువ

Options :

1. ✖ $3e$

2. ✔ e

3. ✖ $2e$

4. ✖ $4e$

Question Number : 61 Question Id : 7894847008 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum value of $f(x, y) = xy + \frac{b^3}{x} + \frac{b^3}{y}$ ($b > 0$) is

$$f(x, y) = xy + \frac{b^3}{x} + \frac{b^3}{y} \quad (b > 0) \text{ యొక్క కనిష్ట విలువ}$$

Options :

1. ✖ $\frac{b}{3}$

2. ✖ $3b$

3. ✔ $3b^2$

4. ✖ $\frac{b^2}{3}$

Question Number : 62 Question Id : 7894847009 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $u = \sin^{-1}\left(\frac{x^3 + y^3}{x + y}\right)$ then $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$

$$u = \sin^{-1}\left(\frac{x^3 + y^3}{x + y}\right) \text{ అయినప్పుడు } x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$$

Options :

1. ✖ $4 \tan u$

2. ✖ $\tan u$

3. ✓ $2 \tan u$

4. ✗ $3 \tan u$

Question Number : 63 Question Id : 7894847010 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \rightarrow 0} (\tan x)^{\frac{1}{x}} =$$

Options :

1. ✓ 1

2. ✗ $\frac{1}{2}$

3. ✗ $\frac{1}{3}$

4. ✗ 0

Question Number : 64 Question Id : 7894847011 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The asymptotes of the curve $x^3 - y^3 - 3\alpha xy = 0$ is

$x^3 - y^3 - 3\alpha xy = 0$ అనే వక్రం యొక్క అనంతస్పర్శరేఖ

Options :

1. ✗ $x - y - \alpha = 0$

2. ✗ $x + y = 0$

3. ✗ $x + y - \alpha = 0$

4. ✓ $x + y + \alpha = 0$

Question Number : 65 Question Id : 7894847012 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

$$\lim_{x \rightarrow 0} \left(\frac{1}{x} - \frac{1}{e^x - 1} \right) =$$

Options :

1. ✗ $\frac{1}{4}$

2. ✗ $\frac{1}{3}$

3. ✓ $\frac{1}{2}$

4. ✗ $\frac{1}{5}$

Question Number : 66 Question Id : 7894847013 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation $\frac{dy}{dx} = \frac{4x + 6y + 5}{3y + 2x + 4}$ is

$$\frac{dy}{dx} = \frac{4x + 6y + 5}{3y + 2x + 4} \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

Options :

1. ✗ $3y - 6x + \frac{7}{8} \log(16x + 24y + 23) = C$

2. ✓ $3y - 6x + \frac{9}{8} \log(16x + 24y + 23) = C$

$$3y + 6x + \frac{1}{8} \log(16x + 24y + 23) = C$$

3. ✖

$$3y + 6x + \frac{7}{8} \log(16x + 24y + 23) = C$$

4. ✖

Question Number : 67 Question Id : 7894847014 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$2xydx + (x^2 + 1)dy = 0 \text{ is}$$

$$2xydx + (x^2 + 1)dy = 0 \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

(Here 'c' is an arbitrary constant)

ఇక్కడ 'c' ఒక యాదృచ్ఛిక స్థిరరాశి

Options :

$$1. \checkmark \quad y(x^2 + 1) = c$$

$$2. \times \quad y(x + 1) = c$$

$$3. \times \quad y^2(x + 1) = c$$

$$4. \times \quad y^2 + x^2 = c$$

Question Number : 68 Question Id : 7894847015 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of differential equation $\frac{dy}{dx} = \frac{x+2y-3}{2x+y-3}$ is

$$\frac{dy}{dx} = \frac{x+2y-3}{2x+y-3} \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

Options :

1. ✖ $C(x-y)^2 = 2$

2. ✖ $C(x+y)^2 = x-y-2$

3. ✔ $C(x-y)^2 = x+y-2$

4. ✖ $C(x+y)^2 = x-y+2$

Question Number : 69 Question Id : 7894847016 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A solution of $\frac{dx}{y} = \frac{dy}{x} = \frac{dz}{xyz^2(x^2-y^2)}$ is

$$\frac{dx}{y} = \frac{dy}{x} = \frac{dz}{xyz^2(x^2-y^2)} \text{ యొక్క ఒక సాధన}$$

Options :

1. ✖ $(x^2+y^2)y^2 = \frac{-2}{z} + C$

2. ✖ $(x^2-y^2)y = \frac{-2}{z} + C$

3. ✔ $(x^2-y^2)y^2 = \frac{-2}{z} + C$

4. ✖ $(x^2 + y^2)y = \frac{-2}{z} + C$

Question Number : 70 Question Id : 7894847017 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of the total differential equation

$$\frac{dx}{x(y-z)} = \frac{dy}{y(z-x)} = \frac{dz}{z(x-y)}$$

$$\frac{dx}{x(y-z)} = \frac{dy}{y(z-x)} = \frac{dz}{z(x-y)} \text{ అనే సంపూర్ణ అవకలన సమీకరణపు సాధన}$$

Options :

1. ✖ $\frac{xy}{z} = C_1, x + y - z = C_2$

2. ✖ $xy = C_1, x + y - z = C_2$

3. ✖ $xy^{-1}z^{-1} = C_1, x - y - z = C_2$

4. ✔ $xyz = C_1, x + y + z = C_2$

Question Number : 71 Question Id : 7894847018 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of $\sin px \cos y = \cos px \sin y + p$, where $p = \frac{dy}{dx}$ is

$$p = \frac{dy}{dx} \text{ అయితే, } \sin px \cos y = \cos px \sin y + p \text{ యొక్క సాధన}$$

Options :

1. ✖ $y = \frac{C}{x} + \sin^{-1} C$

2. ✖ $y = Cx^2 + \sin C$

3. ✔ $y = Cx - \sin^{-1}(C)$

4. ✖ $y = \frac{C}{x^2} + \sin C$

Question Number : 72 Question Id : 7894847019 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$y + px = x^4 p^2, \text{ (where } p = \frac{dy}{dx} \text{) is}$$

$$y + px = x^4 p^2, \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన (ఇక్కడ } p = \frac{dy}{dx} \text{)}$$

(Here 'c' is an arbitrary constant)

ఇక్కడ 'c' ఒక యాదృచ్ఛిక స్థిరరాశి

Options :

1. ✖ $x + cy = c^2$

2. ✔ $xy + c = c^2 x$

3. ✖ $y + cx = x^2$

4. ✖ $y + x = cx$

Question Number : 73 Question Id : 7894847020 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$ye^{xy} dx + (xe^{xy} + 2y) dy = 0 \text{ is}$$

$$ye^{xy} dx + (xe^{xy} + 2y) dy = 0 \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

(Here 'c' is an arbitrary constant)

ఇక్కడ 'c' ఒక యాదృచ్ఛిక స్థిరరాశి

Options :

1. ✖ $e^{xy} + y = c$

2. ✖ $e^{xy} + x = c$

3. ✖ $e^{xy} + x^2 = c$

4. ✔ $e^{xy} + y^2 = c$

Question Number : 74 Question Id : 7894847021 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$\frac{dy}{dx} + y \cos x = \sin x \cos x \text{ is}$$

$$\frac{dy}{dx} + y \cos x = \sin x \cos x \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

(Here 'c' is an arbitrary constant)

ఇక్కడ 'c' ఒక యాదృచ్ఛిక స్థిరరాశి

Options :

