

# Telangana State Council Higher Education

## Notations :

- 1.Options shown in green color and with ✓ icon are correct.
- 2.Options shown in red color and with ✗ icon are incorrect.

<b>Question Paper Name:</b>	BSc Mathematics 11th May 2019 Shift1
<b>Subject Name:</b>	BSc Mathematics
<b>Creation Date:</b>	2019-05-11 13:35:18
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<b>Display Marks:</b>	No
<b>Share Answer Key With Delivery Engine:</b>	Yes
<b>Actual Answer Key:</b>	Yes
<b>Calculator:</b>	None
<b>Magnifying Glass Required?:</b>	No
<b>Ruler Required?:</b>	No
<b>Eraser Required?:</b>	No
<b>Scratch Pad Required?:</b>	No
<b>Rough Sketch/Notepad Required?:</b>	No
<b>Protractor Required?:</b>	No
<b>Show Watermark on Console?:</b>	Yes
<b>Highlighter:</b>	No
<b>Auto Save on Console?:</b>	No

## BSc Mathematics

<b>Group Number :</b>	1
<b>Group Id :</b>	89465817
<b>Group Maximum Duration :</b>	0
<b>Group Minimum Duration :</b>	180
<b>Revisit allowed for view? :</b>	No
<b>Revisit allowed for edit? :</b>	No
<b>Break time:</b>	0
<b>Group Marks:</b>	200

## Mathematics

<b>Section Id :</b>	89465864
<b>Section Number :</b>	1
<b>Section type :</b>	Online
<b>Mandatory or Optional:</b>	Mandatory
<b>Number of Questions:</b>	100
<b>Number of Questions to be attempted:</b>	100
<b>Section Marks:</b>	100
<b>Display Number Panel:</b>	Yes
<b>Group All Questions:</b>	No

Sub-Section Number: 1  
Sub-Section Id: 89465869  
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 8946583205 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

If  $f(x+h) = f(x) + hf'(x+\theta h)$ ,  $0 < \theta < 1$  where  $f(x) = x^2$ , then  $\theta =$  \_\_\_\_\_.

Options :

1. ✘ 1

2. ✘  $-\frac{1}{2}$

3. ✔  $\frac{1}{2}$

4. ✘ -1

Question Number : 2 Question Id : 8946583206 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

If Rolle's Theorem is applicable for  $f(x) = (x-a)^m(x-b)^n$ , where  $m, n \in I$  on  $[a, b]$

then  $c =$

Options :

1. ✘  $\frac{ma+nb}{m+n}$

2. ✘  $\frac{mb-na}{m-n}$

3. ✔  $\frac{mb+na}{m+n}$

4. ✘  $\sqrt{ab}$

Question Number : 3 Question Id : 8946583207 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

If  $f$  be defined for all real  $x$  such that  $|f(x) - f(y)| < (x - y)^2$  then  $f$  is a \_\_\_\_\_

Options :

1. ✘ One-one function
2. ✘ Bijective function
3. ✘ One to many function
4. ✔ Constant function

Question Number : 4 Question Id : 8946583208 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The value of  $c$  of Lagrange's mean value theorem, if  $f(x) = x(x-1)(x-2)$  on  $\left[0, \frac{1}{2}\right]$

is \_\_\_\_\_.

Options :

1. ✔  $\frac{6 - \sqrt{21}}{6}$

2. ✘  $\frac{6 + \sqrt{21}}{6}$

3. ✘  $\frac{1}{4}$

4. ✘  $\frac{1}{3}$

Question Number : 5 Question Id : 8946583209 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Match the function of LIST-I to the intervals of LIST-II such that the Lagrange's mean value theorem holds:

LIST-I

LIST-II

A)  $x^{\frac{1}{5}}$

I)  $[-0.8, 0.8]$

B)  $x^3$

II)  $[-2, 2]$

C)  $\tan x$

III)  $[2, 4]$

The correct match is \_\_\_\_\_.

Options :

1. ✘ I II III

2. ✔ III II I

3. ✘ II I III

4. ✘ I III II

Question Number : 6 Question Id : 8946583210 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $f(x) = f(0) - x f'(0) + \frac{x^2}{2} f''(\theta x)$ , then the value of  $\theta$  when  $x$  tends to 1,  $f(x)$  being

$(1-x)^{\frac{5}{2}}$ , is \_\_\_\_\_.

Options :

1. ✔  $\frac{9}{25}$

2. ✘  $\frac{3}{5}$

3. ✘  $\frac{16}{25}$

4. ✘  $\frac{4}{5}$

Question Number : 7 Question Id : 8946583211 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The function  $f(x) = 3|x| + 4|x - 1| \forall x \in R$  has \_\_\_\_\_.

Options :

1. ✘ minimum value 3 at  $x=0$

2. ✔ minimum value 3 at  $x=1$

3. ✘ maximum value 3 at  $x=0$

4. ✘ maximum value 3 at  $x=1$

Question Number : 8 Question Id : 8946583212 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The maximum value of  $\cos(\cos(\sin x))$  is \_\_\_\_\_.

Options :

1. ✘  $\cos 1$

2. ✘ 0

3. ✘ 1

4. ✔  $\cos(\cos 1)$

Question Number : 9 Question Id : 8946583213 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

if  $u = \sin^{-1}\left(\frac{x^2 + y^2}{x + y}\right)$  then  $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} =$  \_\_\_\_\_.

Options :

1. ✘  $u$
2. ✘  $\sin u$
3. ✔  $\tan u$
4. ✘  $\cot u$

Question Number : 10 Question Id : 8946583214 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Radius of the curvature the curve  $y = e^x$  at the point (0, 1) is \_\_\_\_\_.

Options :

1. ✘  $2\sqrt{2}$
2. ✔  $3\sqrt{2}$
3. ✘ 0
4. ✘ 1

Question Number : 11 Question Id : 8946583215 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of  $y \sin(2x)dx - (1 + y^2 + \cos^2 x)dy = 0$  is \_\_\_\_\_.

Options :

1. ✔  $y \cos^2 x + y + \frac{y^3}{3} = c$
2. ✘  $y \cos^2 x + y = c$
3. ✘  $y \cos^2 x + 3y + y^2 = c$
4. ✘  $y \cos y + \frac{y^3}{3} = c$

Question Number : 12 Question Id : 8946583216 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The integrating factor of  $(x^2 + y^2 + 2x)dx + 2y dy = 0$  is \_\_\_\_\_.

Options :

1. ✘  $x$
2. ✘  $y$
3. ✔  $e^x$
4. ✘  $e^{-x}$

Question Number : 13 Question Id : 8946583217 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of  $(D^3 + 6D^2 + 12D + 8)y = 0$  is \_\_\_\_\_.

Options :

1. ✘  $c_1e^{2x} + c_2e^{-2x}$
2. ✘  $(c_1x + c_2x^2 + c_3x^3)e^{-2x}$
3. ✘  $(c_1 + c_2x + c_3x^2)e^{3x}$
4. ✔  $(c_1 + c_2x + c_3x^2)e^{-2x}$

Question Number : 14 Question Id : 8946583218 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Particular integral of  $(D^3 - 6D^2 + 12D - 8)y = e^{2x}$  is \_\_\_\_\_.

Options :

1. ✘  $xe^{2x}$
2. ✘  $x^3e^{2x}$

3. ✓  $\frac{1}{6}x^3e^{2x}$

4. ✗ 0

Question Number : 15 Question Id : 8946583219 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The particular integral of  $(D^3 + a^2D)y = \sin ax$  is \_\_\_\_\_.

Options :

1. ✗  $\frac{x}{2a^2} \cos ax$

2. ✓  $-\frac{x}{2a^2} \sin ax$

3. ✗  $\frac{x}{2a} \cos ax$

4. ✗  $\frac{x}{2a} \sin ax$

Question Number : 16 Question Id : 8946583220 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Solution of  $x + yp^2 = (1 + xy)p$  is \_\_\_\_\_.

