Telangana State Council of Higher Education

TS ECET [FDH & B.Sc. (Mathematics)] - 2018

Date of Examination: 09-05-2018

Time of Examination: 10.00 A.M. to 1.00 P.M.

Master Question Paper Copy

B.Sc. (Mathematics)

Notations :

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

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

Question Number : 1 Question Id : 5105295209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is a solution of the differential equation $y' = 2xy + 1$?

Options :

1. ✖ $y = e^{x^2}$

2. ✖ $y = e^{x^2} \int_0^x e^{-t} dt$

3. ✔ $y = e^{x^2} \int_0^x e^{-t^2} dt$

4. ✖ $$y = e^{x^2} \int e^{-t^2} dt$$

Question Number : 2 Question Id : 5105295210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For which values of m will the function $y = e^{mx}$ be a solution of the differential equation $2y''' + y'' - 5y' + 2y = 0$?

Options :

1. ✖ $1, \dfrac{1}{2}, 2$

2. ✖ $\dfrac{1}{2}, -1, 2$

3. ✖ $2, 2, -1$

4. ✔ $\dfrac{1}{2}, 1, -2$

Question Number : 3 Question Id : 5105295211 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Integrating factor of $(y^2 + xy + 1)dx + (x^2 + xy + 1)dy = 0$ _____

Options :

1. ✔ e^{xy}

2. ✖ $\dfrac{1}{xy}$

3. ✖ $\dfrac{1}{x^2 + y^2}$

4. ✖ xy

Question Number : 4 Question Id : 5105295212 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The solution of $(1+y^2)dx = (\tan^{-1}y - x)dy$ is _____

Options :

1. ✔ $x = Tan^{-1}y - 1 + ce^{-Tan^{-1}y}$

2. ✖ $y = cTan^{-1}x + 1$

3. ✖ $x = Tan^{-1}y + ce^{-Tan^{-1}y}$

4. ✖ $x = Tan^{-1}y + c\tan y$

Question Number : 5 Question Id : 5105295213 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of a 8th order differential equation contains

_____

Options :

1. ✖ More than 8 arbitrary constants

2. ✔ 8 arbitrary constants

3. ✖ No arbitrary constants

4. ✖ only one arbitrary constant

Question Number : 6 Question Id : 5105295214 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The differential equation $\dfrac{dy}{dx}(x+y-5) = 1$ is _____

Options :

1. ✖ nonlinear in x

2. ✖ linear in y

3. ✔ linear x

4. ✖ nonlinear in both x and y

Question Number : 7 Question Id : 5105295215 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Given $f_1(x)$ = sinx, $f_2(x)$ = cosx, and $f_3(x)$ = sin2x are 3 functions, then

A) The wronskian of given functions is 3 sin 2x

B) The wronskian of given functions is zero

C) The functions are linearly dependent

D) The functions are linearly independent.

Which of the above statements is correct?

Options :

1. ✔ A & D

2. ✖ A & C

3. ✖ C, A & D

4. ✖ B & D

Question Number : 8 Question Id : 5105295216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

x = 0 and x = 1 are singular points of the differential equation

$x^3(x-1)y'' - 2(x-1)y' + 3xy = 0$, which of the following is correct?

Options :

1. ✖ x=0 and x=1 are regular

2. ✖ x=0 and x=1 are irregular

3. ✗   x=0 is regular, x=1 is irregular

4. ✓   x=0 is irregular, x=1 is regular

Question Number : 9 Question Id : 5105295217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of the equation $y^{(4)} - 5y^{(2)} + 4y = \sin x$ _____

Options :

1. ✗ $y = A_1 e^{2x} + A_2 e^{-2x} + A_3 e^x + A_4 e^{-x}$

2. ✗ $y = A_1 e^{4x} + A_2 e^{2x} + \dfrac{1}{10} \sin x$

3. ✗ $y = (A_1 + A_2 x) e^{2x} + (A_3 + A_4 x) e^x + \dfrac{1}{10} \sin x$

4. ✓ $y = A_1 e^{2x} + A_2 e^{-2x} + A_3 e^x + A_4 e^{-x} + \dfrac{1}{10} \sin x$

Question Number : 10 Question Id : 5105295218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral of $\dfrac{d^3 y}{dx^3} - 3\dfrac{d^2 y}{dx^2} + 4\dfrac{dy}{dx} - 2y = e^x + \cos x$ is _____

Options :

1. ✗ $C_1 e^x + e^x \left(C_2 \cos x + C_3 \sin x \right)$

2. ✗ $x e^x$

3. ✓ $x e^x + \dfrac{1}{10} \left(3 \sin x + \cos x \right)$

4. ✗ $x e^x - \dfrac{1}{10} \left(3 \sin x - \cos x \right)$

Question Number : 11 Question Id : 5105295219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral of $(D^2 + 9)y = \sec 3x$ is _____

Options :

1. ✖ $\dfrac{x}{3}\sin x + \dfrac{1}{3}\cos x . \log \cos 3x$

2. ✔ $\dfrac{x}{3}\sin 3x + \dfrac{1}{9}\cos 3x . \log \cos 3x$

3. ✖ $\dfrac{x}{9}\sec 3x$

4. ✖ $\dfrac{x}{3}\cos 3x + \dfrac{1}{9}\sin 3x . \log \cos 3x$

Question Number : 12 Question Id : 5105295220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of $y' + y = \dfrac{1}{1 + e^{2x}}$ is _____

Options :

1. ✖ $y = e^{-x}Tan^{-1}e^x + c$

2. ✔ $y = e^{-x}\,Tan^{-1}e^x + ce^{-x}$

3. ✖ $x = e^{-y}Tan^{-1}e^y + ce^{-y}$

4. ✖ $y = e^x Tan^{-1}e^x$

Question Number : 13 Question Id : 5105295221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Singular solution of $y = px + \dfrac{a}{p}$ is _____

Options :

1. ✖ $y^2 = 2y$

2. ✖ $y = cx + \dfrac{a}{c}$

3. ✔ $y^2 = 4ax$

4. ✖ $x = 0$

Question Number : 14 Question Id : 5105295222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A differential equation of first order and first degree is homogenous, if _____

Options :

1. ✔ $\dfrac{dy}{dx} = \phi\left(\dfrac{y}{x}\right)$

2. ✖ $\dfrac{dy}{dx} = constant$

3. ✖ $\dfrac{dy}{dx} = \phi(x)$

4. ✖ $\dfrac{dy}{dx} = 1$

Question Number : 15 Question Id : 5105295223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The particular integral (y_p) of $y'' + 4y = \tan 2x$ is _____

Options :

1. ✖ $y_p = \dfrac{-1}{4}\cos 2x$

2. ✖ $y_p = \dfrac{1}{2}xe^{-x}\sin 2x - \dfrac{1}{4}e^{-x}\cos 2x$

3. ✔ $y_p = \dfrac{-1}{4}\cos 2x . \log(\sec 2x + \tan 2x)$

4. ✖ $y_p = \sin 2x . \log(\sec 2x + \tan 2x)$

Question Number : 16 Question Id : 5105295224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements

A) $(y^2 + 1)(x^2 + 1) = c$ is general solution of $(xy^2 + x)dx + (yx^2 + y)dy = 0$

B) $Tan^{-1}y = x - \log(1 + x) + c$ is general solution of $(x + 1)\dfrac{dy}{dx} = x(y^2 + 1)$

C) $\log \sin (y-x) = \dfrac{x^2}{2} + c$ is general solution of $\dfrac{dy}{dx} - x\tan(y - x) = 1$

D) I.F of $\dfrac{dy}{dx} = \dfrac{x^2 + y^2}{xy}$ is $\dfrac{1}{x^3}$

Which of the above statements is true?

Options :

1. ✖ Only A, B & D

2. ✖ only A, C & D

3. ✖ Only A & D

4. ✔ A, B, C & D

Question Number : 17 Question Id : 5105295225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\dfrac{dy}{dx} + py = Q.y^n$ is Bernoulli's differential equation if _____

Options :

1. ✖ P, Q are constants and n=0 or 1

2. ✔ P, Q are constants or functions of x and $n \neq 0, n \neq 1$

3. ✖ **P, Q are functions of x and n=0**

4. ✖ **n > 1**

Question Number : 18 Question Id : 5105295226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following differential equations is not exact?

Options :

1. ✖ $(2xy+y-Tany)dx+(x^2-xTan^2y+\sec^2 y)dy=0$

2. ✖ $y\sin 2x-(y^2+\cos^2 x)dy=0$

3. ✖ $2xydx+x^2dy=0$

4. ✔ $(x^2+y^2+2x)dx+2ydy=0$

Question Number : 19 Question Id : 5105295227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statements is false?