1. ✔ $y = (\sin x - 1) + ce^{-\sin x}$

$$y = (\cos x - 1) + ce^{\sin x}$$

2. ✖

$$y = (\cos x + 1) + ce^{\cos x}$$

3. ✖

$$y = (\cos x + 1) + ce^{-\cos x}$$

4. ✖

Question Number : 75 Question Id : 7894847022 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\frac{1}{D^4 - 1} e^x \cos x =$$

$$\left(\text{Here } D \equiv \frac{d}{dx} \right)$$

$$\left(\text{Also } D \equiv \frac{d}{dx} \right)$$

Options :

$$\frac{-1}{5} e^x \sin x$$

1. ✖

$$\frac{1}{5} e^x \sin x$$

2. ✖

$$\frac{-1}{5} e^x \cos x$$

3. ✔

$$\frac{1}{5} e^x \cos x$$

4. ✖

Question Number : 76 Question Id : 7894847023 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$(x^2 D^2 - xD + 2) y = x \log x \text{ is}$$

$$(\text{Here } D \equiv \frac{d}{dx})$$

$$(x^2 D^2 - xD + 2) y = x \log x \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

$$(\text{ఇక్కడ } D \equiv \frac{d}{dx})$$

Options :

$$y = x^3 [c_1 \cos(\log x) + c_2 \sin(\log x)] + \log x$$

1. ✖

$$y = x^2 [c_1 \cos(\log x) + c_2 \sin(\log x)] + 2 \log x$$

2. ✖

$$y = c_1 \cos(\log x) + c_2 \sin(\log x) + x^2 \log x$$

3. ✖

$$y = x [c_1 \cos(\log x) + c_2 \sin(\log x)] + x \log x$$

4. ✔

Question Number : 77 Question Id : 7894847024 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$(x+1) \frac{dy}{dx} + 1 = 2e^{-y} \text{ is}$$

$$(x+1) \frac{dy}{dx} + 1 = 2e^{-y} \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

(Here 'c' is an arbitrary constant)

ఇక్కడ 'c' ఒక యాదృచ్ఛిక స్థిరరాశి

Options :

$$e^y (x+1) = 2x + c$$

1. ✔

2. ✖ $e^{-y}(x+1) = 2x + c$

3. ✖ $e^x(y+1) = 2y + c$

4. ✖ $e^{2x}(y+1) = y + c$

Question Number : 78 Question Id : 7894847025 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

$$\frac{1}{D^2 + 1} x^2 =$$

(Here $D \equiv \frac{d}{dx}$)

(Also $D \equiv \frac{d}{dx}$)

Options :

1. ✖ $x^2 + 1$

2. ✔ $x^2 - 2$

3. ✖ $x^2 + 2$

4. ✖ $x^2 + 4$

Question Number : 79 Question Id : 7894847026 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The general solution of the differential equation

$$(D^3 + 4D^2 + D - 6)y = 0 \text{ is}$$

$$(\text{where } D \equiv \frac{d}{dx})$$

$$(D^3 + 4D^2 + D - 6)y = 0 \text{ అనే అవకలన సమీకరణపు సాధారణ సాధన}$$

$$(\text{ఇక్కడ } D \equiv \frac{d}{dx})$$

Options :

1. ✓ $y = c_1 e^x + c_2 e^{-2x} + c_3 e^{-3x}$

2. ✗ $y = c_1 e^{-x} + c_2 e^{-2x} + c_3 e^{-3x}$

3. ✗ $y = c_1 e^x + c_2 e^{2x} + c_3 e^{3x}$

4. ✗ $y = c_1 e^x + c_2 e^{-2x} + c_3 e^{3x}$

Question Number : 80 Question Id : 7894847027 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\frac{1}{D^3 + D^2 - D - 1} \cos 2x =$$

$$(\text{Here } D \equiv \frac{d}{dx})$$

$$(\text{ఇక్కడ } D \equiv \frac{d}{dx})$$

Options :

1. ✗ $\frac{1}{25}(\sin 2x + 3 \cos 2x)$

2. ✖ $\frac{1}{25}(3 \sin 2x + \cos 2x)$

3. ✖ $\frac{1}{25}(\sin 2x + \cos 2x)$

4. ✔ $\frac{-1}{25}(2 \sin 2x + \cos 2x)$

Question Number : 81 Question Id : 7894847028 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The partial differential equation obtained by eliminating the arbitrary function f from $z = f(x^2 + 3y^2)$ is

$z = f(x^2 + 3y^2)$ నుంచి యాదృచ్ఛిక ప్రమేయం f ను తోపింపచేయగా లభించు పాక్షిక అవకలన సమీకరణం

(Here $p = \frac{\partial z}{\partial x}$, $q = \frac{\partial z}{\partial y}$)

ఇక్కడ $p = \frac{\partial z}{\partial x}$, $q = \frac{\partial z}{\partial y}$

Options :

1. ✖ $yq + xp = 0$

2. ✖ $2yp - xq = 0$

3. ✔ $3yp - xq = 0$

4. ✖ $yp + xq = 0$

Question Number : 82 Question Id : 7894847029 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Find the general solution of partial differential equation
 $(3 - 2yz)p + x(2z - 1)q = 2x(y - 3)$

Options :

$$\phi(y^2 + 6y + z^2 + z, x^2 - z^2 - 6y) = 0$$

1. ✖

$$\phi(y^2 + 6y + z^2 - z, x^2 - z^2 + 6y) = 0$$

2. ✖

$$\phi(y^2 - 6y - z^2 + z, x^2 - z^2 - 6y) = 0$$

3. ✖

$$\phi(y^2 - 6y - z^2 + z, x^2 + z^2 + 6y) = 0$$

4. ✔

Question Number : 83 Question Id : 7894847030 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The complete integral of the partial differential equation

$$p^2 q^2 (px + qy - z) = 2$$

$p^2 q^2 (px + qy - z) = 2$ అనే పాక్షిక అవకలన సమీకరణం యొక్క సంపూర్ణ సమాకలని

$$(Here \quad p = \frac{\partial z}{\partial x}, \quad q = \frac{\partial z}{\partial y})$$

$$\text{ఇక్కడ } p = \frac{\partial z}{\partial x}, \quad q = \frac{\partial z}{\partial y}$$

Options :

$$z = ax + by^2 + 2a^2b^2$$

1. ✖

$$z = ax + by - \frac{2}{a^2b^2}$$

2. ✔

3. ✖ $z = ax^2 + by - 2a^2b^2$

4. ✖ $z = ax^2 + by^2 + \frac{2}{a^2b^2}$

Question Number : 84 Question Id : 7894847031 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

$$\frac{1}{(D+2D^1)^2} e^{x+2y} =$$

(where $D \equiv \frac{\partial}{\partial x}$, $D^1 \equiv \frac{\partial}{\partial y}$)

उत्तर

Options :

1. ✖ $\frac{2}{25} e^{x+2y}$

2. ✖ $\frac{3}{25} e^{x+2y}$

3. ✖ $\frac{4}{25} e^{x+2y}$

4. ✔ $\frac{1}{25} e^{x+2y}$

Question Number : 85 Question Id : 7894847032 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

$$\frac{1}{D^2 - DD^1} \cos(x + 2y)$$

$$(\text{where } D \equiv \frac{\partial}{\partial x}, D^1 \equiv \frac{\partial}{\partial y})$$