Options :

1. ✓  $(y^2 - 2x - c)(x^2 - 2y + c) = 0$

2. ✗  $(x^2 + y^2 - c)(y^2 - 2x - c) = 0$

3. ✗  $(x^2 + y^2 + c)(x^2 - 2y + c) = 0$

4. ✗  $(2y^2 + x^2 - c)(y^2 + 2x + c) = 0$

Question Number : 17 Question Id : 8946583221 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical



Correct Marks : 1 Wrong Marks : 0

Solution of  $x = y + a \log p$  is \_\_\_\_\_.

Options :

1.   $x = c - a \log(1 - p) + a \log p, y = -a \log(1 - p) + c$

2.   $x = y + \log p, y = a \log(1 - p)$

3.   $y = c - a \log(1 - p) + a \log p, x = -a \log(1 - p) + c$

4.   $x = c + \log y$

Question Number : 18 Question Id : 8946583222 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Solution of  $x^2(y - px) = yp^2$  is \_\_\_\_\_.

Options :

1.   $y = cx + x^2$

2.   $y^2 = x^2 + c^2$

3.   $y^2 + x^2 = c^2$

4.   $y^2 = cx^2 + c^2$

Question Number : 19 Question Id : 8946583223 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Solution of  $(D^2 + 1)y = \sin x \cdot \sin 2x$  is \_\_\_\_\_.

Options :

1.   $y = c_1 \cos x + c_2 \sin x + \frac{1}{4} x \sin x - \cos 3x$

2.   $y = c_1 \cos x + c_2 \sin x + \frac{1}{4} x \sin x + \frac{1}{16} \cos 3x$

3. ✘  $y = c_1 \cos x + c_2 \sin x - \frac{1}{30} \sin 4x - \frac{1}{6} \cos 2x$

4. ✘  $y = c_1 \cos x + c_2 \sin x + \frac{1}{4} x \sin x - 2 \cos 3x$

Question Number : 20 Question Id : 8946583224 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of  $(D^3 - 3D^2 + 3D - 1)y = (x+1)e^x$  is \_\_\_\_\_.

Options :

1. ✘  $\frac{x^3}{24} + x + 4e^x$

2. ✘  $\frac{x^3}{24} + (x+4)e^x$

3. ✔  $\frac{x^3}{24}(x+4)e^x$

4. ✘  $x^3 e^x (x+4)$

Question Number : 21 Question Id : 8946583225 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\lim_{n \rightarrow \infty} \frac{1}{n} \left( 1^{\frac{1}{n}} + 2^{\frac{1}{n}} + 3^{\frac{1}{n}} + \dots + n^{\frac{1}{n}} \right) = k$ , then  $\frac{1}{3}(k^2 + k + 1) =$  \_\_\_\_\_.

Options :

1. ✘  $\frac{1}{3}$

2. ✔ 1

3. ✘  $\frac{\sqrt[n]{e}}{3}$

4. ✘  $\frac{e}{3}$

Question Number : 22 Question Id : 8946583226 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The sequence  $S_n = \begin{cases} 2 & \text{when } n \text{ is even} \\ \text{lower prime factor of } n \text{ except } 1, & \text{when } n \text{ is odd} \end{cases}$  has limit points

\_\_\_\_\_.

Options :

1. ✘ 2

2. ✘ 1, 2, 3, 4, ...

3. ✘ Uncountable in number

4. ✔ Countable in number

Question Number : 23 Question Id : 8946583227 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\{a_n\}_{n=1}^{n=\infty}$  is decreasing and bounded then it is \_\_\_\_\_.

Options :

1. ✘ Divergence sequence

2. ✘ Non Cauchy sequence

3. ✔ Convergent sequence

4. ✘ Convergent but not bounded

Question Number : 24 Question Id : 8946583228 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The series  $\sum a_n$  and the sequence  $\langle a_n \rangle$  when  $a_n = \frac{1}{n \log n}$  are such that \_\_\_\_\_.

Options :

1. ✘  $\sum a_n$  is convergent
2. ✔  $\langle a_n \rangle$  is convergent
3. ✘  $\sum a_n$  and  $\langle a_n \rangle$  both are convergent
4. ✘  $\sum a_n$  and  $\langle a_n \rangle$  both are divergent

Question Number : 25 Question Id : 8946583229 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following sequences is not bounded?

Options :

1. ✘  $S_n = \{(-1)^n\} \forall n$
2. ✔  $S_n = \left\{ \left(1 + \frac{1}{n}\right)^n, n \right\} \forall n$
3. ✘  $S_n = \{1\} \forall n$
4. ✘  $S_n = \{1 + (-1)^n\} \forall n$

Question Number : 26 Question Id : 8946583230 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The function  $f(x) = x|x|$  is \_\_\_\_\_.

Options :

1. ✘ not monotonic

2. ✘ strictly decreasing function
3. ✘ differentiable for all real  $x$  except  $x=0$
4. ✔ differentiable for all real  $x$

Question Number : 27 Question Id : 8946583231 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

The function  $f(x) = \begin{cases} x & \text{if } 0 < x < 1 \\ 2 - x & \text{if } 1 \leq x \leq 2 \\ x - \frac{x^2}{2} & \text{if } x > 2 \end{cases}$  is \_\_\_\_\_.

Options :

1. ✘ continuous and derivable at  $x=1$
2. ✘ not continuous at  $x=2$
3. ✔ continuous but not derivable at  $x=1$
4. ✘ continuous but not derivable at  $x=2$

Question Number : 28 Question Id : 8946583232 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

If  $f(x+y) = f(x) \cdot f(y) \forall x$  and  $y$ , and  $f(5) = 2$  and  $f'(0) = 3$  then  $f'(5) =$  \_\_\_\_\_.

Options :

1. ✘ 3
2. ✘ 1
3. ✔ 6
4. ✘ -6

Question Number : 29 Question Id : 8946583233 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $P(x) = 15$  for  $0 \leq x < 1$  and  $P(x) = 15 + 3n$  for  $n \leq x < n+1$ ,  $n \in N$  then  $\int_0^4 P(x) dx =$

\_\_\_\_\_.

Options :

1. ✘ 15

2. ✘ 123

3. ✘ 84

4. ✔ 78

Question Number : 30 Question Id : 8946583234 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $f(x) = \begin{cases} \sin \frac{1}{x}, & x \neq 0 \\ 0, & x = 0 \end{cases}$  is integrable on \_\_\_\_\_.

Options :

1. ✘  $[-1, \infty)$

2. ✘  $[-\infty, 0)$

3. ✔  $[-1, 1]$

4. ✘  $(0, \infty)$

Question Number : 31 Question Id : 8946583235 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The algebraic structure  $(Z, *)$ , where  $*$  is defined as  $a * b = a + b + 1$ ,  $\forall a, b \in Z$  is \_\_\_\_\_.

Options :

1. ✘ Group only

2. ✓ An abelian group

3. ✗ Quasi group

4. ✗ Klein-4 group

Question Number : 32 Question Id : 8946583236 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of distinct 3-cycles of  $S_4$  is \_\_\_\_\_.

Options :

1. ✗ 6

2. ✗ 18

3. ✗ 12

4. ✓ 8

Question Number : 33 Question Id : 8946583237 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If H and K are finite sub groups of a group G of orders  $O(H)$  and  $O(K)$  respectively,  
then  $O(HK) =$  \_\_\_\_\_.

Options :

1. ✗  $O(H) \cdot O(K)$

2. ✗  $\frac{O(H) + O(K)}{O(H \cap K)}$

3. ✓  $\frac{O(H) \cdot O(K)}{O(H \cap K)}$

4. ✗  $\frac{O(H \cup K)}{O(H \cap K)}$



Question Number : 34 Question Id : 8946583238 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of elements in the cyclic subgroup of  $Z_{30}$  generated by 25 is \_\_\_\_\_.

Options :

1. ✓ 6
2. ✗ 12
3. ✗ 18
4. ✗ 30

Question Number : 35 Question Id : 8946583239 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $G$  is a group then  $\forall a, b \in G$  \_\_\_\_\_.