Options :

1. ✖ $\dfrac{d^3y}{dx^3}+\dfrac{d^2y}{dx^2}\times\dfrac{dy}{dx}+y=x$ is Non-linear differential equation

2. ✖ $x\dfrac{d^4y}{dx^4}+\dfrac{d^2y}{dx^2}=e^x$ is linear differential equation in y

3. ✖ $\dfrac{dy}{dx}+y^2=x^2$ is non-linear differential equation of degree 1

4. ✔ The order of differential equation of all circles of given radius is 1

Question Number : 20 Question Id : 5105295228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of (ax+hy+g) dx + (hx+by+f)dy=0 is _____

Options :

1. ✖ $ax^2 + 2hxy + by^2 = 0$

2. ✔ $ax^2 + 2hxy + by^2 + 2gx + 2fy = C$

3. ✖ $ax^2 + 2hxy + By^2 + 2Gx + 2Fy = C$

4. ✖ (ax+hy+g) (hx+by+f) = 0

Question Number : 21 Question Id : 5105295229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

H is any subgroup of a group (G, .) and $a \in G$ and aH = H = Ha, then a

belong to _____

Options :

1. ✖ G U H

2. ✖ H/G

3. ✔ $H \cap G$

4. ✖ G − {H}

Question Number : 22 Question Id : 5105295230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of elements of order 10 in Z_{30} is _____

Options :

1. ✖ 5

2. ✔ 4

3. ✖ | 3

4. ✖ 30

Question Number : 23 Question Id : 5105295231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If G is a group of order 15 and H is a subgroup of G of order 5, then H is _____

Options :

1. ✔ Cyclic subgroup

2. ✖ Normal subgroup

3. ✖ Ring

4. ✖ Not a group

Question Number : 24 Question Id : 5105295232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let G be a finite group and $a \in G$ and H is a subgroup of G generated by

a then consider the following statements

A) O(a)=O(H)   B) o(a)/o(G)   C) O(a) ≠ O(H)   D) O(G)=O(H)

Which of the above statements are true?

Options :

1. ✖ A & C

2. ✖ B & C

3. ✖ A, B & C

4. ✔ A & B

Question Number : 25 Question Id : 5105295233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statements are true?

A) The order of every element of a finite group G is finite

B) The order of every element of a finite group is infinite

C) The order of every element of a finite group is rational

D) The order of every element of a finite group is an integer.

Options :

1. ✔ A & D

2. ✘ A, B, C & D

3. ✘ A, C & D

4. ✘ B, C & D

Question Number : 26 Question Id : 5105295234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements:

A. The order of an element of an infinite group may be finite or infinite

B. In S_n, the number of distinct cycles of length r (r≤n) is $\dfrac{n!}{r!(n-r)!}$

C. If H and k are finite subgroups of a group G then o(HK)=o(H).o(k)

D. Every Group of prime order is cyclic as well as abelian

Which of the above statements are true?

Options :

1. ✘ Only A, B & C

2. ✔ Only A, B & D

Only B, C & D

3. ✖

only C & D

4. ✖

Question Number : 27 Question Id : 5105295235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statements is false?

Options :

Let G a group and p is prime number. If $0(G) = p^2$ then G need not be abelian

1. ✔

Order of subgroup divides order of the group

2. ✖

Let G be a group of order 108. Then there exist a normal subgroup of order 9 or 27

3. ✖

The identity element of the group $(G, \times)$ where $G = \left\{ \begin{pmatrix} a & a \\ a & a \end{pmatrix} : a \in R - \{0\} \right\}$ &

'$\times$'represents matrix multiplication is $\begin{pmatrix} \frac{1}{2} & \frac{1}{2} \\ \frac{1}{2} & \frac{1}{2} \end{pmatrix}$

4. ✖

Question Number : 28 Question Id : 5105295236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If in a group G, $a^5 = e$, $aba^{-1} = b^2$ $\forall$ a, b $\in$ G then consider the following statements:

A) $b^4 = a^2ba^{-2}$ B) $b^{16} = a^8ba^{-8}$ C) $o(b) = 31$ & b $\neq$ e   D) $o(b) = 32$, b $\neq$ e

Which of the above statements are true?

Options :

1. ✖ only A & C

2. ✔ only A & B

3. ✖ only A, B & C

4. ✖ A, B, C & D

Question Number : 29 Question Id : 5105295237 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statement is true?

Options :

1. ✖ a, a², are generators in the group G = $\{a, a^2, a^3, a^4 = e\}$

2. ✖ If C = (1234) then C₂ = (1 3)(1 4)

3. ✖ If G is a finite group and H is a normal subgroup of G then

$O\left(\dfrac{G}{H}\right) = O(G).O(H)$

4. ✔ [G:H]=8 and [G:K]=4 then [K:H]=2

Question Number : 30 Question Id : 5105295238 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every finite group of composite order possesses _____

Options :

1. ✔ Proper subgroups

2. ✖ Only improper subgroups

3. ✖ No sub groups

4. ✖ Proper subgroups of Prime order

Question Number : 31 Question Id : 5105295239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$G = \left(\{1, 2, 3, \ldots 16\}, \times_{17}\right)$ is a group then o(2)= _____

Options :

1. ✖ 4

2. ✖ 5

3. ✖ 6

4. ✔ 8

Question Number : 32 Question Id : 5105295240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every group of prime order is _____

Options :

1. ✖ only Simple

2. ✖ only Abelian

3. ✖ only Normal

4. ✔ Abelian, simple and normal

Question Number : 33 Question Id : 5105295241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If G is a cyclic group of order 17 then the number of generators

is _____

Options :

1. ✔ **16**

2. ✖ **17**

3. ✖ **11**

4. ✖ **1**

Question Number : 34 Question Id : 5105295242 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For a group G of order 36 and H is any subgroup of G having order 4, then _____

Options :

1. ✖ $H \subset Z(G)$

2. ✖ $H = Z(G)$

3. ✖ H is normal in G

4. ✔ H is an abelian group

Question Number : 35 Question Id : 5105295243 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $1, \omega, \omega^2$ are the cube roots of unity, then the roots of the equation $(x-1)^3 + 8 = 0$ are _____

Options :

1. ✖ $-1, 1+2\omega, 1+2\omega^2$

2. ✔ $-1, 1-2\omega, 1-2\omega^2$

3. ✖ $-1, -1, -1$

4. ✖ $8, 8\omega, 8\omega^2$

Question Number : 36 Question Id : 5105295244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let F be the field of integers module 11. Then $x^2 + x + 5 =$ _____

Options :

1. ✖ $(x+1)\ (x+2)$

2. ✖ $(x+2)\ (x+3)$

3. ✔ $(x+3)\ (x+9)$

4. ✖ $(x+1)\ (x+5)$

Question Number : 37 Question Id : 5105295245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of prime ideals of Z_{100} is _____

Options :

1. ✔ 2

2. ✖ 5

3. ✖ 10

4. ✖ 100

Question Number : 38 Question Id : 5105295246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements:

A) The idempotent element of Z_5 is 3

B) $\frac{Z}{5Z}$ is isomorphic to Z_n

C) Over Z, x^2-5x+6 is irreducible

D) The number of elements on the field $\frac{Z_{11}[x]}{<x^2+1>}$ is 121

Which of the above statements are true?

Options :

1. ✖ only A & C

2. ✔ only B & D

3. ✖ only A, C & D

4. ✖ only C

Question Number : 39 Question Id : 5105295247 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number of units in ring of Gaussian integers is _____

Options :

1. ✔ 4

2. ✖ 2

3. ✖ 3

4. ✖ 1

Question Number : 40 Question Id : 5105295248 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The characteristic of an integral domain is _____

Options :

1. ✖ 0

2. ✖ ∞

3. ✖ prime

4. ✔ either zero or prime

Question Number : 41 Question Id : 5105295249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements:

A) A field has no proper ideals

B) A ring of integers is a principal ideal ring

C) The set of all 2x2 non-singular matrices over rationals is not a ring under matrices addition and multiplication.

D) $z(\sqrt{-5})$ is the set of complex numbers of the form $a+b\sqrt{-5}$ (where a & b are integers) is an integral domain

Which of the above statements are true?