ఇక్కడ

Options :

1. ✖ $\frac{1}{5} \cos(x + 2y)$

2. ✔ $\cos(x + 2y)$

3. ✖ $\sin(x + 2y)$

4. ✖ $\frac{1}{3} \cos(x + 2y)$

Question Number : 86 Question Id : 7894847033 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

$$\text{If } S_1 = 1 \text{ and } S_{n+1} = \frac{4 + 3S_n}{3 + 2S_n} \text{ for all } n \in \mathbb{N}, \text{ then } \lim_{n \rightarrow \infty} S_n =$$

$$S_1 = 1 \text{ మరియు ప్రతి } n \in \mathbb{N} \text{ నకు } S_{n+1} = \frac{4 + 3S_n}{3 + 2S_n} \text{ అయినపుడు } \lim_{n \rightarrow \infty} S_n =$$

Options :

1. ✖ $\frac{1}{\sqrt{2}}$

2. ✖ 2

3. ✖ $\frac{2}{\sqrt{3}}$

4. ✓ $\sqrt{2}$

Question Number : 87 Question Id : 7894847034 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $a > 1$, $\lim_{n \rightarrow \infty} \frac{n}{a^n} =$

$a > 1$ అయినపుడు $\lim_{n \rightarrow \infty} \frac{n}{a^n} =$

Options :

1. ✗ 1

2. ✓ 0

3. ✗ -1

4. ✗ $\frac{1}{2}$

Question Number : 88 Question Id : 7894847035 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\lim_{n \rightarrow \infty} \left\{ \frac{1}{\sqrt{2n^2+1}} + \frac{1}{\sqrt{2n^2+2}} + \dots + \frac{1}{\sqrt{2n^2+n}} \right\} =$$

Options :

1. ✗ 1

2. ✗ $\frac{1}{2}$

3. ✖ ∞

4. ✔ $\frac{1}{\sqrt{2}}$

Question Number : 89 Question Id : 7894847036 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following sequence is convergent ?

ఈ క్రింది వాటిలో అభిసరించే అనుక్రమం ఏది?

Options :

1. ✖ $s_n = \cos \frac{n\pi}{3}$

2. ✔ $s_n = \frac{n+1}{3n+2}$

3. ✖ $s_n = (-1)^n . n$

4. ✖ $s_n = (-1)^n n^2$

Question Number : 90 Question Id : 7894847037 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Let $f: [a, b] \rightarrow \mathbb{R}$ be a continuous function. Then

$f: [a, b] \rightarrow \mathbb{R}$ ఒక అవిచ్ఛిన్న ప్రమేయం అయినపుడు,

Options :

f is not Riemann integrable .

f రీమాన్ సమాకలనీయం కాదు

1. ✖

f is not uniformly continuous on $[a, b]$

అంతరం $[a, b]$ పై f ఏకరూప అవిచ్ఛిన్నం కాదు

2. ✖

f is uniformly continuous on $[a, b]$

అంతరం $[a, b]$ పై f ఏకరూప అవిచ్ఛిన్నం అవుతుంది

3. ✔

f is not uniformly continuous at atleast one point of $[a, b]$.

అంతరం $[a, b]$ లో కనీసం ఒక బిందువు వద్ద f ఏకరూప అవిచ్ఛిన్నం కాదు

4. ✖

Question Number : 91 Question Id : 7894847038 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f : [a, b] \rightarrow \mathbb{R}$ be differentiable on $[a, b]$ where $a < b$ and

$f'(x) \geq 0$ for all $x \in [a, b]$, then

$a < b$ నకు $f : [a, b] \rightarrow \mathbb{R}$ అనే ప్రమేయం $[a, b]$ పై అవకలనీయం అవుతుందనీ

మరియు ప్రతి $x \in [a, b]$ కు $f'(x) \geq 0$ అయినప్పుడు,

Options :

f is increasing on $[a, b]$

$[a, b]$ పై f ఆరోహణం అవుతుంది

1. ✔

f is decreasing on $[a, b]$

$[a, b]$ పై f అవరోహణం అవుతుంది

2. ✖

f is not continuous on $[a, b]$

$[a, b]$ పై f అవిచ్ఛిన్నం కాదు

3. ✖

f is constant on $[a, b]$
 $[a, b]$ పై f ఒక స్థిరరాశి అవుతుంది

4. ✖

Question Number : 92 Question Id : 7894847039 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The series $\sum_{n=1}^{\infty} \frac{x}{(n+x^2)^2}$ is

శ్రేణి $\sum_{n=1}^{\infty} \frac{x}{(n+x^2)^2}$ అనునది

Options :

Uniformly convergent for all x
 ప్రతి x కు ఏకరూప అభిసరణం చెందును

1. ✔

Uniformly convergent for all $x \in [-1, 1]$ only.
 ప్రతి $x \in [-1, 1]$ కు ఏకరూప అభిసరణం చెందును

2. ✖

Uniformly convergent for all $x \in [0, 1]$ only.
 ప్రతి $x \in [0, 1]$ కు ఏకరూప అభిసరణం చెందును

3. ✖

Not Uniformly convergent
 ఏకరూప అభిసరణం చెందదు

4. ✖

Question Number : 93 Question Id : 7894847040 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For $x \in [0, \infty]$, let $f_n(x) = \frac{nx}{1+nx}$. If $f(x) = \lim_{n \rightarrow \infty} f_n(x)$, then $f(x) =$

$x \in [0, \infty]$ నకు $f_n(x) = \frac{nx}{1+nx}$ అనుకొనుము. $f(x) = \lim_{n \rightarrow \infty} f_n(x)$ అయినప్పుడు,

$f(x) =$

Options :

1. ✖ $f(x) = \begin{cases} 1, & x = 0 \\ 0, & x \neq 0 \end{cases}$

2. ✖ $f(x) = \begin{cases} 1, & x = 0 \\ -1, & x \neq 0 \end{cases}$

3. ✖ $f(x) = \begin{cases} -1, & x = 0 \\ 1, & x \neq 0 \end{cases}$

4. ✔ $f(x) = \begin{cases} 0, & x = 0 \\ 1, & x \neq 0 \end{cases}$

Question Number : 94 Question Id : 7894847041 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The radius of convergence of the power series $\sum_{n=0}^{\infty} \frac{(2n)! z^n}{(n!)^2}$

పూత్రత్రేణి $\sum_{n=0}^{\infty} \frac{(2n)! z^n}{(n!)^2}$ యొక్క అభిసరణ వ్యాసార్థము.

Options :

1. ✖ $\frac{1}{\sqrt{2}}$

2. ✖ $\frac{1}{2}$

3. ✔ $\frac{1}{4}$

4. ✖ 1

Question Number : 95 Question Id : 7894847042 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The radius of convergence of the power series

$$\sum_{n=0}^{\infty} \frac{n^3}{3^n} z^n \text{ is } \underline{\hspace{2cm}}.$$

ఘాతశ్రేణి $\sum_{n=0}^{\infty} \frac{n^3}{3^n} z^n$ యొక్క అభిసరణ వ్యాసార్థము.