Options :

1. ✗  $(ab)^{-1} = a^{-1}b^{-1}$
2. ✓  $(ab)^{-1} = b^{-1}a^{-1}$
3. ✗  $(ab)^{-1} = ab$
4. ✗  $(ab)^{-1} = ba$

Question Number : 36 Question Id : 8946583240 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of generators of the cyclic group of order 10 is \_\_\_\_\_.

Options :

1. ✗ 3
2. ✗ 1
3. ✗ 2



4. ✓ 4

Question Number : 37 Question Id : 8946583241 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If permutation  $f = (1\ 2\ 3\ 4\ 5\ 6\ 7)$  then  $f^3 =$

Options :

1. ✗ (1 3 5 7 2 4)

2. ✓ (1 4 7 3 6 2 5)

3. ✗ (1 3 5)(5 6)

4. ✗ (1 4 2)(5 3 7)

Question Number : 38 Question Id : 8946583242 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of ring homomorphisms from  $\mathbb{Z} \times \mathbb{Z}$  into  $\mathbb{Z} \times \mathbb{Z}$  is \_\_\_\_.

Options :

1. ✗ 1

2. ✗ 4

3. ✓ 9

4. ✗ 16

Question Number : 39 Question Id : 8946583243 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In an infinite cyclic group  $G$ , the number of automorphisms is \_\_\_\_\_.

Options :

1. ✗ Infinite

2. ✓ Two

3. ✘ Zero

4. ✘ One

Question Number : 40 Question Id : 8946583244 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statements is false?

Options :

1. ✘ If  $O(a) = n$  then  $O(a^p) = n$  where  $p$  is prime

2. ✘ The order of every element of a finite group is finite

3. ✘ The order of an element of a infinite group is either finite or infinite

4. ✔ Identity permutation is an odd permutation

Question Number : 41 Question Id : 8946583245 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the statements is true?

Options :

1. ✔ The set of Gaussian integers is a sub-ring of the complex numbers

2. ✘  $2Z \cup 3Z$  is a sub ring of  $Z$

3. ✘ If  $R$  be a ring with unity 1 then  $S = \{n \cdot 1 / n \in Z\}$  is not a sub ring of  $R$

4. ✘  $2Z$  is a sub ring of  $4Z$

Question Number : 42 Question Id : 8946583246 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Among the following, a possible value of the characteristic of an integral domain is

\_\_\_\_\_.

Options :

1. ✘ 1

2. ✘ 14

3. ✘ 9

4. ✔ 5

Question Number : 43 Question Id : 8946583247 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The characteristic of the ring  $Z_2 \times Z_3 \times Z_4$  is \_\_\_\_\_.

Options :

1. ✘ 10

2. ✔ 12

3. ✘ 16

4. ✘ 24

Question Number : 44 Question Id : 8946583248 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following is irreducible over  $Z$  ?

Options :

1. ✘  $x^2 - 5x + 6$

2. ✘  $x^2 - 7x + 12$

3. ✘  $x^2 + 9x + 20$

4. ✔  $x^2 + x + 1$

Question Number : 45 Question Id : 8946583249 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $U$  is an ideal of ring  $R$  and  $1 \in U$  then \_\_\_\_\_.

Options :

1. ✘  $U$  is a proper subset of  $R$
2. ✔  $U$  is equal to  $R$
3. ✘  $U$  is super set of  $R$
4. ✘  $U$  is equal to empty set

Question Number : 46 Question Id : 8946583250 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\phi: R \rightarrow R'$  is a homomorphism of a ring  $R$  into a ring  $R'$  then  $\phi(R)$  is a sub ring of

\_\_\_\_\_.

Options :

1. ✘  $R$
2. ✔  $R'$
3. ✘  $\phi$
4. ✘  $\phi(R')$

Question Number : 47 Question Id : 8946583251 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $Z_{12}$  is a ring under addition and multiplication modulo 12 and  $S_1 = \{0, 2, 4, 6, 8, 10\}$

,  $S_2 = \{0, 3, 6, 9\}$  then \_\_\_\_\_.

Options :

1. ✘  $S_1$  is prime ideal but  $S_2$  is not prime ideal
2. ✘  $S_2$  is prime ideal but  $S_1$  is not prime ideal

3. ✘  $S_1$  and  $S_2$  are not prime ideal

4. ✔ Both  $S_1$  and  $S_2$  are prime ideal

Question Number : 48 Question Id : 8946583252 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which of the following statements is false?

Options :

1. ✘ Every field is a Euclidean ring

2. ✘ The ring of Gaussian integers is a Euclidean ring

3. ✘  $Z\sqrt{2} = \{a + b\sqrt{2}; a, b \in Z\}$  is a Euclidean ring

4. ✔ The ring of integers is not a Euclidean ring

Question Number : 49 Question Id : 8946583253 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

If  $R$  is a commutative ring with unity, then which of the following statements is true?

Options :

1. ✘ Every prime ideal in  $R$  is a maximal ideal.

2. ✘  $R$  has no proper non – trivial ideals.

3. ✘  $R$  contains a sub-ring isomorphic to  $Z_n$

4. ✔  $R$  contains a sub-ring isomorphic to  $Z$  or  $Z_n$

Question Number : 50 Question Id : 8946583254 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Number of units in a ring  $(Z_{12}, +_{12}, \times_{12})$  is \_\_\_\_\_.

Options :

1. ✔ 4

2. ✘ 6

3. ✘ 8

4. ✘ 2

Question Number : 51 Question Id : 8946583255 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $w = \left\{ \begin{bmatrix} a \\ b \\ c \end{bmatrix} : a - 3b - c = 0 \right\}$ , then  $w$  is \_\_\_\_\_.

Options :

1. ✘ Subspace of  $R^2$

2. ✔ Subspace of  $R^3$

3. ✘ Subspace of  $R^9$

4. ✘ Subspace of  $R$

Question Number : 52 Question Id : 8946583256 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $w = \left\{ \begin{bmatrix} 6a - b \\ a + b \\ -7a \end{bmatrix} : a, b \in R \right\} = AX$ ,  $X = \begin{bmatrix} a \\ b \end{bmatrix}$ , then  $A =$  \_\_\_\_\_.

Options :

1. ✔  $\begin{bmatrix} 6 & -1 \\ 1 & 1 \\ -7 & 0 \end{bmatrix}$

2. ✘  $\begin{bmatrix} 6 & 1 & 7 \\ -1 & 1 & 0 \end{bmatrix}$

3. ✘  $\begin{bmatrix} 6 \\ 1 \\ -7 \end{bmatrix}$

4. ✘  $\begin{bmatrix} -1 \\ 1 \\ 0 \end{bmatrix}$

Question Number : 53 Question Id : 8946583257 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

If  $\vec{v} = \begin{bmatrix} 3 \\ 4 \\ -12 \end{bmatrix}$ , then  $\|\vec{v}\| =$  \_\_\_\_\_.

Options :

1. ✘  $\sqrt{12}$

2. ✘  $\sqrt{19}$

3. ✘ 19

4. ✔ 13

Question Number : 54 Question Id : 8946583258 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Which are of the following sets of vectors is not orthogonal?

Options :

1. ✘  $\begin{bmatrix} 2 \\ -5 \\ 3 \end{bmatrix}, \begin{bmatrix} 4 \\ -2 \\ 6 \end{bmatrix}$



2. ✓  $\begin{pmatrix} 5 \\ -4 \\ 0 \\ 3 \end{pmatrix}, \begin{pmatrix} 3 \\ 3 \\ 5 \\ 1 \end{pmatrix}$

3. ✗  $\begin{bmatrix} -1 \\ 4 \\ -3 \end{bmatrix}, \begin{bmatrix} 5 \\ 2 \\ 1 \end{bmatrix}$

4. ✗  $\begin{pmatrix} 3 \\ -2 \\ 1 \\ 3 \end{pmatrix}, \begin{pmatrix} -1 \\ 3 \\ -3 \\ 4 \end{pmatrix}$

Question Number : 55 Question Id : 8946583259 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

The angle between  $\vec{u} = (3, 4, 0)$  and  $\vec{v} = (1, 5, 7)$  is \_\_\_\_\_.