Options :

1. ✖ only A, B & C

2. ✖ only A, C & D

3. ✖ only A, B & D

4. ✔ A, B, C, & D

Question Number : 42 Question Id : 5105295250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $(R,+,\cdot)$ is a ring then $(R, +)$ is _____

Options :

1. ✖ A group

2. ✔ an abelian group

3. ✖ a finite group

4. ✖ need not be a group

Question Number : 43 Question Id : 5105295251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A commutative ring with unity satisfying cancellation laws

is _____

Options :

1. ✖ not a field

2. ✖ skew field

3. ✔ an integral domain

4. ✖ a ring having no multiplicative inverse

Question Number : 44 Question Id : 5105295252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An ideal U of a ring R is prime ideal if _____

Options :

1. ✔ for all $a, b \in R$ and $ab \in U \Rightarrow a \in U$ or $b \in U$

2. ✖ for all $a, b \notin R$ and $ab \notin U$

3. ✖ for same $a, b \in R$ and $ab \notin U \Rightarrow a \notin U$ or $b \in U$

4. $a, b \in R \quad ab \in U \Rightarrow a \in U \cap R, \quad b \notin R \cap U$

Question Number : 45 Question Id : 5105295253 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let f(x) = x³ + 2x² + 1 and g (x) = 2 x² + x + 2. Then, over Z_3 _____

Options :

1. ✔ f(x) and g (x) are irreducible

2. ✘ f(x) is irreducible but g (x) is reducible

3. ✘ g(x) is irreducible but f(x) is reducible

4. ✘ neither f(x) nor g (x) is irreducible

Question Number : 46 Question Id : 5105295254 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let $W_1 = \{(x, y) / y = 3x\}$ $W_2 = \{(x, y) / y = x\}$ are subsets of vector space

of $R^2(R)$ then _____

Options :

1. ✘ $W_1 \& W_2$ are not subspaces of R^2

2. ✔ $W_1 \& W_2$ are subspaces of R^2 and $W_1 \oplus W_2 = R^2$

3. ✘ W_1 is a subspace of R^2 but W_2 is not a subspace of R^2

4. ✘ $W_1 + W_2 = V$ and $w_1 \cap w_2 \neq \{0\}$

Question Number : 47 Question Id : 5105295255 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Consider the following statements:

A) (1,2,3) & (2,4,6) are linearly independent vectors in V_3 (R)

B) {(1,2,4) (1,0,0) (0,1,0)(0,0,1)} is linearly dependent subset of vectors in V_3 (R)

C) {(1,2,0) (0,3,1) (-1,0,1)} is linearly independent subset of vectors in V_3 (R)

D) {(-1,2,1)(3,0,-1), (-5,4,3)} is linearly independent subset of vectors in V_3 (R)

Which one of the following is true?

Options :

1. ✔ only B & C

2. ✘ only B, C & D

3. ✘ only B

4. ✘ A, B, C & D

Question Number : 48 Question Id : 5105295256 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Each subspace W of a finite dimensional vector space V(F) of dimension n is a finite dimensional space with _____

Options :

1. ✘ $dim\ W > n$

2. ✔ $dim\ W \leq n$

3. ✘ $dim\ W < n^2$

4. ✘ $dim\ W > 2n$

Question Number : 49 Question Id : 5105295257 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every n-dimensional vector space V (F) is isomorphic to _____

Options :

1. ✔ F^n

2. ✘ F^{n-1}

3. ✘ F^{n+1}

4. ✘ F^{n^2}

Question Number : 50 Question Id : 5105295258 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If (1,-2, k) is a linear combination of the vectors (3, 0,-2) (2,-1-5) in R^3

then k =_____

Options :

1. ✘ 8

2. ✘ -12

3. ✘ -10

4. ✔ -8

Question Number : 51 Question Id : 5105295259 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $W_1 \& W_2$ are two subspaces of V (F) such that $dim\ W_1 = 5$, $dim\ W_2 = 3$

and $dim\ (W_1 \cap W_2) = 1$ then $dim\ (W_1 + W_2) =$ _____

Options :

1. ✘ 9

2. ✖ | 3

3. ✔ | 7

4. ✖ | 2

Question Number : 52 Question Id : 5105295260 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The dimension of the space spanned by the vectors $(1,2,1)$ $(2,1,0)$ $(4,5,2)$ is _____

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ | 4

Question Number : 53 Question Id : 5105295261 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The mapping T: R² → R² defined by $T(x_1, x_2) = (x_1^2, x_2)$ is _____

Options :

1. ✔ Not linear

2. ✖ linear

3. ✖ | one to one

4. ✖ not well defined

Question Number : 54 Question Id : 5105295262 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

T is a linear operator on a vector space V such that T leaves every subspace of V invariant then _____

Options :

1. ✔ T must be identity operator

2. ✖ T must be a nilpotent operator

3. ✖ T is a scalar multiple of the identity operator

4. ✖ T has a minimal polynomial of degree zero

Question Number : 55 Question Id : 5105295263 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The rank of linear transformation T: U→V is the dimension of the

_____

Options :

1. ✖ Null space of T

2. ✖ Space U

3. ✖ Space V

4. ✔ Range of T

Question Number : 56 Question Id : 5105295264 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If T: $V_2 \rightarrow V_4$ is defined by T (x,y) = (y,o,o,o) then T is _____

Options :

1. ✖ One-one only

2. ✔ onto only

3. ✖ **neither one-one nor onto**

4. ✖ **bijection**

Question Number : 57 Question Id : 5105295265 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If T: R³→R³ is an invertible operator defined by

T(x, y, z) = (2x, 4x-y, 2x+3y-z) then T^{-1} (x, y, z) = _____

Options :

1. ✖ $\left(\dfrac{x}{2}, 2x+y, 7x-3y-z\right)$

2. ✖ $\left(\dfrac{x}{2}, 2x+y, 7x+3y-z\right)$

3. ✔ $\left(\dfrac{x}{2}, 2x-y, 7x-3y-z\right)$

4. ✖ $\left(\dfrac{x}{2}, 2x-y, 7x+3y+z\right)$

Question Number : 58 Question Id : 5105295266 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $A = \begin{pmatrix} 1 & 2 & 3 \\ 2 & -1 & 4 \\ 3 & 1 & -1 \end{pmatrix}$ then A⁻¹ = _____

Options :

1. ✖ $\dfrac{A^2 + 3A - 2}{20}$

2. ✖ $\dfrac{1}{20}\left(A^3 + 2A - 4I\right)$

3. ✖ $\dfrac{1}{40}\left(A^2 + A - 18\right)$

4. ✔ $\dfrac{1}{40}\left(A^2 + A - 18I\right)$

Question Number : 59 Question Id : 5105295267 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The product of Eigen values of $\begin{pmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{pmatrix}$ is _____

Options :

1. ✖ 15

2. ✖ 45

3. ✔ 0

4. ✖ 18

Question Number : 60 Question Id : 5105295268 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the rank of a matrix $\begin{pmatrix} 1 & 2 & 3 & 0 \\ 2 & 4 & 3 & 2 \\ 3 & 2 & 1 & 3 \\ 6 & 8 & 7 & \alpha \end{pmatrix}$ is 3 then $\alpha = $_____

Options :

1. ✖ -5

2. ✔ 5

3. ✖ 4

4. ✖ -4

Question Number : 61 Question Id : 5105295269 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A plane meets the co-ordinate axes at A, B & C such that the centroid of the triangle ABC is the point (a, b, c) then equation of the plane is _____

Options :

1. ✖ $\dfrac{x}{a}+\dfrac{y}{b}+\dfrac{z}{c}=1$

2. ✖ $\dfrac{x}{a}+\dfrac{y}{b}+\dfrac{z}{c}=0$

3. ✖ $ax+by+cz=1$

4. ✔ $\dfrac{x}{a}+\dfrac{y}{b}+\dfrac{z}{c}=3$

Question Number : 62 Question Id : 5105295270 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The circum centre of the triangle formed by the points (3, 2, -5), (-3, 8, -5), (-3, 2, 1) is _____

Options :

1. ✔ (-1,4,-3)

2. ✖ (2,4,1)

3. ✖ (-2,4,-3)

4. ✖ (1,4,3)

Question Number : 63 Question Id : 5105295271 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of the plane through (2, 3, -4) and (1,-1, 3) parallel to the x-axis is _____

Options :

1. ✖ 5x-y-z-3=0

2. ✖ 3x+y+z=5

3. ✔ 7y+4z-5=0

4. ✖ 4x-y-5=0

Question Number : 64 Question Id : 5105295272 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The bisector of the acute angle between the planes $2x-y-2z+3=0$ and $3x-2y+6z+8=0$ is _____

Options :

1. ✖ 2x+3y+4z-45=0

2. ✖ 23x-13y+32z+45=0

3. ✖ 2x+13y-3z+45=0

4. ✔ 23x-13y+4z+45=0

Question Number : 65 Question Id : 5105295273 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

When the equation of a line is expressed as two 1st degree equations in x,y,z then the number of arbitrary constants involved in the equation of that straight line is not more than _____

Options :

1. ✖ 6

2. ✔ 4

3. ✖ 2

4. ✖ 0

Question Number : 66 Question Id : 5105295274 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The angle between the line $\frac{x+1}{3}=\frac{y-1}{2}=\frac{z-2}{4}$ and the plane 2x+y-3z-4=0

is _____

Options :

1. ✖ $Cos^{-1}\left(\frac{-4}{\sqrt{406}}\right)$

2. ✖ Zero

3. ✔ $Sin^{-1}\left(\frac{-4}{\sqrt{406}}\right)$

4. ✖ $\frac{\pi}{2}$

Question Number : 67 Question Id : 5105295275 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The distance of the point (3, 8, 2) from the line $\frac{x-1}{2}=\frac{y-3}{4}=\frac{z-2}{3}$

measured parallel to the plane 3x+2y-2z+5=0 is _____

Options :

1. ✖ 2

2. ✖ 3

3. ✖ 5

4. ✔ 7

Question Number : 68 Question Id : 5105295276 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of a line parallel to $\dfrac{x}{2}=\dfrac{y}{3}=\dfrac{z}{1}$ and passing through the

point of intersection of the lines $\dfrac{x-1}{2}=\dfrac{y-2}{3}-\dfrac{z-3}{4}$ and $\dfrac{x-2}{3}=\dfrac{y-4}{4}=\dfrac{z-7}{4}$

is _____

Options :