Options :

1. ✖ 2

2. ✔ 3

3. ✖ $\frac{1}{3}$

4. ✖ $\frac{1}{2}$

Question Number : 96 Question Id : 7894847043 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\int_0^{\frac{1}{2}} \sin^{-1} x \, dx =$$

Options :

1. ✔ $\frac{\pi}{12} + \frac{\sqrt{3}}{2} - 1$

2. ✖ $\frac{\pi}{6} - \frac{\sqrt{3}}{2} + 1$

3. ✖ $\frac{\pi}{6} + \frac{\sqrt{3}}{2} - 1$

4. ✖ $\frac{\pi}{12} - \frac{\sqrt{3}}{2} - 2$

Question Number : 97 Question Id : 7894847044 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If P and P^* are partitions of $[a, b]$ and $P \subseteq P^*$ and if f real valued bounded function defined on $[a, b]$ then

అంతరం $[a, b]$ కి P, P^* విభజనలు అనీ మరియు $P \subseteq P^*$ అనుకొనుము $[a, b]$ పై నిర్వచించబడిన పరిబద్ధ వాస్తవ మూల్య ప్రమేయం f అయినపుడు,

Options :

1. ✖ $U(P^*, f) \leq U(P, f) \quad \& \quad L(P^*, f) \leq L(P, f)$

2. ✖ $U(P, f) \leq U(P^*, f) \quad \& \quad L(P^*, f) \leq L(P, f)$

3. ✖ $U(P, f) \leq U(P^*, f) \quad \& \quad L(P, f) \leq L(P^*, f)$

4. ✔ $U(P^*, f) \leq U(P, f) \quad \& \quad L(P, f) \leq L(P^*, f)$

Question Number : 98 Question Id : 7894847045 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

For $\alpha > 0$, $\sum_{n=0}^{\infty} \frac{1}{(\alpha+n)(\alpha+n+1)} =$

$\alpha > 0$ కు, $\sum_{n=0}^{\infty} \frac{1}{(\alpha+n)(\alpha+n+1)} =$

Options :

1. ✓ $\frac{1}{\alpha}$

2. ✗ $\frac{1}{\alpha^2}$

3. ✗ $\frac{1}{2\alpha}$

4. ✗ $\frac{1}{\alpha+1}$

Question Number : 99 Question Id : 7894847046 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If f is Riemann integrable on $[a, b]$, then

$[a, b]$ అనే అంతరం పై f రీమాన్ సమాకలనీయం అయినపుడు,

Options :

$|f|$ is Riemann integrable and $\int_a^b |f| dx \leq \left| \int_a^b f dx \right|$

1. ✗ $|f|$ రీమాన్ సమాకలనీయం అవుతుంది మరియు $\int_a^b |f| dx \leq \left| \int_a^b f dx \right|$

$|f|$ is not Riemann integrable

2. ✗ $|f|$ రీమాన్ సమాకలనీయం కాదు

$|f|$ is Riemann integrable and $\left| \int_a^b f dx \right| \leq \int_a^b |f| dx$

3. ✓ $|f|$ రీమాన్ సమాకలనీయం అవుతుంది మరియు $\left| \int_a^b f dx \right| \leq \int_a^b |f| dx$

$|f|$ is Riemann integrable and $\int_a^b |f| dx = - \int_a^b f dx$

$|f|$ రీమాన్ సమాకలనీయం అవుతుంది మరియు $\int_a^b |f| dx = - \int_a^b f dx$

4. ✖

Question Number : 100 Question Id : 7894847047 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If $f : \mathbb{R} \rightarrow \mathbb{R}$ be a continuous function, then $\lim_{h \rightarrow 0} \frac{1}{h} \int_{4-h}^{4+h} f(t) dt =$

$f : \mathbb{R} \rightarrow \mathbb{R}$ ఒక అవిచ్ఛిన్న ప్రమేయమయితే, $\lim_{h \rightarrow 0} \frac{1}{h} \int_{4-h}^{4+h} f(t) dt =$

Options :

1. ✔ $2 f(4)$

2. ✖ $3 f(4)$

3. ✖ $4 f(2)$

4. ✖ $4 f(4)$

Question Number : 101 Question Id : 7894847048 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following is a monotonic sequence?

ఈ క్రింది వాటిలో ఏకదిష్ట అనుక్రమం ఏది ?

Options :

1. ✖ $x_n = n^{1/n}$

2. ✖ $x_n = \frac{(-1)^n}{n}$

3. ✓ $x_n = 1 + \frac{1}{n}$

4. ✗ $x_n = (-1)^n$

Question Number : 102 Question Id : 7894847049 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The series $\sum_{n=2}^{\infty} \frac{1}{n(\log n)^p}$

(శ్రేణి) $\sum_{n=2}^{\infty} \frac{1}{n(\log n)^p}$

Options :

converges if $p < 1$ and diverges for $p \geq 1$.

$p < 1$ అయితే అభిసరిస్తుంది మరియు $p \geq 1$ కు అపసరిస్తుంది.

1. ✗

convergent if $p > 1$ and divergent for $0 < p \leq 1$

$p > 1$ అయితే అభిసరిస్తుంది మరియు $0 < p \leq 1$ కు అపసరిస్తుంది.

2. ✓

convergent if $p > 0$ and divergent for $p < 0$

$p > 0$ అయితే అభిసరిస్తుంది మరియు $p < 0$ కు అపసరిస్తుంది.

3. ✗

convergent if $p \geq \frac{1}{2}$ and divergent for $p < \frac{1}{2}$

$p \geq \frac{1}{2}$ అయితే అభిసరిస్తుంది మరియు $p < \frac{1}{2}$ అయితే అపసరిస్తుంది.

4. ✗

Question Number : 103 Question Id : 7894847050 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The 'c' value of Cauchy's mean value theorem for the functions

$$f(x) = x^2, g(x) = x^3 \text{ in } [1, 2]$$

$[1, 2]$ అంతరంలో $f(x) = x^2$, $g(x) = x^3$ అనే ప్రమేయాలకు కోషీ మధ్యమ మూల్య సిద్ధాంతపు 'c' విలువ

Options :

1. ✓ $\frac{14}{9}$

2. ✗ $\frac{9}{14}$

3. ✗ $\frac{13}{9}$

4. ✗ $\frac{9}{13}$

Question Number : 104 Question Id : 7894847051 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A non-commutative group has atleast _____ elements.

వినిమయేతర సమూహంలో ఉండే కనిష్ట మూలకాల సంఖ్య _____.

Options :

1. ✗ 2

2. ✗ 4

3. ✓ 6

4. ✗ 1

Question Number : 105 Question Id : 7894847052 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The number of generators of a cyclic group of order 36?