Options :

1. ✗  $\text{Cos}^{-1} \frac{25}{\sqrt{75}}$

2. ✗  $\text{Cos}^{-1} \frac{23}{\sqrt{3}}$

3. ✗  $\text{Cos}^{-1} \frac{25\sqrt{3}}{23}$

4. ✓  $\text{Cos}^{-1} \frac{23}{25\sqrt{3}}$

Question Number : 56 Question Id : 8946583260 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

For  $\vec{u}, \vec{v} \in \mathbb{R}^n$ , which of the following is always correct?

Options :



1. ✘  $\|\bar{u} + \bar{v}\|^2 = \|\bar{u}\|^2 + 2\|\bar{u}\|\|\bar{v}\| + \|\bar{v}\|^2$

2. ✘  $\|\bar{u} - \bar{v}\|^2 = \|\bar{u}\|^2 - 2\|\bar{u}\|\|\bar{v}\| + \|\bar{v}\|^2$

3. ✔  $\|\bar{u} + \bar{v}\|^2 + \|\bar{u} - \bar{v}\|^2 = 2\|\bar{u}\|^2 + 2\|\bar{v}\|^2$

4. ✘  $\|\bar{u} + \bar{v}\|^2 - \|\bar{u} - \bar{v}\|^2 = 4\|\bar{u}\|\|\bar{v}\|$

Question Number : 57 Question Id : 8946583261 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If a mapping is defined from  $R^4$  to  $R^5$  by the rule  $T(x) = Ax$ , then the size of the matrix  $A$  is \_\_\_\_\_.

Options :

1. ✘  $4 \times 5$

2. ✘  $16 \times 25$

3. ✘  $25 \times 16$

4. ✔  $5 \times 4$

Question Number : 58 Question Id : 8946583262 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$T:R^2 \rightarrow R^2$  be a linear transformation such that  $T(x_1, x_2) = (x_1 + x_2, 4x_1 + 5x_2)$ . If

$T(\bar{x}) = (3, 8)$  then  $\bar{x} =$  \_\_\_\_\_.

Options :

1. ✘  $(3, 4)$

2. ✘  $(-1, 2)$

3. ✓  $(7, -4)$

4. ✗  $(-7, 4)$

Question Number : 59 Question Id : 8946583263 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\beta = \left\{ \begin{pmatrix} 1 \\ -4 \\ 3 \end{pmatrix}, \begin{pmatrix} 5 \\ 2 \\ 2 \end{pmatrix}, \begin{pmatrix} 4 \\ -7 \\ 0 \end{pmatrix} \right\}$  be a basis of  $R^3$  and  $[\bar{x}]_\beta = \begin{pmatrix} -2 \\ -5 \\ -5 \end{pmatrix}$  then  $\bar{x} = \underline{\hspace{2cm}}$ .

Options :

1. ✗  $\begin{pmatrix} 1 \\ 5 \\ 9 \end{pmatrix}$

2. ✗  $\begin{pmatrix} -9 \\ 5 \\ -2 \end{pmatrix}$

3. ✗  $\begin{pmatrix} 0 \\ 0 \\ 1 \end{pmatrix}$

4. ✓  $\begin{pmatrix} -1 \\ -1 \\ 1 \end{pmatrix}$

Question Number : 60 Question Id : 8946583264 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\bar{u}$  and  $\bar{v}$  are orthogonal unit vectors in an inner product space  $V$ , then  $\|\bar{u} - \bar{v}\| =$

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

Options :

1. ✗ 0

2. ✘ 1

3. ✔  $\sqrt{2}$

4. ✘ 2

Question Number : 61 Question Id : 8946583265 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $A = \begin{pmatrix} 1 & 4 & -1 \\ 0 & 7 & 0 \\ 0 & 0 & 0 \end{pmatrix}$ , then dimension of null space of  $A$  is \_\_\_\_\_

Options :

1. ✔ 1

2. ✘ 2

3. ✘ 3

4. ✘ 0

Question Number : 62 Question Id : 8946583266 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $A$  is a  $7 \times 9$  matrix with a two dimensional null space, then rank of  $A =$  \_\_\_\_\_.

Options :

1. ✘ 9

2. ✔ 7

3. ✘ 2

4. ✘ 3

Question Number : 63 Question Id : 8946583267 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The sum of the Eigen values of  $A = \begin{pmatrix} 2 & 3 \\ 3 & -6 \end{pmatrix}$  is \_\_\_\_\_.

Options :

1. ✘ 4
2. ✔ -4
3. ✘ 3
4. ✘ -7

Question Number : 64 Question Id : 8946583268 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$T: V \rightarrow W$  be a linear transformation then Kernel of  $T$  is a subspace of \_\_\_\_\_.

Options :

1. ✔  $V$
2. ✘  $W$
3. ✘ Range of  $T$
4. ✘ Zero vector space

Question Number : 65 Question Id : 8946583269 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following sets of vectors is linearly dependent in  $R^3$  ?

Options :

1. ✘  $\left\{ \begin{pmatrix} -1 \\ 0 \\ -2 \end{pmatrix}, \begin{pmatrix} 3 \\ 2 \\ -4 \end{pmatrix}, \begin{pmatrix} -3 \\ -5 \\ 1 \end{pmatrix} \right\}$

2. ✘  $\left\{ \begin{pmatrix} 1 \\ 2 \\ 7 \end{pmatrix}, \begin{pmatrix} 1 \\ -2 \\ 1 \end{pmatrix}, \begin{pmatrix} -3 \\ 2 \\ -1 \end{pmatrix} \right\}$

3. ✘  $\left\{ \begin{pmatrix} 1 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \end{pmatrix} \right\}$

4. ✔  $\left\{ \begin{pmatrix} 1 \\ 0 \\ 1 \end{pmatrix}, \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 0 \\ 1 \\ 0 \end{pmatrix} \right\}$

Question Number : 66 Question Id : 8946583270 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

The angle between the pair of planes  $3x - 4y + 5z = 0; 2x - y - 2z = 5$  is \_\_\_\_\_.

Options :

1. ✘  $0^\circ$

2. ✔  $90^\circ$

3. ✘  $60^\circ$

4. ✘  $45^\circ$

Question Number : 67 Question Id : 8946583271 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
 Single Line Question Option : No Option Orientation : Vertical  
 Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✘  $2y + 4z + 10 = 0$

2. ✘  $y + z - 2 = 0$

3. ✔  $7y + 4z - 5 = 0$

4. ✘  $x = 2$

Question Number : 68 Question Id : 8946583272 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The distance between the parallel planes  $2x - 2y + z + 3 = 0$  and  $4x - 4y + 2z + 5 = 0$  is

\_\_\_\_\_.

Options :

1. ✘ 1

2. ✘  $\frac{1}{3}$

3. ✘  $\frac{2}{3}$

4. ✔  $\frac{1}{6}$

Question Number : 69 Question Id : 8946583273 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The volume of the tetrahedron with vertices are  $(0,1,2)$ ,  $(3,0,1)$ ,  $(4,3,6)$  and  $(2,3,2)$

is \_\_\_\_\_.

Options :

1. ✘ 3

2. ✔ 6

3. ✘ 8

4. ✘ 0

Question Number : 70 Question Id : 8946583274 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the lines  $x - az - b = 0 = y - cz - d$  and  $x - a_1z - b_1 = 0 = y - c_1z - d_1$  are perpendicular, then \_\_\_\_\_.

Options :

1. ✓  $aa_1 + cc_1 = -1$
2. ✗  $aa_1 + cc_1 = 0$
3. ✗  $aa_1 + bb_1 + 1 = 0$
4. ✗  $aa_1 + bb_1 = 0$

Question Number : 71 Question Id : 8946583275 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The length of the perpendicular from  $(4, 5, 3)$  to the line  $\frac{x-5}{3} = \frac{y-2}{-4} = \frac{z-6}{5}$  is \_\_\_\_\_.