1. ✔ $\dfrac{x-5}{2}=\dfrac{y-8}{3}=\dfrac{z-11}{1}$

2. ✖ $\dfrac{x}{2}=\dfrac{y}{3}=\dfrac{2}{1}$

3. ✖ $\dfrac{x+5}{2}=\dfrac{y+8}{3}-\dfrac{z+11}{1}$

4. ✖ $\dfrac{x}{1}=\dfrac{y}{3}=\dfrac{z}{2}$

Question Number : 69 Question Id : 5105295277 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If two spheres of radii 3 and 4 intersect orthogonally, then the radius

of the circle common to these spheres is _____

Options :

1. ✖ 7

2. ✔ $\dfrac{12}{5}$

3. ✖ 5

4. ✖ 8

Question Number : 70 Question Id : 5105295278 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The foot of the perpendicular from $(3,-1,11)$ to the line $\frac{x}{2} = \frac{y-2}{5} = \frac{z-3}{4}$

is _____

Options :

1. ✖ $(0,2,3)$

2. ✖ $(2,3,-4)$

3. ✖ $(2,5,7)$

4. ✔ $(\frac{22}{45}, \frac{145}{45}, \frac{179}{45})$

Question Number : 71 Question Id : 5105295279 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The centre of the sphere through the points $(0,0,0),(a,0,0),(0,b,0)$ and

$(0,0,c)$ is _____

Options :

1. ✖ (a,b,c)

2. ✔ $\left(\frac{a}{2}, \frac{b}{2}, \frac{c}{2}\right)$

3. ✖ $\left(\frac{-a}{2}, \frac{-b}{2}, \frac{-c}{2}\right)$

4. ✖ $$\left(\frac{a}{3}, \frac{b}{3}, \frac{c}{3}\right)$$

Question Number : 72 Question Id : 5105295280 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the lines $\frac{x+1}{-3} = \frac{y+5}{2k} = \frac{z-4}{2}$ and $\frac{x-3}{3k} = \frac{y-2}{1} = \frac{z+1}{7}$ are perpendicular, then

the value of k is_____

Options :

1. ✖ 4

2. ✖ 3

3. ✔ 2

4. ✖ -1

Question Number : 73 Question Id : 5105295281 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The shortest distance between straight lines $\frac{x-3}{2} = \frac{y+15}{-7} = \frac{z-9}{5}$ and

$\frac{x+1}{2} = \frac{y-1}{1} = \frac{z-9}{-3}$ is _____

Options :

1. ✔ $4\sqrt{3}$

2. ✖ $2\sqrt{3}$

3. ✖ $6\sqrt{3}$

4. ✖ $\sqrt{6}$

Question Number : 74 Question Id : 5105295282 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The angle between the planes $x + y - z = 1$ and $2x + y + 3z = -4$ is (in degrees) _____

Options :

1. ✖   0

2. ✖   60

3. ✖   30

4. ✔   90

Question Number : 75 Question Id : 5105295283 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The radius of the sphere $x^2 + y^2 + z^2 - 2x + 4y - 6z = 2$ is _____

Options :

1. ✖   2

2. ✔   4

3. ✖   6

4. ✖   8

Question Number : 76 Question Id : 5105295284 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$\lim_{n \to \infty} \frac{(n+2)! + (n+1)!}{(n+2)! - (n+1)!} = \underline{\hspace{2cm}}$$

Options :

1. ✖   0

2. ✖ ∞

3. ✔ 1

4. ✖ 2

Question Number : 77 Question Id : 5105295285 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f'(2) = 2, f''(2) = 1$ then $\lim\limits_{x \to 2} \dfrac{2x^2 - 4f^1(x)}{x-2} = $ _____

Options :

1. ✖ 0

2. ✖ α

3. ✖ 2

4. ✔ 4

Question Number : 78 Question Id : 5105295286 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\lim\limits_{x \to 0} \dfrac{5x + |x|}{7x - 3|x|} = $ _____

Options :

1. ✖ $\dfrac{2}{5}$

2. ✖ $\dfrac{3}{2}$

3. ✖ 0

4. ✔ does not exist

Question Number : 79 Question Id : 5105295287 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f(x) = \begin{cases} \log(1+x) - \log(1+bx), & x \neq 0 \\ k, & x = 0 \end{cases}$

is continuous at x=0 then k = _____

Options :

1. ✖ a-b

2. ✔ 1-b

3. ✖ $\frac{9}{b}$

4. ✖ $\frac{b}{9}$

Question Number : 80 Question Id : 5105295288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f(x) = \begin{cases} 2x-1 & \text{when } x > 2 \\ k & \text{when } x = 2 \\ x^2 - 1 & \text{when } x < 2 \end{cases}$

is continuous at x=2 then k = _____

Options :

1. ✖ 2

2. ✖ 4

3. ✖ -3

4. ✔ 3

Question Number : 81 Question Id : 5105295289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If [y] represent the integer less than or equal to y and f: R→ R defined as f(x) = [x] is continuous on _____

Options :

1. ✖ $\mathbb{R}$

2. ✖ $\mathbb{Z}$

3. ✖ $\mathbb{N}$

4. ✔ $\mathbb{R} - \mathbb{Z}$

Question Number : 82 Question Id : 5105295290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The sum of the series $\sum\limits_{n=1}^{\infty} \dfrac{1}{3^n}$ is _____

Options :

1. ✖ $\dfrac{3}{2}$

2. ✖ $\dfrac{1}{3}$

3. ✖ $\dfrac{4}{3}$

4. ✔ $\dfrac{1}{2}$

Question Number : 83 Question Id : 5105295291 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\sum\limits_{n=1}^{\infty} \dfrac{x^n}{n^2}$ is convergent, for _____

Options :

1. ✔ $x \leq 1$

2. ✖ $x < 1$

3. ✖ $x > 1$

4. ✖ $x \geq 1$

Question Number : 84 Question Id : 5105295292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\lim\limits_{n\to\infty} S_n = S$ then $\lim\limits_{n\to\infty} \dfrac{S_1 + S_2 + - + S_n}{n} = $ _____

Options :

1. ✖ 0

2. ✖ does not exist

3. ✔ S

4. ✖ S/2

Question Number : 85 Question Id : 5105295293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The derived set of $(1,5) \cup (7,10)$ is _____

Options :

1. ✖ $[1,10]$

2. ✖ $[1,5] \cap [7,10]$

3. ✖ $[1,5] \cup [5,10]$

4. ✔ $[1,5] \cup [7,10]$

Question Number : 86 Question Id : 5105295294 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\sum\limits_{n=1}^{\infty} \dfrac{(-1)^n}{n^p}$ is absolutely convergent for _____

Options :

1. ✖ $p < 1$

2. ✖ $p \leq 1$

3. ✔ $p > 1$

4. ✖ $p \geq 1$

Question Number : 87 Question Id : 5105295295 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of θ in the Legrange's mean value theorem for

$$f(x) = x^3, a = 1 \& h = \frac{1}{2} \text{ is } _____$$

Options :

1. ✖ $\dfrac{1}{3}$

2. ✖ $\sqrt{\dfrac{19}{56}}$

3. ✖ $\sqrt{\dfrac{19}{3}} + 2$

4. ✔ $\sqrt{\dfrac{19}{3}} - 2$

Question Number : 88 Question Id : 5105295296 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Rolle's theorem cannot be applicable for _____

Options :

1. ✖ $f(x) = \cos x - 1 \quad on \quad [0, 2\pi]$

2. ✖ $f(x) = x(x-2)^2 \ in \ [0,2]$

3. ✔ $f(x) = 3 + (x-1)^{2/3} \ in \ [0,3]$

4. ✖ $f(x) = sin^2 x \quad in \quad [0,\pi]$

Question Number : 89 Question Id : 5105295297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If on $[2, 6], f(x) \begin{cases} 3, & when \ x \in \mathbb{Q} \\ -5, & when \ x \in \mathbb{R} - \mathbb{Q} \end{cases}$, then $\int\limits_{2}^{6} f(x)dx$ and $\overline{\int\limits_{2}^{6}} f(x)dx$ are

respectively _____

Options :

1. ✔ -20, 12

2. ✖ 12, -20

3. ✖ 8, 8

4. ✖ 4, -4

Question Number : 90 Question Id : 5105295298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\int\limits_{0}^{1} |1-x| dx = $ _____

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 0

4. ✔ 1/2

Question Number : 91 Question Id : 5105295299 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f(x, y, z) = x + y + z$, $g(x, y, z) = x^2 + y^2 + z^2$, $h(x, y, z) = xy + yz + zx$, then

[grad f, grad g, grad h] = _____

Options :

1. ✘ 1

2. ✔ 0

3. ✘ 11/2

4. ✘ 10

Question Number : 92 Question Id : 5105295300 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\overline{f} = xy^2 \overline{i} + 2x^2 yz \overline{j} - 3yz^2 \overline{k}$ then at $(1, -1, 1)$ $div \overline{f}$ = _____