36 ను తరగతిగా కల్గిన చక్రియ సమూహం యొక్క జనక మూలకాల సంఖ్య

Options :

1. ✖ 10

2. ✔ 12

3. ✖ 14

4. ✖ 15

Question Number : 106 Question Id : 7894847053 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The number of binary operations defined on a set containing 'n' elements is

'n' మూలకాలు కల్గిన సమితిపై నిర్వచించదగ్గ యుగ్మ పరిక్రియల సంఖ్య

Options :

1. ✖ n^{2n}

2. ✖ n^{n+1}

3. ✖ n^{n^3}

4. ✔ n^{n^2}

Question Number : 107 Question Id : 7894847054 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If H and K are normal subgroups of G with $H \triangleleft K$ and if $P = \frac{K}{H}$ and $S = \frac{G}{H}$, then

$H \triangleleft K$ అవుతూ, H , K లు G లో అభిలంబ ఉపసమూహాలనీ మరియు

$P = \frac{K}{H}$, $S = \frac{G}{H}$ గా అనుకుంటే, అప్పుడు

Options :

$\frac{S}{P}$ and $\frac{G}{K}$ are isomorphic

$\frac{S}{P}$ మరియు $\frac{G}{K}$ లు తుల్యరూపాలు

1. ✓

$\frac{K}{H}$ and $\frac{G}{H}$ are isomorphic

$\frac{K}{H}$ మరియు $\frac{G}{H}$ లు తుల్యరూపాలు

2. ✗

$\frac{K}{P}$ and $\frac{G}{S}$ are isomorphic

$\frac{K}{P}$ మరియు $\frac{G}{S}$ లు తుల్యరూపాలు

3. ✗

$\frac{K}{S}$ and $\frac{G}{K}$ are isomorphic

$\frac{K}{S}$ మరియు $\frac{G}{K}$ లు తుల్యరూపాలు

4. ✗

Question Number : 108 Question Id : 7894847055 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let G be a finite abelian group and H, K are any two subgroups of G with $|H|=14, |K|=25$. Then $|HK| =$

G ఒక పరిమిత వినిమయ సమూహమనీ, H, K లు G యొక్క ఉపసమూహాలనీ మరియు $|H|=14, |K|=25$ అనుకొనుము . అప్పుడు $|HK| =$

Options :

1. ✓ 350

2. ✗ 250

3. ✗ 150

4. ✗ 450

Question Number : 109 Question Id : 7894847056 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a group under usual multiplication.

ఈ క్రింది వాటిలో సాధారణ గుణకారం దృష్ట్యా సమూహం కానిది

Options :

1. ✗ $\mathbb{C} - \{0\}$

2. ✗ $\mathbb{R} - \{0\}$

3. ✗ $\mathbb{Q} - \{0\}$

4. ✓ $\mathbb{Z} - \{0\}$

Question Number : 110 Question Id : 7894847057 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of homomorphisms from the group $(\mathbb{Z}_{20}, +_{20})$ to the group $(\mathbb{Z}_{10}, +_{10})$ is .

$(\mathbb{Z}_{20}, +_{20})$ అనే సమూహం నుండి $(\mathbb{Z}_{10}, +_{10})$ సమూహానికి గల సమరూపతల సంఖ్య

Options :

1. ✖ 5

2. ✔ 10

3. ✖ 15

4. ✖ 20

Question Number : 111 Question Id : 7894847058 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true?

ఈ క్రింది ప్రవచనాలలో ఏది సత్యము ?

Options :

1. ✖ $|S_5| = 100$

2. ✖ $|A_5| = 50$

3. ✖ Every abelian group is cyclic.
ప్రతి వినిమయ సమూహం చక్రీయం అవుతుంది.

4. ✔ A_4 is a normal subgroups of S_4
 S_4 నకు A_4 ఒక అభిలంబ ఉపసమూహం అవుతుంది.

Question Number : 112 Question Id : 7894847059 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let S_9 denote the symmetric group on 9 symbols and $\alpha \in S_9$.

If $\alpha = (1\ 3\ 5\ 4)(2\ 6)(7\ 9\ 8)$, then the order of α is

9 సంకేతాలపై పౌష్టవ సమూహాన్ని S_9 సూచిస్తుందనీ మరియు $\alpha \in S_9$. అనీ అనుకొనుము.

$\alpha = (1\ 3\ 5\ 4)(2\ 6)(7\ 9\ 8)$ అయినపుడు α యొక్క తరగతి

Options :

1. ✓ 12

2. ✗ 24

3. ✗ 6

4. ✗ 9

Question Number : 113 Question Id : 7894847060 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let $G = \{\pm 1, \pm i, \pm j, \pm k\}$ be the quaternion group and let Z be centre of G . Then

$G = \{\pm 1, \pm i, \pm j, \pm k\}$ ను చతుష్కాల సమూహంగా మరియు Z ను G యొక్క కేంద్రముగా అనుకొనుము. అప్పుడు

Options :

1. ✗ Z is not normal in G
 G లో Z అభిలంబం కాదు

2. ✓ $\frac{G}{Z}$ is abelian group
 $\frac{G}{Z}$ ఒక ఎబీలియన్ సమూహం అవుతుంది

$\frac{G}{Z}$ is not Abelian group

3. ✖

$\frac{G}{Z}$ ఒక ఎబీలియన్ సమూహం కాదు

$\frac{G}{Z}$ is not a group

4. ✖

$\frac{G}{Z}$ ఒక సమూహం కాదు

Question Number : 114 Question Id : 7894847061 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let G, H be any two groups and $\phi: G \rightarrow H$ be a homomorphism.

If e, e^1 be the identities of G, H respectively, then which of the following statements is false?

G, H లు ఏవేని రెండు సమూహాలనీ, $\phi: G \rightarrow H$ ఒక సమరూపత అనీ అనుకొనుము.

e, e^1 లు వరుసగా G, H ల లో తత్వమాలనుకొంటే ఈ క్రింది ప్రవచనాలలో ఏది అసత్యము?

Options :

$\text{Ker } \phi$ is not a subgroups of G .

1. ✔

$\text{Ker } \phi, G$ కి ఒక ఉపసమూహం కాదు

2. ✖

$\phi(e) = e^1$

$\phi(a^n) = (\phi(a))^n$ for all $n \in \mathbb{N}$

$\phi(a^n) = (\phi(a))^n$, $\forall n \in \mathbb{N}$ కు

3. ✖

image of ϕ is a subgroup of H

4. ✖

ϕ యొక్క ప్రతిబింబం, H కు ఒక ఉపసమూహం అవుతుంది.

Question Number : 115 Question Id : 7894847062 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The characteristic of ring $(Q, +, \cdot)$ is _____

వలయం $(Q, +, \cdot)$ యొక్క లక్షణికం

Options :

1. ✖ a prime number
ఒక ప్రధాన సంఖ్య
2. ✖ 2
3. ✔ 0
4. ✖ a composite number
ఒక సంయుక్త సంఖ్య

Question Number : 116 Question Id : 7894847063 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a prime ideal in the ring $(\mathbb{Z}, +, \cdot)$?

ఈ క్రింది వాటిలో, $(\mathbb{Z}, +, \cdot)$ అనే వలయానికి అభాజ్య ఆదర్శము ఏది?

Options :

1. ✖ $(6\mathbb{Z}, +, \cdot)$
2. ✖ $(8\mathbb{Z}, +, \cdot)$
3. ✔ $(7\mathbb{Z}, +, \cdot)$
4. ✖ $(9\mathbb{Z}, +, \cdot)$

Question Number : 117 Question Id : 7894847064 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of elements in the symmetric group S_4 whose order is 3 is

ఈ సౌష్ఠవ సమూహం S_4 లో 3 ను తరగతిగా గల మూలకాల సంఖ్య

Options :

1. ✖ 14

2. ✖ 6

3. ✖ 12

4. ✔ 8

Question Number : 118 Question Id : 7894847065 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the polynomial ring $\mathbb{Z}_5[x]$, if $f(x) = 1 + 2x + 2x^2$, $g(x) = 3x + 2x^2$,
then $f(x) \cdot g(x) =$

బహుపదుల వలయం $\mathbb{Z}_5[x]$ లో $f(x) = 1 + 2x + 2x^2$, $g(x) = 3x + 2x^2$
అయినప్పుడు $f(x) \cdot g(x) =$

Options :

1. ✔ $3x + 3x^2 + 4x^4$

2. ✖ $x + 3x^2 + 4x^3$

3. ✖ $3x + x^2 + x^3$

4. ✖ $x + x^2 + x^3$

Question Number : 119 Question Id : 7894847066 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is true ?