Options :

1. ✗  $\frac{4}{5}$
2. ✗  $\frac{\sqrt{457}}{5}$
3. ✓ 1
4. ✗  $\sqrt{50}$

Question Number : 72 Question Id : 8946583276 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $(x, y, z)$  is a point on y-axis, then \_\_\_\_\_.

Options :

1. ✓  $x = 0, z = 0$

2. ✘  $y = 0, z = 0$

3. ✘  $x = 0, y = 0$

4. ✘  $x + z = 0$

Question Number : 73 Question Id : 8946583277 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of arbitrary constants in the equation of a plane is \_\_\_\_\_.

Options :

1. ✔ 3

2. ✘ 2

3. ✘ 1

4. ✘ 4

Question Number : 74 Question Id : 8946583278 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The centre of the sphere  $2x^2 + 2y^2 + 2z^2 - 2x + 4y + 2z + 3 = 0$  is \_\_\_\_\_.

Options :

1. ✘  $(1, -2, -1)$

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

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

4. ✘  $(-2, 4, 2)$

Question Number : 75 Question Id : 8946583279 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0



The radius of the circle  $x^2 + y^2 + z^2 - 2y - 4z = 11$  ,  $x + 2y + 2z = 15$  is \_\_\_\_\_.

Options :

1. ✘ 1
2. ✘ 5
3. ✘ 4
4. ✔  $\sqrt{7}$

Question Number : 76 Question Id : 8946583280 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Centre of the sphere  $(x - 1)(x - 2) + (y + 1)(y - 3) + (z - 1)(z + 4) = 0$  is \_\_\_\_\_.

Options :

1. ✔  $\left(\frac{3}{2}, 1, \frac{-3}{2}\right)$
2. ✘ (3, 2, -3)
3. ✘ (0, 0, 0)
4. ✘ (1, 2, 3)

Question Number : 77 Question Id : 8946583281 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The point of contact of the spheres  $x^2 + y^2 + z^2 + 2x - 4y - 4z - 7 = 0$  ,

$x^2 + y^2 + z^2 + 2x - 4y - 16z + 65 = 0$  is \_\_\_\_\_.

Options :

1. ✘ (1, 2, 6)
2. ✘ (1, 2, -6)

3. ✘  $(1, -2, 6)$

4. ✔  $(-1, 2, 6)$

Question Number : 78 Question Id : 8946583282 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Two spheres of radii  $r_1$  &  $r_2$  intersect orthogonally, then the radius of common circle is

\_\_\_\_\_.

Options :

1. ✘  $r_1 \cdot r_2$

2. ✘  $\sqrt{r_1 + r_2}$

3. ✘  $\frac{r_1 r_2}{r_1 + r_2}$

4. ✔  $\frac{r_1 r_2}{\sqrt{r_1^2 + r_2^2}}$

Question Number : 79 Question Id : 8946583283 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The pole of the plane  $lx + my + nz = p$  with respect to the sphere  $x^2 + y^2 + z^2 = a^2$  is

\_\_\_\_\_.

Options :

1. ✘  $\left(\frac{ap}{l^2}, \frac{ap}{m^2}, \frac{ap}{n^2}\right)$

2. ✔  $\left(\frac{la^2}{p}, \frac{ma^2}{p}, \frac{na^2}{p}\right)$

3. ✘  $\left(\frac{pa^2}{l}, \frac{pa^2}{m}, \frac{pa^2}{n}\right)$

4. ✘  $\left(\frac{la^2}{1}, \frac{ma^2}{1}, \frac{na^2}{1}\right)$

Question Number : 80 Question Id : 8946583284 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the plane  $x + y + z = K$  touches the sphere  $x^2 + y^2 + z^2 - 2x - 2y - 2z - 6 = 0$  then

$$\frac{K-3}{3} = \underline{\hspace{2cm}}$$

Options :

1. ✘  $\pm 3$

2. ✘  $\pm 2$

3. ✔  $\pm\sqrt{3}$

4. ✘  $\pm\sqrt{2}$

Question Number : 81 Question Id : 8946583285 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of  $(D^4 + 8D^2 + 16)y = 0$  is \_\_\_\_\_.

Options :

1. ✔  $(c_1 + c_2x) \cos 2x + (c_3 + c_4x) \sin 2x$

2. ✘  $(c_1 \cos 2x + c_2 \sin 2x)^2$

3. ✘  $(c_1 + c_2) \cos 2x + (c_3 + c_4) \sin 2x$

4. ✘  $(c_1) \cos 2x + (c_2) \sin 2x + (c_3) \cos 2x + (c_4) \sin 2x$

Question Number : 82 Question Id : 8946583286 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of  $(D^4 + 4D^3 + 6D^2 + 4D + 1)y = 0$  , then  $y =$  \_\_\_\_\_.

Options :

1. ✘  $c_1e^x + c_2e^{-x} + c_3e^{2x} + c_4e^{-2x}$

2. ✘  $(c_1 + c_2 + c_3 + c_4)e^{-x}$

3. ✘  $(c_1 + c_2x + c_3x^2 + c_4x^3)e^x$

4. ✔  $(c_1 + c_2x + c_3x^2 + c_4x^3)e^{-x}$

Question Number : 83 Question Id : 8946583287 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Particular solution of  $(D^6 - 64)y = e^{2x}$  is \_\_\_\_\_.

Options :

1. ✘  $\frac{x^6 e^{2x}}{720}$

2. ✘  $\frac{e^{2x}}{192}$

3. ✔  $\frac{xe^{2x}}{192}$

4. ✘  $e^{2x}$

Question Number : 84 Question Id : 8946583288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Particular solution of  $(D^2 + 4)y = x \sin x$  is \_\_\_\_\_.

Options :

1. ✓  $\frac{x \sin x}{3} - \frac{2 \cos x}{9}$

2. ✗  $\frac{x \sin x}{3} - \frac{2 \cos x}{27}$

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

4. ✗  $\frac{x \sin x}{1} + \frac{x \cos x}{3}$

Question Number : 85 Question Id : 8946583289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of  $(D^3 - 4D^2)y = 8$  is \_\_\_\_\_.

Options :

1. ✗  $c_1 + c_2x^2 + c_3e^{4x} + x^2$

2. ✗  $c_1 + c_2x + e^{4x} + x^2$

3. ✓  $c_1 + c_2x + c_3e^{4x} - x^2$

4. ✗  $c_1 + c_2x + c_3e^{4x} + c_4x^2$

Question Number : 86 Question Id : 8946583290 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of  $\frac{dy}{dx} = \sin(x + y) + \cos(x + y)$  is \_\_\_\_\_.

Options :

1. ✗  $1 + \tan(x + y) = c$

$$1 + \tan\left(\frac{x+y}{2}\right) = ce^x$$

2. ✓

$$\tan^{-1}\left(\frac{x+y}{2}\right) = c$$

3. ✗

$$\tan^{-1}\left(\frac{x+y}{2}\right) = 1 - ce^x$$

4. ✗

Question Number : 87 Question Id : 8946583291 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of  $(4x + 3y + 1)dx + (3x + 2y + 1)dy = 0$  is \_\_\_\_\_.

Options :

1. ✗  $2x^2 + y^2 = c$

2. ✗  $3xy + x + y + x^2 - y^2 = c$

3. ✓  $2x^2 + y^2 + 3xy + x + y = c$

4. ✗  $x^2 + y^2 - x - y = c$

Question Number : 88 Question Id : 8946583292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of  $(x^2 + y^2 + 2x)dx + 2ydy = 0$  is \_\_\_\_\_.