Options :

1. ✘ 7

2. ✘ 6

3. ✘ - 3

4. ✔ 9

Question Number : 93 Question Id : 5105295301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\nabla^2 \left(\dfrac{1}{r}\right) = $ _____

Options :

1. ✔ $n(n+1)r^{n-2}$

2. ✘ $n(n-1)r^{n-2}$

3. ✘ nr^{n-2}

4. ✘ $(n-1)r^{n-2}$

Question Number : 94 Question Id : 5105295302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$grad\ \emptyset$ is _____

Options :

1. ✔ an Irrotational vector

2. ✘ a solenoidal vector

3. ✘ constant vector

4. ✘ null vector

Question Number : 95 Question Id : 5105295303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\overline{A}$ and $\overline{B}$ are two irrotational vectors then $\overline{A \times B}$ is _____

Options :

1. ✘ an Irrotational vector

2. ✔ a solenoidal vector

3. ✘ Constant vector

4. ✘ normal vector

Question Number : 96 Question Id : 5105295304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$$div(\nabla \emptyset \times \nabla f) = \underline{\hspace{2cm}}$$

Options :

1. ✖ 2

2. ✖ 1

3. ✔ 0

4. ✖ null vector

Question Number : 97 Question Id : 5105295305 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Circulation of $\bar{F} = (y-2x)\bar{i} + (3x+2y)\bar{j}$ along the circle $x^2+y^2 = 4$ in the xy-plane is

$\underline{\hspace{2cm}}$

Options :

1. ✔ 8π

2. ✖ 6π

3. ✖ 3π

4. ✖ 0

Question Number : 98 Question Id : 5105295306 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let $S : x^2 + y^2 + z^2 = 1$ be a sphere. $\int_c \left(ax\bar{i} + by\bar{j} + cz\bar{k} \right) \cdot \bar{N} ds = \underline{\hspace{2cm}}$

Options :

1. ✖ a+b+c

2. ✖ 4π (a+b+c)

3. ✔ $\frac{4\pi}{3}(a+b+c)$

4. ✘ π

Question Number : 99 Question Id : 5105295307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\oint_C \left(x^2 + y^2\right)dx + 3xy^2 dy$ over the circle C: $x^2 + y^2 - 4 = 0$ is _____

Options :

1. ✘ 12

2. ✘ 125

3. ✘ π

4. ✔ 12π

Question Number : 100 Question Id : 5105295308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\bar{F} = (x+3y)\bar{i} + (y-2z)\bar{j} + (x+pz)\bar{k}$ is solenoidal vector then p = _____

Options :

1. ✘ 2

2. ✔ -2

3. ✘ 4

4. ✘ 0

Display Number Panel:	Yes
Group All Questions:	No

Question Id : 5105295309 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No
Question Numbers : (101 to 110)
Question Label : Comprehension

(Questions 1-10)

To answer the questions from 1 to 10 given in the right side, the statement I and statement II are such that

(1)   The data given in statement I alone is sufficient

(2)   The data given in statement II alone is sufficient

(3)   The data given in both statements I and II put together are sufficient but

neither of the statement alone is sufficient

(4)   The data given in both statements I and II put together are not sufficient

and additional data is needed

Select one of the four options 1, 2, 3 or 4

Sub questions

Question Number : 101 Question Id : 5105295310 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which code word stands for 'good' in the coded sentence 'sin co bye' which means

'He is good'?

Statements:

I: In the same code language, 'co mot det' means 'They are good'

II: In the same code language, 'sin mic bye' means 'He is honest'

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 4

Question Number : 102 Question Id : 5105295311 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the numerical code for 'water' in a certain code?

Statements:

I: The code for 'give me water' is '719'

II: The code for 'you can bring water for me' is written as '574186'

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 3

4. ✔ 4

Question Number : 103 Question Id : 5105295312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How is J related to P?

Statements:

I: M is brother of P and T is sister of P.

II: P's mother is married to J's husband who has one son and two daughters.

Options :

1. ✖ 1

2. ✖ 2

3. ✔ 3

4. ✖ 4

Question Number : 104 Question Id : 5105295313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who is to the immediate right of P among five persons P, Q, R, S and T facing North?

Statements:

I: R is third to the left of Q and P is second to the right of R

II: Q is to the immediate left of T who is second to the right of P

Options :

1. ✔ 1

2. ✘ 2

3. ✘ 3

4. ✘ 4

Question Number : 105 Question Id : 5105295314 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In which direction is Rahul facing?

Statements:

I: In the early morning Rahul was standing by the side of a puppet and the

   shadow of puppet was falling on Rahul

II: In the early morning Rahul was standing on the ground. His shadow was

   falling behind him when he turned to his left.

Options :

1. ✘ 1

2. ✔ 2

3. ✘ 3

4. ✘ 4

Question Number : 106 Question Id : 5105295315 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

On which day of the week did Hitesh visit the zoo?

Statements:

I: Hitesh did not visit zoo either on Tuesday or on Thursday

II: Hitesh visited zoo two days before his mother reached his house which was

the day after Monday

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 107 Question Id : 5105295316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many girls are taller than Shravan in his class?

Statements:

I: When students of Shravan's class are ranked in descending order of their

heights, Shravan's rank is 17th from the top among all the students and 12th

among boys.

II: Shravan's rank from the bottom on the basis of height among boys is 18th

and 29th rank among all students.

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 4

Question Number : 108 Question Id : 5105295317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How much money do Vivek and Suman have together?

Statements:

I: Suman has 20 rupees less than what Tarun has

II: Vivek has 30 rupees more than what Tarun has

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 3

4. ✔ 4

Question Number : 109 Question Id : 5105295318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many employees of Bank Z opted for Voluntary Retirement Scheme (VRS)?

Statements:

I: 18 % of the 950 officer cadre employees and 6 % of the 1100 other cadre

employees opted for VRS

II: 28 % of the employees in the age group of 51 to 56 and 17 % of the

employees in all other age groups opted for VRS

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 4

Question Number : 110 Question Id : 5105295319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What time did the train leave today?

Statements:

I: The train normally leaves on time

II: The scheduled departure is at 14: 30

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 3

4. ✔ 4

Question Number : 111 Question Id : 5105295320 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number which comes in the blank space of the sequence

22, 24, 28, ____, 52, 84 is

Options :

1. ✔ 36

2. ✖ 38

3. ✖ 42

4. ✖ 46

Question Number : 112 Question Id : 5105295321 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The number which comes in the blank space of the sequence

1, 1, 2, 6, 24, ____, 720   is

Options :

1. ✖ 100

2. ✖ 104

3. ✖ 108

4. ✔ 120

Question Number : 113 Question Id : 5105295322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One term in the number series 4, 10, 22, 46, 96, 190, 382 is wrong. It is ____

Options :

1. ✖ 4

2. ✖ 10

3. ✔ 96

4. ✖ 382

Question Number : 114 Question Id : 5105295323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One term in the number series 2, 3, 4, 4, 6, 8, 9, 12, 16 is wrong. It is _____

Options :

1. ✖ 3

2. ✖ 6

3. ✔ 9

4. ✖ 12

Question Number : 115 Question Id : 5105295324 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The missing letter (?) in the series A, D, H, M , ?, Z is

Options :

1. ✖ T

2. ✖ G

3. ✖ N

4. ✔ S

Question Number : 116 Question Id : 5105295325 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The next letter pair which comes in the series AZ, CX, FU is

Options :

1. ✖ IR

2. ✖ IV

3. ✔ JQ

4. ✖ KP

Question Number : 117 Question Id : 5105295326 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The missing term in the letter number series

N5V, K7T, ?, E14P, B19N is

Options :

1. ✖ H9R

2. ✖ H10Q

3. ✔ H10R

4. ✖ H9R

Question Number : 118 Question Id : 5105295327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The term which does not fit into the letter number series:

1CV, 5FU, 9IT, 15LS, 17OR is

Options :

1. ✖ 5FU

2. ✔ 15LS

3. ✖ 9IT

4. ✖ 17OR

Question Number : 119 Question Id : 5105295328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The missing letter of the series   a _ b d _ d a _ d b c _ b _ d c in the order they

appear is

Options :

1. ✖ a a b b c

2. ✖ b b c c a

3. ✖ c a a b b

4. ✔ c c b a a

Question Number : 120 Question Id : 5105295329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The missing letters of the series

a _ bc _ a _ b c d a _ c c d _ b c d _ in the order they appear is

Options :

1. ✖   a b d d b d

2. ✖   a c b d b b

3. ✔   a d b b a d

4. ✖   a d b c a d

Question Id : 5105295330 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (121 to 125)

Question Label : Comprehension

(Questions 21 – 25)

The following table gives the sales of batteries manufactured by a company over the years. Study the table and answer the questions from 21 to 25 given in the right side:

NUMBER OF DIFFERENT TYPES OF BATTERIES SOLD BY A COMPANY OVER

THE YEARS

(NUMBERS IN THOUSANDS)

Types of Batteries						
Year	4 AH	7 AH	32 AH	35 AH	55 AH	Total
1992	75	144	114	102	108	543
1993	90	126	102	84	126	528
1994	96	114	75	105	135	525
1995	105	90	150	90	75	510
1996	90	75	135	75	90	465
1997	105	60	165	45	120	495
1998	115	85	160	100	145	605

Sub questions

Question Number : 121 Question Id : 5105295331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The type of the battery which has maximum sales in all the seven years is _____

Options :

1. ✖ 4 AH

2. ✖ 7 AH

3. ✔ 32 AH

4. ✖ **35 AH**

Question Number : 122   Question Id : 5105295332   Question Type : MCQ   Option Shuffling : Yes   Display Question Number : Yes   Single Line Question Option : No   Option Orientation : Vertical

The difference in the number of 35 AH batteries sold in 1993 and 1997 is _____

Options :

1. ✖ 24000

2. ✖ 28000

3. ✖ 35000

4. ✔ 39000

Question Number : 123   Question Id : 5105295333   Question Type : MCQ   Option Shuffling : Yes   Display Question Number : Yes   Single Line Question Option : No   Option Orientation : Vertical

The percentage of 4 AH batteries sold to the total number of batteries sold was

maximum in the year?