ఈ క్రింది ప్రవచనాలలో ఏది సత్యము?

Options :

1. ✖ $(\mathbb{Z}, +, \cdot)$ is an ideal in $(\mathbb{Q}, +, \cdot)$
 $(\mathbb{Q}, +, \cdot)$ వలయంలో $(\mathbb{Z}, +, \cdot)$ ఒక ఆదర్శమవుతుంది.
2. ✔ $U = \{\bar{0}, \bar{2}, \bar{4}\}$ is an ideal in the ring $(\mathbb{Z}_6, +_6, \cdot_6)$
వలయం $(\mathbb{Z}_6, +_6, \cdot_6)$ లో $U = \{\bar{0}, \bar{2}, \bar{4}\}$ ఒక ఆదర్శమవుతుంది.
3. ✖ $(\mathbb{Q}, +, \cdot)$ is an ideal in $(\mathbb{R}, +, \cdot)$
 $(\mathbb{R}, +, \cdot)$ వలయంలో $(\mathbb{Q}, +, \cdot)$ ఒక ఆదర్శమవుతుంది.
4. ✖ $(\mathbb{R}, +, \cdot)$ is an ideal in $(\mathbb{C}, +, \cdot)$
 $(\mathbb{C}, +, \cdot)$ వలయంలో $(\mathbb{R}, +, \cdot)$ ఒక ఆదర్శమవుతుంది.

Question Number : 120 Question Id : 7894847067 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The multiplicative inverse of $f(x) = 2x+1$ in the ring $\mathbb{Z}_4[x]$ is

$\mathbb{Z}_4[x]$ అనే వలయంలో $f(x) = 2x+1$ యొక్క గుణన విలోమం

Options :

1. ✖ $3x+1$
2. ✖ $x+3$
3. ✖ $x+2$
4. ✔ $2x+1$

Question Number : 121 Question Id : 7894847068 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of generators in an infinite cyclic group is

అనంత చక్రీయ సమూహానికి జనక మూలకాల సంఖ్య

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 122 Question Id : 7894847069 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum value of xyz when $x^2 + y^2 + z^2 = 9$ is

$x^2 + y^2 + z^2 = 9$ అయినపుడు xyz యొక్క గరిష్ఠ విలువ

Options :

1. ✖ $5\sqrt{3}$

2. ✖ $2\sqrt{3}$

3. ✔ $3\sqrt{3}$

4. ✖ $10\sqrt{3}$

Question Number : 123 Question Id : 7894847070 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let G be a cyclic group of order 120 with $G = \langle a \rangle$. Then which of the following is a generator of G ?

120 ని తరగతిగా కల్గిన చక్రియ సమూహంను G . మరియు $G = \langle a \rangle$ అనుకోండి.
అప్పుడు, ఈ క్రింది వాటిలో G కి ఏది జనక మూలకం అవుతుంది?

Options :

1. ✓ a^{13}

2. ✗ a^{15}

3. ✗ a^{10}

4. ✗ a^6

Question Number : 124 Question Id : 7894847071 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is a multiple root of $x^3 - x^2 - x + 1 = 0$

ఈ క్రింది వాటిలో $x^3 - x^2 - x + 1 = 0$ నకు పునరావృతమూలం ఏది?

Options :

1. ✗ $x = -1$

2. ✓ $x = 1$

3. ✗ $x = 2$

4. ✗ $x = -2$

Question Number : 125 Question Id : 7894847072 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The fixed points of the function $f(x) = x^2 - 42$ are

$f(x) = x^2 - 42$ అనే ప్రమేయం స్థిరబిందువులు

Options :

1. ✓ 7, -6

2. ✗ -6, 7

3. ✗ -6, -7

4. ✗ 6, 7

Question Number : 126 Question Id : 7894847073 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is an iterative formula to find the inverse square root of $b \in \mathbb{N}$ using Newton – Raphson method?

న్యూటన్ రాఫ్సన్ పద్ధతిన $b \in \mathbb{N}$ యొక్క వర్గమూల వ్యుత్క్రమాన్ని కనుగొనడానికి ఉపయోగించే పునరుక్త సూత్రం ఈ క్రింది వాటిలో ఏది?

Options :

1. ✗ $x_{n+1} = x_n(3 - bx_n)$

2. ✓ $x_{n+1} = \frac{x_n}{2}(3 - bx_n^2)$

3. ✗ $x_{n+1} = \frac{x_n}{3}(4 - bx_n^2)$

4. ✗ $x_{n+1} = \frac{x_n}{3}(4 + bx_n^2)$

Question Number : 127 Question Id : 7894847074 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The convergence rate of Regula falsi method

రెగ్యులా- ఫాల్సి పద్ధతి యొక్క అభిసరణ రేటు

Options :

1. ✓ 1
2. ✗ 4
3. ✗ 2
4. ✗ 1.62

Question Number : 128 Question Id : 7894847075 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The interval in which the root of the equation

$$f(x) = 2x^3 + 3x^2 + 2x + 5 = 0 \text{ lies is}$$

$$f(x) = 2x^3 + 3x^2 + 2x + 5 = 0 \text{ అనే సమీకరణపు మూలం వ్యవస్థితం}$$

అయ్యే అంతరం

Options :

1. ✗ (2, 3)
2. ✓ (-2, -1)
3. ✗ (0, 1)
4. ✗ (1, 2)

Question Number : 129 Question Id : 7894847076 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \frac{1}{x^2}$, then the divided difference $f[a, b] =$

$f(x) = \frac{1}{x^2}$ అయినపుడు విభజిత భేదం $f[a, b] =$

Options :

1. ✓ $-\frac{a+b}{a^2b^2}$

2. ✗ $\frac{a-b}{ab}$

3. ✗ $\frac{a^2-b}{ab^2}$

4. ✗ $\frac{a-b^2}{ab}$

Question Number : 130 Question Id : 7894847077 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let ∇ be the backward difference operator. Then for $n \geq 2$, $\nabla^2(x_n) =$

∇ తిరోగమన భేద పరికర్తను సూచిస్తుందని అనుకొనుము. అప్పుడు $n \geq 2$, నకు

$\nabla^2(x_n) =$

Options :

1. ✗ $x_{n-1} - 3x_{n-2} + x_n$

2. ✗ $x_{n-2} - x_{n-1} - x_n$

3. ✗ $x_n + x_{n-1} + x_{n-2}$

4. ✓ $x_n - 2x_{n-1} + x_{n-2}$

Question Number : 131 Question Id : 7894847078 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Lagrange linear interpolating polynomial which fits the following data

ఈ క్రింది దత్తాంశాన్ని సందానించే లెగ్రాంజ్ రేఖీయ అంతర్వేశన ఐహూపది

x	1	3
$f(x)$	-2	4

Options :

1. ✖ $f(x) = 7 - x$

2. ✔ $f(x) = 3x - 5$

3. ✖ $f(x) = x - 3$

4. ✖ $f(x) = 10 - 2x$

Question Number : 132 Question Id : 7894847079 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Using trapezoidal rule with $h=1$, $\int_0^2 \frac{1}{1+x} dx =$

$h=1$ తో సమలంబ చతుర్భుజ సూత్రాన్ని ఉపయోగించినపుడు $\int_0^2 \frac{1}{1+x} dx =$

Options :

1. ✖ $\frac{19}{6}$

2. ✖ $\frac{5}{6}$

3. ✔ $\frac{7}{6}$

4. ✖ $\frac{13}{6}$

Question Number : 133 Question Id : 7894847080 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which of the following sets is not a basis of the vector space $\mathbb{R}^3(\mathbb{R})$?