Options :

1. ✓  $(x^2 + y^2)e^x = c$

2. ✗  $(x^2 + y^2) = ce^x$

3. ✗  $x + y = \tan^{-1}(c + x^2)$

4. ✘  $x^{-2} + y^{-2} = ce^{-x}$

Question Number : 89 Question Id : 8946583293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An integrating factor of  $(y^4 + 2y)dx + (xy^3 + 2y^4 - 4x)dy = 0$  is  $f(y)$ , then  $y f(y) =$

\_\_\_\_\_.

Options :

1. ✘  $3 \log y$

2. ✘  $\frac{-3}{y}$

3. ✔  $\frac{1}{y^2}$

4. ✘  $\frac{1}{y^3}$

Question Number : 90 Question Id : 8946583294 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The solution of  $x \frac{d^2 y}{dx^2} + \frac{dy}{dx} + 1 = 0$  is \_\_\_\_\_.

Options :

1. ✘  $y = \log x + c$

2. ✔  $y = c \log x - x + c^1$

3. ✘  $cy = c_1 \log x$

4. ✘  $y = \log(xc + c^1)$

Question Number : 91 Question Id : 8946583295 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\phi = 3x^2y - y^3z^2$ , then  $\text{grad } \phi$  at  $(1, -2, -1)$  is \_\_\_\_\_.

Options :

1. ✘  $12\hat{i} - \hat{j} - 16\hat{k}$
2. ✘  $\hat{i} - \hat{j} + 9\hat{k}$
3. ✔  $-12\hat{i} - 9\hat{j} - 16\hat{k}$
4. ✘  $2\hat{i} + 3\hat{j} - 6\hat{k}$

Question Number : 92 Question Id : 8946583296 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\vec{r} = x\vec{i} + y\vec{j} + z\vec{k}$  and  $r = |\vec{r}|$ , then  $\nabla(r^4) =$  \_\_\_\_\_.

Options :

1. ✔  $4r^2\vec{r}$
2. ✘  $2r^2\vec{r}$
3. ✘  $4r^2$
4. ✘  $4r^3\vec{r}$

Question Number : 93 Question Id : 8946583297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The angle between the surfaces  $x^2 + y^2 + z^2 = 9$  and  $z = x^2 + y^2 - 3$  at  $(2, -1, 2)$  is \_\_\_\_.

Options :

1. ✘  $\text{Cos}^{-1}\left(\frac{1}{3}\right)$



2. ✘  $\text{Cos}^{-1}\left(\frac{8}{\sqrt{21}}\right)$

3. ✘  $\frac{\pi}{2}$

4. ✔  $\text{Cos}^{-1}\left(\frac{8}{3\sqrt{21}}\right)$

Question Number : 94 Question Id : 8946583298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $f = (x + 3y)\bar{i} + (y - 2z)\bar{j} + (x + az)\bar{k}$  is Solenoidal vector, then  $a = \underline{\hspace{2cm}}$ .

Options :

1. ✘ 1

2. ✘ 2

3. ✔ -2

4. ✘ 3

Question Number : 95 Question Id : 8946583299 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\bar{r} = x\bar{i} + y\bar{j} + z\bar{k}$  and  $r = |\bar{r}|$ , then  $\nabla^2 r^n = \underline{\hspace{2cm}}$ .

Options :

1. ✘  $n(n-1)r^{n-2}$

2. ✔  $n(n+1)r^{n-2}$

3. ✘  $n(n+1)r^{n+2}$

4. ✘  $n(n-1)r^{n-2}\vec{r}$

Question Number : 96 Question Id : 8946583300 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $2x^2\vec{i} - xy^2\vec{j} + 3y^2x\vec{k}$  then  $\text{div } f$  at  $(1,1,1)$  is \_\_\_\_\_.

Options :

1. ✘ 1

2. ✘ -1

3. ✘ -2

4. ✔ 2

Question Number : 97 Question Id : 8946583301 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $\vec{F} = 3xy\vec{i} - y^2\vec{j}$ ,  $C$  is the arc of parabola then  $y = 2x^2$  from  $(0,0)$  to  $(1,2)$  then

$$\int_C \vec{F} \cdot d\vec{r} = \underline{\hspace{2cm}}$$

Options :

1. ✘  $\frac{6}{7}$

2. ✘  $\frac{2}{7}$

3. ✔  $\frac{-7}{6}$

4. ✘  $\frac{7}{3}$

Question Number : 98 Question Id : 8946583302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$(yzdx + zxdy + xydz) = ?$ , where  $C$  is the curve  $x^2 + y^2 = 1$ ,  $z = y^2$ ,  $z = 1$ .

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✘  $\pi$
- 4. ✔ 0

Question Number : 99 Question Id : 8946583303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $S$  is any closed surface enclosing a volume  $V$ , and  $\vec{r} = x\vec{i} + y\vec{j} + z\vec{k}$ , then  $\iint_S \vec{r} \cdot d\vec{S} =$

\_\_\_\_\_.

Options :

- 1. ✘ 1
- 2. ✔  $3V$
- 3. ✘  $V$
- 4. ✘  $rV$

Question Number : 100 Question Id : 8946583304 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If  $S$  denotes the surface of the cube bounded by planes  $x = 0, x = a, y = 0, y = a, z = 0$

and  $z = a$ , then  $\iint_S ((x^3 - yz)\vec{i} - 2x^2y\vec{j} + 2k) \cdot \vec{n}dS =$  \_\_\_\_\_.

Options :

- 1. ✘  $a^5$
- 2. ✘  $a^3$

3. ✖  $\frac{a^5}{6}$

4. ✔  $\frac{a^5}{3}$

	Analytical Ability
Section Id :	89465865
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	33
Number of Questions to be attempted:	33
Section Marks:	50
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	89465870
Question Shuffling Allowed :	Yes

Question Id : 8946583305 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (101 to 110)

### (Questions 1 to 10)

To answer the question 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 to answer the question
- (2) The data given in Statement II alone is sufficient to answer the question
- (3) The data given in both Statement I and Statement II put together are sufficient but neither of the statements alone is sufficient to answer the question
- (4) The data given in both Statement I and Statement II put together are not sufficient and additional data is needed to answer the question

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

Question Number : 101 Question Id : 8946583306 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the code for 'sky' in the code language?

- I. In the same code language, 'sky is clear' is written as 'de ra re'
- II. In the same code language, 'make it clear' is written as 'de ga jo'

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✘ 3
- 4. ✔ 4

Question Number : 102 Question Id : 8946583307 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

- 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 : 8946583308 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

B is the brother of A. How is A related to B?

- I. A is the sister of C
- II. E is the husband of A

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✔ 3
- 4. ✘ 4

Question Number : 104 Question Id : 8946583309 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How is Sulekha related to Nandini?

- I. Sulekha's husband is the only son of Nandini's mother
- II. Sulekha's brother and Nandini's husband are cousins

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✔ 3
- 4. ✘ 4

Question Number : 105 Question Id : 8946583310 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

- 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 to T who is second to the right of P.

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✔ 3
- 4. ✘ 4

Question Number : 106 Question Id : 8946583311 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

P, Q, R, S and T are sitting around circle facing towards its center. Who is second to the right of P?

- I. R is to the immediate left of T and second to the right of S.
- II. Q is to the immediate right of S and third to the left of P.

Options :

- 1. ✘ 1



2. ✓ 2

3. ✗ 3

4. ✗ 4

Question Number : 107 Question Id : 8946583312 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Who among P, Q, R, S and T is the lightest?

I. R is heavier than Q and T but lighter than S.

II. S is not the heaviest.

Options :

1. ✗ 1

2. ✗ 2

3. ✗ 3

4. ✓ 4

Question Number : 108 Question Id : 8946583313 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

What is the shortest distance between Devipur and Durgapur?

I. Durgapur is 20 kms away from Rampur

II. Devipur is 15 kms away from Rampur

Options :

1. ✗ 1

2. ✗ 2

3. ✗ 3

4. ✓ 4

Question Number : 109 Question Id : 8946583314 Question Type : MCQ Option Shuffling : No Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

How many children are there in the row of children facing North?