Options :

1. ✖ 1994

2. ✖ 1995

3. ✖ 1996

4. ✔ 1997

Question Number : 124   Question Id : 5105295334   Question Type : MCQ   Option Shuffling : Yes   Display Question Number : Yes   Single Line Question Option : No   Option Orientation : Vertical

The type of battery which has continuous decrease in sales from 1992 to 1997

is _____

Options :

1. ✖ 4 AH

2. ✔ 7 AH

3. ✖ 32 AH

4. ✖ 35 AH

Question Number : 125 Question Id : 5105295335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The approximate percentage increases in the sales of 55 AH batteries in 1998
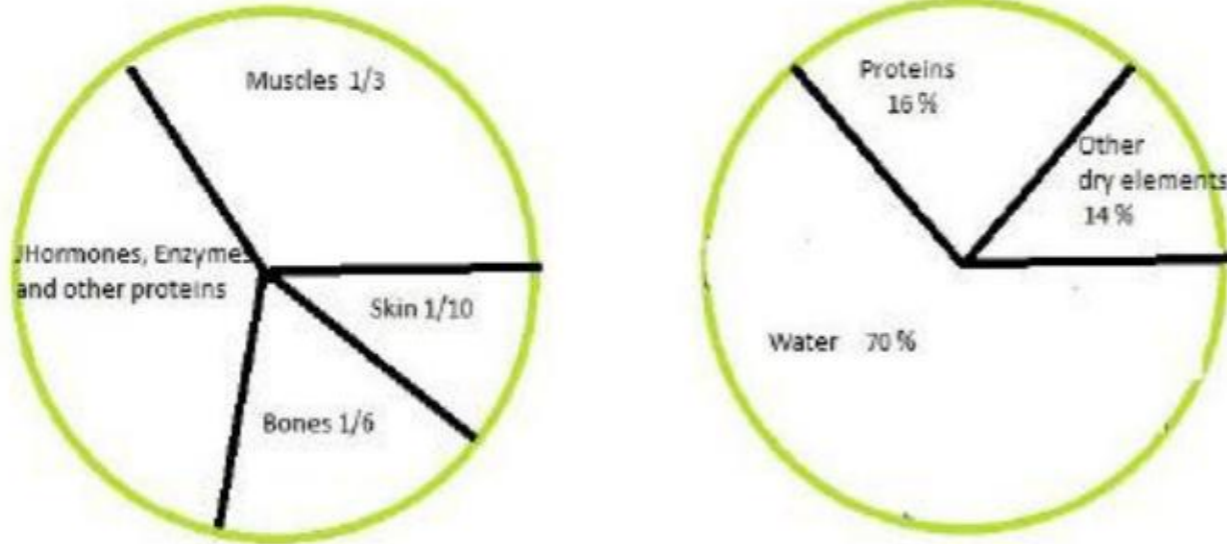
compared to that in 1992 is _____

Options :

1. ✖ 28 %

2. ✖ 31 %

3. ✖ 33 %

4. ✔ 34 %

Question Id : 5105295336 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (126 to 130)

Question Label : Comprehension

(Questions 26 – 30)

Study the following graphs carefully and answer the questions from 26-30

Distribution of proteins in human Body   Distribution of elements in human body

Sub questions

Question Number : 126 Question Id : 5105295337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the ratio of the distribution of the proteins in the muscles to that of the

distribution of proteins in the bones?

Options :

1. ✖ 1: 2

2. ✔ 2: 1

3. ✖ 18: 1

4. ✖ 1: 18

Question Number : 127 Question Id : 5105295338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What per cent of the total weight of the human body is equivalent to the weight of

the skin in the human body?

Options :

1. ✖ 0.016

2. ✔ 1.6

3. ✖ 0.16

4. ✖ Insufficient information

Question Number : 128 Question Id : 5105295339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

To show the distribution of proteins and other dry elements in the human body, the

angle subtended by the arc of the circle at the centre an angle should be

Options :

1. ✖ 126°

2. ✖ 54°

3. ✔ 108°

4. ✖ 252°

Question Number : 129 Question Id : 5105295340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What will be the quantity of water in the body of a person weighing 50 kg?

Options :

1. ✖ 20 kg

2. ✔ 35 kg

3. ✖ 41 kg

4. ✖ 42.5 kg

Question Number : 130 Question Id : 5105295341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In the human body, what part is made of neither bones nor skin?

Options :

1. ✖ 2/5

2. ✔ 11/15

3. ✖ 1/40

4. ✖ 3/80

Question Number : 131 Question Id : 5105295342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If, in a code, MIND becomes KGLB and ARGUE becomes YPESC, then what

will DIAGRAM be in that code ?

Options :

1. ✔ BGYEPYK

2. ✖ BGYPYEK

3. ✖ GLPEYKB

4. ✖ LKBGYPK

Question Number : 132 Question Id : 5105295343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If in a certain language, FLOWER is coded as UOLDVI, then how is TERMINAL

coded in that language?

Options :

1. ✖ FLKPMROZ

2. ✔ GVINRMZO

3. ✖ RVNIGLKA

4. ✖ MNIVGYEO

Question Number : 133 Question Id : 5105295344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a code language, SOLID is written as WPSLPIMFHA. What does the code

word ATEXXQIBVO refer to?

Options :

1. ✔ WATER

2. ✖ WAGER

3. ✖ EAGER

4. ✖ WAFER

Question Number : 134 Question Id : 5105295345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a certain code, DECEMBER is written as ERMBCEDE. Which word will be

written as ERMBVENO in that code?

Options :

1. ✖ AUGUST

2. ✖ SEPTEMBER

3. ✖ OCTOBER

4. ✔ NOVEMBER

Question Number : 135 Question Id : 5105295346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If R is denoted by N, D is denoted by T, I by U, O by I, E by R, T by O, U by D,

N by C and C by E, then how will the word INTRODUCE be written?

Options :

1. ✖ UCONIDTER

2. ✔ UCONITDER

3. ✖ UCONTIDER

4. ✖ UCOINTDER

Question Number : 136 Question Id : 5105295347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the word PORTER can be coded as MBNZQN, how can REPORT be written?

Options :

1. ✖ NQMNBZ

2. ✔ NQMBNZ

3. ✖ NBQMNZ

4. ✖ NQBMNZ

Question Number : 137 Question Id : 5105295348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If ZIP = 198 and ZAP = 246, then how will you code VIP?

Options :

1. ✖ 174

2. ✔ 222

3. ✖ 888

4. ✖ 990

Question Number : 138 Question Id : 5105295349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If DRIVER = 12, PEDESTRIAN = 20, ACCIDENT = 16, then CAR = ?

Options :

1. ✖ 3

2. ✔ 6

3. ✖ 8

4. ✖ 10

Question Number : 139 Question Id : 5105295350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If 'eraser' is called 'box', 'box' is called 'pencil', 'pencil' is called 'sharpener' and

'sharpener' is called 'bag', what will a child write with?

Options :

1. ✖ Eraser

2. ✖ Box

3. ✖ Pencil

4. ✔ Sharpener

Question Number : 140 Question Id : 5105295351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In certain code language, '123' means 'bright little boy' ; '145' means 'tall big boy'

and '637' means 'beautiful little flower'. Which digit in that language means

'bright'?

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 141 Question Id : 5105295352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Pointing towards a boy, Veena said, 'He is the son of only son of my grandfather'.

How is that boy related to Veena?

Options :

1. ✖ Uncle

2. ✔ Brother

3. ✖ Cousin

4. ✖ Data inadequate

Question Number : 142 Question Id : 5105295353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A girl introduced a boy as the son of the daughter of the father of her uncle. The boy

is girl's _____

Options :

1. ✔ Brother

2. ✖ Son

3. ✖ Uncle

4. ✖ Son-in-law

Question Number : 143 Question Id : 5105295354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a joint family, there are father, mother, 3 married sons and one unmarried daughter. Of the sons, two have 2 daughters each, and one has a son. How many female members are there in the family?