ఈ క్రింద ఇచ్చిన సమితులలో సదిశాంతరాళం $\mathbb{R}^3(\mathbb{R})$ నకు ఆధారం కానిది ఏది?

Options :

1. ✖ $B_1 = \{(1, 0, 0), (1, 2, 0), (1, 2, 3)\}$

2. ✔ $B_2 = \{(1, 2, 3), (3, 4, 5), (6, 8, 10)\}$

3. ✖ $B_3 = \{(1, 2, 0), (0, 2, 3), (3, 0, 2)\}$

4. ✖ $B_4 = \{(1, 2, 3), (0, 1, 2), (0, 0, 1)\}$

Question Number : 134 Question Id : 7894847081 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If $(20, 6, 3) = a(2, 3, 0) + b(5, 0, 0) + c(1, 2, 3)$ then $(a, b, c) =$

$(20, 6, 3) = a(2, 3, 0) + b(5, 0, 0) + c(1, 2, 3)$ అయినప్పుడు $(a, b, c) =$

Options :

1. ✖ (2, 4, 1)
2. ✖ (2, 5, 3)
3. ✔ (2, 3, 1)
4. ✖ (3, 5, 2)

Question Number : 135 Question Id : 7894847082 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

$$\begin{vmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{vmatrix} =$$

Options :

1. ✖ $(a+b-c)^2$
2. ✔ $(a+b+c)^3$
3. ✖ $(a+b+c)^2$
4. ✖ $(a+b+c)^4$

Question Number : 136 Question Id : 7894847083 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Which of the following is a subspace to the vector space $\mathbb{R}^3(\mathbb{R})$?

ఈ క్రింది వాటిలో ఏది, సదిశాంతరాళం $\mathbb{R}^3(\mathbb{R})$ నకు ఉపాంతరాళం అవుతుంది?

Options :

1. ✖ $W = \{(a, b, c) \in \mathbb{R}^3 / a \leq 0\}$
2. ✖ $W = \{(a, b, c) \in \mathbb{R}^3 / b = a^2\}$
3. ✖ $W = \{(a, b, c) \in \mathbb{R}^3 / a \geq 0\}$
4. ✔ $W = \{(a, b, c) \in \mathbb{R}^3 / a + 3b = c\}$

Question Number : 137 Question Id : 7894847084 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Let $W_1 = \{(0, y, 0) / y \in \mathbb{R}\}$; $W_2 = \{(x, 0, 0) / x \in \mathbb{R}\}$ then $W_1 \cup W_2$

$W_1 = \{(0, y, 0) / y \in \mathbb{R}\}$; $W_2 = \{(x, 0, 0) / x \in \mathbb{R}\}$ అయినపుడు $W_1 \cup W_2$

Options :

1. ✔ is not a subspace of $V_3(\mathbb{R})$
 $V_3(\mathbb{R})$ నకు ఉపాంతరాళం కాదు
2. ✖ is a subspace of $V_3(\mathbb{R})$
 $V_3(\mathbb{R})$ నకు ఉపాంతరాళం అవుతుంది
3. ✖ is a subspace of $V_3(\mathbb{Q})$
 $V_3(\mathbb{Q})$ నకు ఉపాంతరాళం అవుతుంది
4. ✖ is a subspace of $V_3(\mathbb{C})$
 $V_3(\mathbb{C})$ నకు ఉపాంతరాళం అవుతుంది

Question Number : 138 Question Id : 7894847085 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The rank of the matrix $A = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 7 & 11 & 15 & 19 \\ 9 & 15 & 21 & 27 \end{pmatrix}$

అనే మాత్రిక యొక్క ర్యాంక్ $A = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 7 & 11 & 15 & 19 \\ 9 & 15 & 21 & 27 \end{pmatrix}$

Options :

1. ✖ 1
2. ✖ 3
3. ✖ 4
4. ✔ 2

Question Number : 139 Question Id : 7894847086 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Let $T : \mathbb{R}^2(\mathbb{R}) \rightarrow \mathbb{R}^3(\mathbb{R})$ be a linear transformation defined by
 $T(x, y) = (x + y, x - y, y)$. Then the dimension of the range space of T is

$T : \mathbb{R}^2(\mathbb{R}) \rightarrow \mathbb{R}^3(\mathbb{R})$ అనే ఋజు పరివర్తనను

$T(x, y) = (x + y, x - y, y)$ గా నిర్వచించారు. అప్పుడు ఋజు పరివర్తన T
యొక్క వ్యాప్తి పరిమాణము.

Options :

1. ✖ 4
2. ✖ 3

3. ✓ 2

4. ✗ 1

Question Number : 140 Question Id : 7894847087 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

Let $T : \mathbb{R}^3(\mathbb{R}) \rightarrow \mathbb{R}^3(\mathbb{R})$ be a linear transformation defined by

$T(x, y, z) = (0, x, y)$ for all $(x, y, z) \in \mathbb{R}^3(\mathbb{R})$. Then the dimension of the null space of T^2 is

$T : \mathbb{R}^3(\mathbb{R}) \rightarrow \mathbb{R}^3(\mathbb{R})$ అనే ఋజు పరివర్తనను $T(x, y, z) = (0, x, y)$

ప్రతి $(x, y, z) \in \mathbb{R}^3(\mathbb{R})$ నకు గా నిర్వచించారు. అప్పుడు T^2 యొక్క శూన్యాంతరాళపు పరిమాణం

Options :

1. ✓ 2

2. ✗ 3

3. ✗ 1

4. ✗ 4

Question Number : 141 Question Id : 7894847088 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

If the mapping $T : \mathbb{R}^3 \rightarrow \mathbb{R}^2$ defined by $T(x, y, z) = (|x|, 0)$, then T is a

ప్రమేయం $T : \mathbb{R}^3 \rightarrow \mathbb{R}^2$ ను $T(x, y, z) = (|x|, 0)$ గా నిర్వచించినప్పుడు T ఒక

Options :

a linear transformation if $y=z=0$.

$y=z=0$ అయితే ఋజు పరివర్తన అవుతుంది.

1. ✗

a linear transformation if $z > 0$.

$z > 0$ అయినప్పుడు ఒక ఋజు పరివర్తన అవుతుంది.

2. ✖

a linear transformation.

ఒక ఋజు పరివర్తన అవుతుంది.

3. ✖

not a linear transformation.

ఋజు పరివర్తన కాదు.