- I. Vishakha who is fifth from the left end is eighth to the left of Asish who is twelfth from the right end.
- II. Rohit is fifth to the left of Nisha who is seventh from the right end and eighteenth from the left end.

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✔ 3
- 4. ✘ 4

Question Number : 110 Question Id : 8946583315 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the rank of P from the bottom in a class of 30 students?

- I. M is third from the top and there are five students between M and P.
- II. The rank of K is fourth from the bottom and there are 17 students between K and P.

Options :

- 1. ✘ 1
- 2. ✘ 2
- 3. ✔ 3
- 4. ✘ 4

Sub-Section Number:	2
Sub-Section Id:	89465871
Question Shuffling Allowed :	Yes

Question Number : 111 Question Id : 8946583316 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The missing term in the sequence 6, 12, 21, \_\_\_\_\_, 48 is

Options :

- 1. ✔ 33



2. ✘ 38

3. ✘ 40

4. ✘ 45

Question Number : 112 Question Id : 8946583317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The missing term in the sequence 120, 99, 80, 63, 48, \_\_\_\_ is

Options :

1. ✔ 35

2. ✘ 38

3. ✘ 39

4. ✘ 40

Question Number : 113 Question Id : 8946583318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One term in the given below number series is wrong. The wrong term of the series

4, 10, 22, 46, 96, 190, 382 is \_\_\_\_\_

Options :

1. ✘ 4

2. ✘ 10

3. ✔ 96

4. ✘ 382

Question Number : 114 Question Id : 8946583319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

One term in the given below number series is wrong. The wrong term of the series 1, 3, 10, 21, 64, 129, 356, 777 is \_\_\_\_\_.

Options :

1. ✘ 21
2. ✘ 129
3. ✘ 10
4. ✔ 356

Question Number : 115 Question Id : 8946583320 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The missing letter in the place marked with ? in the letter series:

B, D, F, I, L, P, ?

Options :

1. ✘ R
2. ✘ S
3. ✔ T
4. ✘ U

Question Number : 116 Question Id : 8946583321 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

The list of missing letters in the place marked with ? in the letter series:

a, d, c, f, ?, h, g, ?, i

Options :

1. ✔ e, j
2. ✘ e, k

3. ✘ f, j

4. ✘ j, e

Question Number : 117 Question Id : 8946583322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The missing letter-number terms in place marked with ? in the letter-number series D-4, F-6, H-8, J-10, ?, -? is

Options :

1. ✘ K-12, M-13

2. ✘ L-12, M-14

3. ✔ L-12, N-14

4. ✘ K-12, M-14

Question Number : 118 Question Id : 8946583323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The missing letter-number term in the place marked with ? in the letter-number series:

2Z5, 7Y7, 14X9, 23W11, 34V13, ? ? ? ? ?

Options :

1. ✘ 27U24

2. ✘ 45U15

3. ✔ 47U15

4. ✘ 47U14

Question Number : 119 Question Id : 8946583324 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The list of missing letter in the place of ‘\_\_’ in the letter series:

\_\_ a b a \_\_ b a \_ a b

Options :

1. ✘ a b b b a

2. ✔ a b b a b

3. ✘ b a a b b

4. ✘ b b a b a

Question Number : 120 Question Id : 8946583325 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The list of missing letters in the place of ‘\_\_’ in that order from the letter series:

\_ o p \_ m o \_ n \_\_ p n m o p \_

Options :

1. ✔ m n p m o n

2. ✘ m p n m o p

3. ✘ m n o m p n

4. ✘ m n p o m n

Sub-Section Number:	3
Sub-Section Id:	89465872
Question Shuffling Allowed :	Yes

Question Id : 8946583326 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension  
Questions : No

Question Numbers : (121 to 125)

(A) The following table gives the percentage of marks obtained by seven students in six different subjects. The numbers in the brackets give the maximum marks in each subject. Study the table and answer the questions from 21 to 25.

Student	Subjects (Max. Marks)					
	Maths (150)	Chemistry (130)	Physics (120)	Geography (100)	History (60)	Computer Science (40)
Ayush	90	50	90	60	70	80
Aman	100	80	80	40	80	70
Sajal	90	60	70	70	90	70
Rohit	80	65	80	80	60	60
Muskan	80	65	85	95	50	90
Tanvi	70	75	65	85	40	60
Tarun	65	35	50	77	80	80

Sub questions

Question Number : 121 Question Id : 8946583327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What was the aggregate of marks obtained by Sajal in all the six subjects?

Options :

1. ✘ 409

2. ✘ 419

3. ✘ 429

4. ✔ 449

Question Number : 122 Question Id : 8946583328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the overall percentage of Tarun?

Options :

1. ✘ 52.5 %
2. ✘ 55 %
3. ✔ 60 %
4. ✘ 63 %

Question Number : 123 Question Id : 8946583329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What are the average marks obtained by all seven students in Physics?

(rounded off to two digits after decimal)

Options :

1. ✘ 77.26
2. ✔ 89.14
3. ✘ 91.37
4. ✘ 96.11

Question Number : 124 Question Id : 8946583330 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of students who obtained 60 % and above marks in all subjects

is \_\_\_\_\_.

Options :

1. ✘ 1
2. ✔ 2
3. ✘ 3

4. ✘ 0

Question Number : 125 Question Id : 8946583331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In which subject is the overall percentage the best?

Options :

1. ✔ Maths

2. ✘ History

3. ✘ Physics

4. ✘ Chemistry

Sub-Section Number:	4
Sub-Section Id:	89465873
Question Shuffling Allowed :	Yes

Question Id : 8946583332 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension  
Questions : No

Question Numbers : (126 to 130)

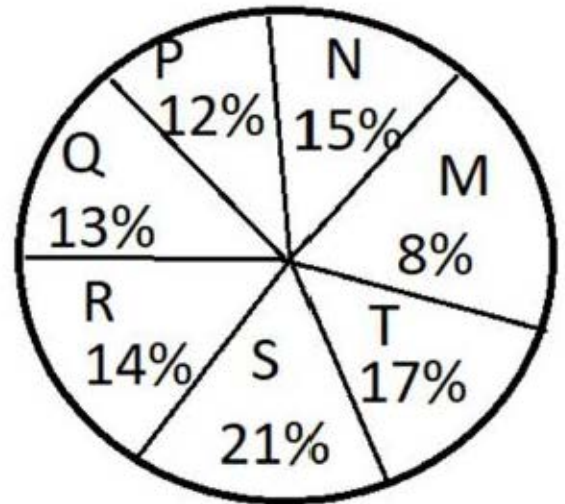
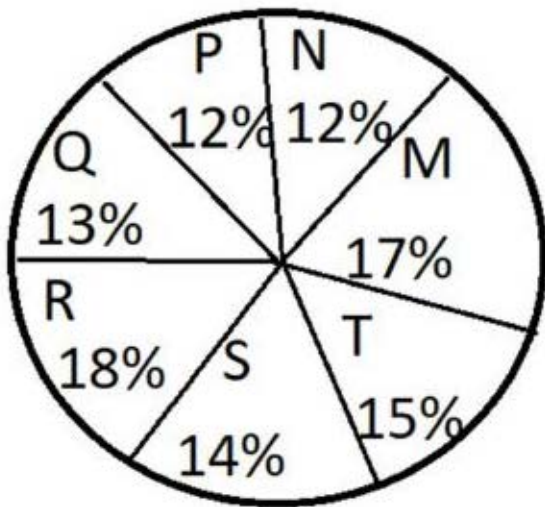


(B) Study the following graphs carefully and answer the questions from 26 to 30

The following pie-charts show the distribution of students of Graduate and Post-Graduate levels in seven different Institutions - M, N, P, Q, R, S and T in a town.

Total Number of Students of  
Graduate Level = 27,300

Total Number of Students of  
Post-Graduate Level = 24,700



Sub questions

Question Number : 126 Question Id : 8946583333 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

How many students of Institutes M and S are studying at graduate level?