Options :

1. ✖ 2

2. ✖ 3

3. ✖ 6

4. ✔ 9

Question Number : 144 Question Id : 5105295355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A, B and C are sisters. D is the brother of E and E is the daughter of B. How is A related to D?

Options :

1. ✖ Sister

2. ✖ Cousin

3. ✖ Niece

4. ✔ Aunt

Question Number : 145 Question Id : 5105295356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

'A' does a work in 10 days and 'B' does the same work in 15 days. In how many days they together will do the same work?

Options :

1. ✖ 5 days

2. ✔ 6 days

3. ✖ 8 days

4. ✖ 9 days

Question Number : 146 Question Id : 5105295357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An athlete runs 200 meters race in 24 seconds. His speed is?

Options :

1. ✖ 20 km / hour

2. ✖ 24 km / hour

3. ✖ 28.5 km / hour

4. ✔ 30 km / hour

Question Number : 147 Question Id : 5105295358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

January 1, 2004 was a Thursday. What day of the week lies on January 1, 2005?

Options :

1. ✖ Thursday

2. ✖ Friday

3. ✔ Saturday

4. ✖ Sunday

Question Number : 148 Question Id : 5105295359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A Clock is started at noon. By 10 minutes past 5, the hour hand has turned

through _____

Options :

1. ✖ 145 degree angle

2. ✖ 150 degree

3. ✔ 155 degree

4. ✘ 160 degree

Question Number : 149 Question Id : 5105295360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many words with or without meaning, can be formed by using all the letters

of the word 'DELHI', using each letter exactly once ?

Options :

1. ✘ 10

2. ✘ 25

3. ✘ 60

4. ✔ 120

Question Number : 150 Question Id : 5105295361 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In how many ways can a group of 5 men and 2 women be made out of a total of 7

men and 3 women?

Options :

1. ✔ 63

2. ✘ 90

3. ✘ 126

4. ✘ 45

Display Number Panel:	Yes
Group All Questions:	No

Question Number : 151 Question Id : 5105295362 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct antonym for the word 'Baffled'

Options :

1. ✖ Befuddled

2. ✖ Bewildered

3. ✖ Puzzled

4. ✔ Explained

Question Number : 152 Question Id : 5105295363 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct antonym for the word 'Sagacious '

Options :

1. ✔ Imprudent

2. ✖ Learned

3. ✖ Perceptive

4. ✖ Erudite

Question Number : 153 Question Id : 5105295364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct antonym for the word 'Vociferous'

Options :

1. ✖ Sterile

2. ✖ Volatile

3. ✔ Gentle

4. ✖ Gentile

Question Number : 154 Question Id : 5105295365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct antonym for the word 'Obfuscate'

Options :

1. ✖ Disguise

2. ✖ Conceal

3. ✔ Illuminate

4. ✖ Complicate

Question Number : 155 Question Id : 5105295366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct antonym for the word ' Malevolent '

Options :

1. ✖ Spiteful

2. ✔ Compassionate

3. ✖ Nasty

4. ✖ Unpleasant

Question Number : 156 Question Id : 5105295367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct synonym for the word underlined in the sentence

A sensible, pragmatic approach was taken to public sector reform.

Options :

1. ✖ Naive

2. ✖ Impractical

3. ✖ Idealistic

4. ✔ Realistic

Question Number : 157 Question Id : 5105295368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct synonym for the word underlined in the sentence

He is in utter disgruntlement.

Options :

1. ✖ Contentment

2. ✖ Satisfaction

3. ✖ Gratification

4. ✔ Restlessness

Question Number : 158 Question Id : 5105295369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct synonym for the word underlined in the sentence

The goal is to <u>augment</u> social interactions during collaborative learning.

Options :

1. ✖ Curtail

2. ✔ Supplement

3. ✖ Reduce

4. ✖ Weaken

Question Number : 159 Question Id : 5105295370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct synonym for the word underlined in the sentence

The <u>pernicious</u> cycle of abuse within their family must be stopped

Options :

1. ✖ Undisruptive

2. ✖ Nontoxic

3. ✖ Undamaging

4. ✔ Insidious

Question Number : 160 Question Id : 5105295371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct synonym for the word underlined in the sentence

The critics love the director's latest film and consider it to be the <u>quintessential</u> horror

movie.

Options :

1. ✖ Unconventional

2. ✖ Indistinduished

3. ✖ Atypical

4. ✔ Exemplary

Question Number : 161 Question Id : 5105295372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct one word substitute for 'A person who never drinks alcohol'

Options :

1. ✖ Dipsomaniac

2. ✖ Tippler

3. ✖ Wino

4. ✔ Teetotaller

Question Number : 162 Question Id : 5105295373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct one word substitute for 'One who is sacred of spiders'.

Options :

1. ✔ Arachnophobia

2. ✖ Acrophobia

3. ✖ Agoraphobia

4. ✖ Ophidiophobia

Question Number : 163 Question Id : 5105295374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct one word substitute for the phrase ' one who has the fear of dogs'.

Options :

1. ✖ Xenophobia

2. ✔ Cynophobia

3. ✖ Gynophobia

4. ✖ Cacophobia

Question Number : 164 Question Id : 5105295375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The department is regularly visited by <u>illustrious</u> scholars.

The difference in content and emphasis are <u>illustrative.</u>

Options :

1. ✖ Distinguished, literal

2. ✔ Eminent, symbolic

3. ✖ Heinous, implicit

4. ✖ Repulsive, inexpressive

Question Number : 165 Question Id : 5105295376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the meanings given in the options for the confusables underlined in the sentences

given.

I'm not sure <u>whether</u> he is from Bolton or from Blackpool.

I am certain that the <u>weather</u> is going to be fantastic tomorrow.

Options :

1. ✔ Alternative, atmosphere

2. ✖ Replicate, climate

3. ✖ Alter, adopt

4. ✖ Amplify, modify

Question Number : 166 Question Id : 5105295377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the meanings given in the options for the confusables given

That roof tile is <u>loose</u> and might fall at any minute.

You must not <u>lose</u> that cheque.

Options :

1. ✖ Deprecate, honour

2. ✖ Vibrate, desolate

3. ✔ Not Fastened , forego

4. ✖ Contained, depleted,

Question Number : 167 Question Id : 5105295378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the meaning of the underlined phrasal verb from the given options.

By working part-time and looking after her kids two days a week, she managed to <u>get the best of both worlds."</u>

Options :

1. ✖ To analyse the best of two opportunities

2. ✖ To arrive at a conclusion

3. ✖ To lose two different opportunities

4. ✔ To enjoy two different opportunities

Question Number : 168 Question Id : 5105295379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the meaning of the underlined phrasal verb from the given options " Fuel these days costs and arm and a leg".

Options :

1. ✓ Something very expensive.

2. ✗ Something very innovative

3. ✗ Something involving parts of the body

4. ✗ Something very absurd

Question Number : 169 Question Id : 5105295380 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the tense form in the sentence given

They have been fighting since morning.

Options :

1. ✗ Present continuous

2. ✓ Present perfect continuous

3. ✗ Present perfect

4. ✗ Past perfect continuous

Question Number : 170 Question Id : 5105295381 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the tense form in the sentence given

The dancers have performed well.

Options :

1. ✗ Simple past

2. ✗ Simple present

3. ✓ Present perfect

4. ✖ Past perfect

Question Number : 171 Question Id : 5105295382 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with correct prepositions.

She is allergic _____ insect stings.

Options :

1. ✔ To

2. ✖ At

3. ✖ For

4. ✖ With

Question Number : 172 Question Id : 5105295383 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with correct prepositions

I'm looking _____ my keys _____ morning. Have you found them?

Options :

1. ✖ At, since

2. ✖ For, into

3. ✔ For, since

4. ✖ In, since

Question Number : 173 Question Id : 5105295384 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with correct prepositions.

Munich lies 530 meters _____ sea level.

Options :

1. ✔ Above

2. ✖ From

3. ✖ Across

4. ✖ About

Question Number : 174 Question Id : 5105295385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with correct prepositions.

We live _____ London.

Options :

1. ✖ On

2. ✖ At

3. ✔ In

4. ✖ For

Question Number : 175 Question Id : 5105295386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with correct prepositions.

_____ my wall, there are many picture postcards.

Options :

1. ✖ Above

2. ✖ In

3. ✔ On

4. ✖ By

Question Number : 176 Question Id : 5105295387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the sentence in which the subject is in agreement with the verb.

Neither Shyam nor the personal assistants _____ the keys to the stationery

cupboard.

Options :

Neither Shyam nor the personal assistants have the keys to the stationery

1. ✔ cupboard.

Neither Shyam nor the personal assistants has the keys to the stationery

2. ✖ cupboard.

Neither Shyam nor the personal assistants are having the keys to the stationery

3. ✖ cupboard.

Neither Shyam nor the personal assistants do have the keys to the stationery

4. ✖ cupboard.

Question Number : 177 Question Id : 5105295388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the sentence in which the subject is in agreement with the verb.