4. ✔

Question Number : 142 Question Id : 7894847089 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let $T : \mathbb{R}^3(\mathbb{R}) \rightarrow \mathbb{R}^2(\mathbb{R})$ be the linear transformation defined by

$$T(x, y, z) = (3x + 2y - 4z, x - 5y - 3z).$$

Then the matrix of T with respect to the bases

$$B_1 = \{(1, 1, 1), (1, 1, 0), (1, 0, 0)\} \text{ of } \mathbb{R}^3(\mathbb{R})$$

$$\text{and } B_2 = \{(1, 0), (0, 1)\} \text{ of } \mathbb{R}^2(\mathbb{R}) \text{ is}$$

$T : \mathbb{R}^3(\mathbb{R}) \rightarrow \mathbb{R}^2(\mathbb{R})$ అనే ఋజు పరివర్తనను

$$T(x, y, z) = (3x + 2y - 4z, x - 5y - 3z) \text{ గా నిర్వచించారు.}$$

$$B_1 = \{(1, 1, 1), (1, 1, 0), (1, 0, 0)\} \text{ మరియు}$$

$$B_2 = \{(1, 0), (0, 1)\} \text{ లు } \mathbb{R}^2(\mathbb{R}) \text{ వరుసగా } \mathbb{R}^3(\mathbb{R}), \mathbb{R}^2(\mathbb{R})$$

లకు ఆధారాలు అయినప్పుడు ఈ ఆధారాల దృష్ట్యా T యొక్క మాత్రిక

Options :

$$\begin{bmatrix} 1 & 5 & 3 \\ -7 & 4 & -1 \end{bmatrix}$$

1. ✖

$$\begin{bmatrix} 1 & 5 & 3 \\ -7 & -4 & 1 \end{bmatrix}$$

2. ✔

$$\begin{bmatrix} 1 & 5 & -3 \\ -7 & -4 & 1 \end{bmatrix}$$

3. ✖

4. ✖ $\begin{bmatrix} 1 & -5 & 3 \\ -7 & 4 & -1 \end{bmatrix}$

Question Number : 143 Question Id : 7894847090 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If characteristic roots of a 2x2 matrix A are 1, 2 and if

$$A^{-1} = \alpha A + \beta I \text{ then } (\alpha, \beta) =$$

A అనే ఒక 2x2 మాత్రిక యొక్క లాక్షణిక విలువలు 1, 2 మరియు $A^{-1} = \alpha A + \beta I$
అయినపుడు $(\alpha, \beta) =$

Options :

1. ✔ $\left(\frac{-1}{2}, \frac{3}{2}\right)$

2. ✖ $\left(\frac{1}{2}, \frac{3}{2}\right)$

3. ✖ $\left(\frac{1}{2}, \frac{-3}{2}\right)$

4. ✖ $\left(\frac{-1}{2}, \frac{-3}{2}\right)$

Question Number : 144 Question Id : 7894847091 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If 3, 5, 2 are the characteristic values of a 3x3 matrix A then the
determinant of the matrix A is,

ఒక a 3x3 మాత్రిక A యొక్క లాక్షణిక విలువలు 3, 5, 2 అయితే, మాత్రిక
A యొక్క నిర్ధారకం

Options :

1. ✖ 15

2. ✔ 30

3. ✖ 10

4. ✖ 60

Question Number : 145 Question Id : 7894847092 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The characteristic polynomial of the

matrix $A = \begin{pmatrix} 1 & 2 & 2 \\ 0 & 2 & 1 \\ -1 & 2 & 2 \end{pmatrix}$ is

మాత్రిక $A = \begin{pmatrix} 1 & 2 & 2 \\ 0 & 2 & 1 \\ -1 & 2 & 2 \end{pmatrix}$ యొక్క లాక్షణిక బహుపది.

Options :

1. ✖ $x^3 + 5x^2 + 8x + 4$ 2. ✖ $x^3 + 5x^2 - 8x + 4$ 3. ✔ $x^3 - 5x^2 + 8x - 4$ 4. ✖ $x^3 - 6x^2 - 5x - 3$

Question Number : 146 Question Id : 7894847093 Question Type : MCQ Option Shuffling : No Display
 Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

A vector of unit length which is orthogonal to the vector $(2, -3, 6)$ with respect to standard inner product is

ప్రమాణ అంతర్లబ్ధం దృష్ట్యా $(2, -3, 6)$ కు లంబంగా ఉండే ఏకాంక సదిశ

Options :

1. ✓ $\left(\frac{3}{\sqrt{17}}, \frac{-2}{\sqrt{17}}, \frac{-2}{\sqrt{17}} \right)$

2. ✗ $\left(\frac{-3}{\sqrt{17}}, \frac{2}{\sqrt{17}}, \frac{2}{\sqrt{17}} \right)$

3. ✗ $\left(\frac{-3}{\sqrt{17}}, \frac{-2}{\sqrt{17}}, \frac{2}{\sqrt{17}} \right)$

4. ✗ $\left(\frac{-3}{\sqrt{17}}, \frac{-2}{\sqrt{17}}, \frac{-2}{\sqrt{17}} \right)$

Question Number : 147 Question Id : 7894847094 Question Type : MCQ Option Shuffling : No Display

Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Let $V(\mathbb{R})$ be the vector space of polynomials with the inner product

defined by $\langle f, g \rangle = \int_0^1 f(t) g(t) dt$. If $f(x) = x^2 + x - 4$, $g(x) = x - 1$

then $\langle f, g \rangle =$

బహుపదుల సదిశాంతరాళం $V(\mathbb{R})$ పై అంతర్లబ్ధాన్ని $\langle f, g \rangle = \int_0^1 f(t) g(t) dt$

గా నిర్వచించారు. $f(x) = x^2 + x - 4$, $g(x) = x - 1$ అయినపుడు $\langle f, g \rangle =$

Options :

1. ✗ $\frac{9}{4}$

2. ✓ $\frac{7}{4}$

3. ✖ $\frac{5}{4}$

4. ✖ $\frac{3}{4}$

Question Number : 148 Question Id : 7894847095 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Let $V(F)$ be an inner product space and $x, y \in V$. Then which of the following statements is not true?

$V(F)$ అంతర్లబ్ధాంతరాళం మరియు $x, y \in V$ అనుకొనుము. అప్పుడు ఈ క్రింది ప్రవచనాలలో ఏది అసత్యము ?

Options :

1. ✖ $\|x + y\| \leq \|x\| + \|y\|$

2. ✖ $|\langle x, y \rangle| \leq \|x\| \|y\|$

3. ✖ $\|x + y\|^2 + \|x - y\|^2 = 2(\|x\|^2 + \|y\|^2)$

4. ✔ $\|x + y\|^2 + \|x - y\|^2 = \|x\|^2 + \|y\|^2$

Question Number : 149 Question Id : 7894847096 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Let $V(F)$ be an inner product space and $S \subseteq V$. Then which of the following is false ?

$V(F)$ ఒక అంతర్లబ్ధాంతరాళమనీ $S \subseteq V$ అనుకొనుము. అప్పుడు ఈ క్రింది ప్రవచనాలలో ఏది అసత్యము?

Options :

1. ✔ $\{0\}^\perp \neq V$

2. ✖ $S^\perp = S^{\perp\perp\perp}$

3. ✖ $S \cap S^\perp = \{0\}$

4. ✖ $S \subset T \Rightarrow S^\perp \supseteq T^\perp$

Question Number : 150 Question Id : 7894847097 Question Type : MCQ Option Shuffling : No Display
Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Two vectors U and V are orthogonal if and only is

రెండు సదిశలు U , V లు అభీలంబంగా ఉండడానికి అవశ్యక పర్యాప్త నియమం

Options :

1. ✖ $\|U - V\|^2 = \|U\| + \|V\|$

2. ✖ $\|U - V\|^2 = \|U\|^2 - \|V\|^2$

3. ✔ $\|U + V\|^2 = \|U\|^2 + \|V\|^2$

4. ✖ $\|U + V\|^2 = \|U\|^2 - \|V\|^2$