Either the stewardsor Mary _____ manning the info desk at the conference.

Options :

1. ✖ Either the stewardsor Mary are manning the info desk at the conference.

2. ✖ Either the stewardsor Mary will be manning the info desk at the conference.

3. ✔ Either the stewardsor Mary is manning the info desk at the conference.

4. ✖ Either the stewardsor Mary were manning the info desk at the conference.

Question Number : 178 Question Id : 5105295389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the sentence in which the subject is in agreement with the verb.

The president and chief executive of the company _____ arrived .

Options :

1. ✖ The president and chief executive of the company have arrived.

2. ✔ The president and chief executive of the company has arrived.

3. ✖ The president and chief executive of the company has been arrived.

4. ✖ The president and chief executive of the company have been arrived.

Question Number : 179 Question Id : 5105295390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the sentence in which the subject is in agreement with the verb

Either my children or their friends_____written the letter.

Options :

1. ✖ Either my children or their friends has written the letter.

2. ✖ Either my children or their friends was written the letter.

3. ✔ Either my children or their friends have written the letter.

4. ✖ Either my children or their friends were written the letter.

Question Number : 180 Question Id : 5105295391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the sentence in which the subject is in agreement with the verb.

Everyone _____to succeed in life.

Options :

1. ✖ Everyone want to succeed in life.

2. ✔ Everyone wants to succeed in life.

3. ✖ Everyone wanted to succeed in life

4. ✖ Everyone wanting to succeed in life.

Question Number : 181 Question Id : 5105295392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the suitable option for changing the sentence from active to passive or passive

to active.

The arts students visited the museum.(active)

Options :

1. ✔ The museum was visited by the arts students.

2. ✘ The museum will be visited by the arts students.

3. ✘ The museum were visited by the arts students.

4. ✘ The museum is visited by the arts students.

Question Number : 182 Question Id : 5105295393 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The last cookie was eaten by whom? (passive)

Options :

1. ✘ Who has eaten the last cookie?

2. ✔ Who ate the last cookie?

3. ✘ Who had eaten the last cookie?

4. ✘ Who has ate the last cookie?

Question Number : 183 Question Id : 5105295394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the suitable option for changing the sentence from active to passive.

Give him some money.

Options :

1. ✘ Please give him some money.

2. ✘ Let us give him some money.

3. ✔ Let him be given some money.

4. ✘ Let he be given some money.

Question Number : 184 Question Id : 5105295395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Can we change the curtains?

Options :

1. ✔ Can the curtains be changed?

2. ✖ Could the curtains be changed?

3. ✖ Can the curtains changed?

4. ✖ Can we change the curtains?

Question Number : 185 Question Id : 5105295396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Did you understand the lesson?

Options :

1. ✔ Was the lesson understood by you?

2. ✖ Was the lesson understand by you?

3. ✖ Did the lesson understood by you?

4. ✖ Does the lesson understand by you?

Question Number : 186 Question Id : 5105295397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct form of sentence from the options given.

Options :

1. ✖ He is Daniel in judgment.

2. ✖ He is the Daniel in judgment.

3. ✔ He is a Daniel in judgment.

4. ✖ He is an Daniel in judgment.

Question Number : 187 Question Id : 5105295398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct form of sentence from the options given.

Options :

1. ✖ The clock has struck five hours.

2. ✔ The clock has struck five.

3. ✘ The clock has struck five O clock.

4. ✘ The clock has struck a five hours.

Question Number : 188 Question Id : 5105295399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct form of sentence from the options given.

Options :

1. ✘ I have a good news for you.

2. ✔ I have good news for you.

3. ✘ I have the good news for you.

4. ✘ I have an good news for you.

Question Number : 189 Question Id : 5105295400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct form of sentence from the options given.

Options :

1. ✘ He absented from the school yesterday.

2. ✘ He absented himself from school yesterday.

3. ✘ He absented himself the school yesterday.

4. ✔ He absented himself from the school yesterday.

Question Number : 190 Question Id : 5105295401 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct form of sentence from the options given.

Options :

1. ✘ He do know how to not swim.

2. ✘ He does not know to swim.

3. ✖ He does not know swim.

4. ✔ He does not know how to swim.

Question Number : 191 Question Id : 5105295402 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct spelling.

Options :

1. ✔ Embarrass

2. ✖ Embarass

3. ✖ Emberass

4. ✖ Embaress

Question Number : 192 Question Id : 5105295403 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct spelling.

Options :

1. ✖ Chauffaur

2. ✔ Chauffeur

3. ✖ Chauffer

4. ✖ Chuffeur

Question Number : 193 Question Id : 5105295404 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct spelling.

Options :

1. ✖ Incidently

2. ✔ Incidentally

3. ✖ Incidentaly

4. ✖ Incidentelly

Question Number : 194 Question Id : 5105295405 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct spelling.

Options :

1. ✖ Florescent

2. ✖ Fluoresent

3. ✔ Fluorescent

4. ✖ Fluorecent

Question Number : 195 Question Id : 5105295406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct spelling.

Options :

1. ✔ Occurrence

2. ✖ Occurance

3. ✖ Ocurence

4. ✔ Occurrence

Question Id : 5105295407 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (196 to 200)

Question Label : Comprehension

Read the following passage and answer the questions that follow.

Oscar Wilde's shorter fiction includes memorable fairy-tales, witty comedies, and daring narrative experiments: all are contained in this enchanting collection. His collection includes best-loved stories such as 'The Happy Prince', 'The Selfish Giant', and 'Lord Arthur Savile's Crime' as well as the innovative 'Portrait of Mr. W. H.', about the mysterious dedicatee of Shakespeare's sonnets. An Appendix reprints an important passage from the book-length version of 'The Portrait of Mr. W. H.' on the Neo-Platonic ideal of friendship between men, an important key to the short story's meaning. The Introduction argues for Wilde's originality and literary achievement as a short-story writer, emphasizing his literary skill, and discussing the periodicals in which they first appeared, their intended readership, and their enduring value.

I have nothing to declare but my genius' Wilde once told a customs official. But the popular image of Wilde as a man of effortless achievement and wit is far from the truth. Born in Dublin, Ireland the son of a nationalist poetess he studied at Trinity College, Dublin before going on to Magdalen College, Oxford. It was here that he allied himself with Aestheticism - Art for Art's sake - and adopted his characteristic Aesthetic dress and haircut (based on a costume he wore to an undergraduate ball). Though well known as a socialite, Wilde received little recognition as an artist for many years until the play 'Lady Windermere's Fan' established his literary fame in 1892. But success was extremely short lived. On the opening night of his masterpiece 'The Importance of Being Earnest' in 1895 the Marquess of Queensberry, father of Lord Alfred Douglas with whom Wilde was having a relationship, began a public vendetta against him. An ill-advised attempt to sue for slander led to a conviction on a morals charge and time in Reading Jail. On his release, Wilde lived in self-imposed exile in France where he died in obscurity. Throughout his life, Wilde retained a deep affection towards children. His marriage in 1884 to Constance Lloyd produced two boys to whom Wilde was devoted and her decision to keep them from him following his conviction was devastating. Wilde's short stories were written at a time when he had begun to moderate his literary ambitions with financial needs. He therefore started to work in a number of popularist sub-genres - detective fiction, ghost stories, fairy tales - a market opened up by recently reduced printing costs and used to great effect by the likes of Arthur Conan Doyle. But Wilde, ever-contemptuous of writers who 'pandered to the masses', refused to produce straight genre-pieces. Though they conform to the character, plot and moral frameworks of the various sub-genres, their essence is often subverted, giving rise to witty, but often subtle and complex, parodies.

Sub questions

Question Number : 196 Question Id : 5105295408 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which   of the following is part of wilde's short fiction?

Options :

1. ✖ travelogues

2. ✖ science fiction

3. ✔ witty comedies

4. ✖ patriotic fervour

Question Number : 197 Question Id : 5105295409 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Wilde received little recognition as an artist after his masterpiece_____.

Options :

1. ✖ The Happy Prince

2. ✔ Lady Windermere's Fan

3. ✖ The Portrait of Mr. W.H

4. ✖ The Selfish Giant

Question Number : 198 Question Id : 5105295410 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is not a reason for wilde's short-lived success?

Options :

1. ✖ An ill-advised attempt to sue for slander

2. ✖ convicted on a morals charge

3. ✖ living in a self-imposed exile in France

4. ✔ began to work on sub-genres

Question Number : 199 Question Id : 5105295411 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Why did Wilde refuse to produce straight genre-pieces?

Options :

1. ✖ To take revenge on the society

2. ✔ To improve his financial needs

3. ✖ To get married

4. ✖ For self-introspection

Question Number : 200 Question Id : 5105295412 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the meaning of the phrase 'pandered to the masses'   ?

Options :

1. ✔ To provide exactly what a person or group wants, especially when it is not acceptable

2. ✖ To provide exactly what a person wants, especially when it is not acceptable

3. ✖ To provide exactly what a group does not want, especially when it is not acceptable

4. ✖ To provide exactly what a person or group wants, especially when it is acceptable