Options :

- ✘ 7,516
- ✔ 8,463
- ✘ 9,127
- ✘ 9,404

Question Number : 127 Question Id : 8946583334 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0



Total number of students studying at Post-graduate level from Institutes N and P

\_\_\_\_\_.

Options :

1. ✘ 5,601

2. ✘ 5,944

3. ✔ 6,669

4. ✘ 7,004

Question Number : 128 Question Id : 8946583335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the total number of graduate and post-graduate level students in Institute R?

Options :

1. ✘ 8320

2. ✘ 7916

3. ✘ 9116

4. ✔ 8372

Question Number : 129 Question Id : 8946583336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the ratio between the number of students studying at post-graduate and graduate levels respectively from Institute S?

Options :

1. ✘ 14 : 19

2. ✘ 19 : 21

3. ✘ 17 : 21

4. ✓ 19 : 14

Question Number : 130 Question Id : 8946583337 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the ratio between the number of students studying at post-graduate level from the Institute S and the number of students studying at graduate level from the Institute Q?

Options :

1. ✓ 19 : 13

2. ✗ 21 : 13

3. ✗ 13 : 8

4. ✗ 13 : 19

Sub-Section Number: 5  
Sub-Section Id: 89465874  
Question Shuffling Allowed : Yes

Question Number : 131 Question Id : 8946583338 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If in a code, TEACHER is written as VGCEJGT. How is CHILDREN written in that code?

Options :

1. ✗ EJKNEGTP

2. ✗ EGKNFITP

3. ✗ EJKNFGTO

4. ✓ EJKNFTGP

Question Number : 132 Question Id : 8946583339 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a code language, LUTE is written as MUTE and FATE is written as GATE, then how will BLUE be written in that code ?

Options :

1. ✓ CLUE
2. ✗ GLUE
3. ✗ FLUE
4. ✗ SLUE

Question Number : 133 Question Id : 8946583340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In a certain code, the word ROAD is coded as WTFI. Following the same rule of coding what should be the word for the code GJFY ?

Options :

1. ✗ REAP
2. ✗ TAKE
3. ✓ BEAT
4. ✗ LATE

Question Number : 134 Question Id : 8946583341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

In a certain code, POPULAR is written as QPQVMBS. Which word will be written as GBNPVT in that code ?

Options :

1. ✗ FARMER
2. ✓ FAMOUS

3. ✘ FRAMES

4. ✘ FARMES

Question Number : 135 Question Id : 8946583342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If in a certain code, O is written as E, A as C, M as I, S as O, N as P, E as M, I as A, P as N and C as S, then how will the word COMPANIES be written ?

Options :

1. ✘ SMINCPAMO

2. ✘ SEIACPAMO

3. ✔ SEINCPAMO

4. ✘ SEINCPMIO

Question Number : 136 Question Id : 8946583343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 : 137 Question Id : 8946583344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If MACHINE is coded as 19-7-9-14-15-20-11, how will you code DANGER?

Options :

1. ✘ 11-7-20-16-11-24
2. ✘ 13-7-20-9-11-25
3. ✔ 10-7-20-13-11-24
4. ✘ 13-7-20-10-11-25

Question Number : 138 Question Id : 8946583345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

Options :

1. ✘ 3
2. ✔ 6
3. ✘ 8
4. ✘ 10

Question Number : 139 Question Id : 8946583346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If 'cook' is called 'butler', 'butler' is called 'manager', 'manager' is called 'teacher', 'teacher' is called 'clerk' and 'clerk' is called principal, who will teach in a class ?

Options :

1. ✘ Cook
2. ✘ Butler

3. ✘ Teacher

4. ✔ Clerk

Question Number : 140 Question Id : 8946583347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

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 : 8946583348 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Pointing towards a boy, Veena said, 'He is the son of the 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 : 8946583349 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical



Correct Marks : 1 Wrong Marks : 0

A girl introduced a boy as the son of the daughter of the father of her uncle. The boy could be girl's \_\_\_\_\_.

Options :

1. ✓ Brother
2. ✗ Son
3. ✗ Uncle
4. ✗ Son-in-law

Question Number : 143 Question Id : 8946583350 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 of 3 years old. How many male members are in that family having no daughter?

Options :

1. ✓ 2
2. ✗ 3
3. ✗ 6
4. ✗ 9

Question Number : 144 Question Id : 8946583351 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 : 8946583352 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

'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 : 8946583353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 : 8946583354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 : 8946583355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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 : 8946583356 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many words with or without meaning can be formed by using all the letters of the word 'DELHI', by using each letter exactly once?

Options :

1. ✘ 10
2. ✘ 25
3. ✘ 60

4. ✓ 120

Question Number : 150 Question Id : 8946583357 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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

#### Communicative English

Section Id :	89465866
Section Number :	3
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	46
Number of Questions to be attempted:	46
Section Marks:	50
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	89465875
Question Shuffling Allowed :	Yes

Question Number : 151 Question Id : 8946583358 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct antonym for the word 'abdicate'

Options :

1. ✗ adjudicate

2. ✗ deliberate

3. ✘ destroy

4. ✔ pursue

Question Number : 152 Question Id : 8946583359 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct antonym for the word 'indolence'

Options :

1. ✘ sluggishness

2. ✔ industriousness

3. ✘ apathy

4. ✘ sloth

Question Number : 153 Question Id : 8946583360 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct antonym for the word 'solitude'

Options :

1. ✘ seclusion

2. ✘ isolation

3. ✘ loneliness

4. ✔ companionship

Question Number : 154 Question Id : 8946583361 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct antonym for the word 'disparage'

Options :

1. ✘ sneer at

2. ✘ ridicule

3. ✓ congratulate

4. ✗ belittle

Question Number : 155 Question Id : 8946583362 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct antonym for the word 'despondent'

Options :

1. ✗ forlorn

2. ✓ exultant

3. ✗ gloomy

4. ✗ miserable

Question Number : 156 Question Id : 8946583363 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct synonym for the word underlined in the following sentence.

Lakshmibai is the most famous Indian woman to have defied the British.

Options :

1. ✓ Opposed

2. ✗ Accepted

3. ✗ Considered

4. ✗ Joined

Question Number : 157 Question Id : 8946583364 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct synonym for the word underlined in the following sentence.

Fluttering and twittering are the admirable actions of birds. Here 'twittering' means?

Options :

1.  Chirping
2.  Picking
3.  Dancing
4.  Dropping

Question Number : 158 Question Id : 8946583365 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct synonym for the word underlined in the following sentence.

“ Let me not to the marriage of true minds admit impediments. Love is not love”.

What does 'impediment' mean?

Options :

1.  Love
2.  Mind
3.  Marriage
4.  Obstacle

Question Number : 159 Question Id : 8946583366 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct synonym for the word underlined in the following sentence.

This is a perilous subject. Let us not talk about it.

Options :

1.  rejoined
2.  attacked
3.  denounced

4. ✓ dicey

Question Number : 160 Question Id : 8946583367 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct synonym for the word underlined in the following sentence.

“Soon-not in thirty years but in five to ten there will be an exodus because of the lack of water”.

Options :

1. ✗ an end of life
2. ✗ a great famine
3. ✓ mass departure of people
4. ✗ an exciting argument

Question Number : 161 Question Id : 8946583368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct one word substitute for 'One who believes in fate' from the options given below:

Options :

1. ✗ Fanatic
2. ✓ Fatalist
3. ✗ Lunatic
4. ✗ Ascetic

Question Number : 162 Question Id : 8946583369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct one word substitute for 'A lover of good food' from the options given below:

Options :



1. ✘ Gullible
2. ✘ Militant
3. ✘ Sinecure
4. ✔ Gourmand

Question Number : 163 Question Id : 8946583370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Choose the correct one word substitute for 'Conferred as an honour' from the options given below:

- Options :
1. ✔ Honorary
  2. ✘ Emeritus
  3. ✘ Enigmatic
  4. ✘ Cynosure

Question Number : 164 Question Id : 8946583371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Choose the right option to fill in the blanks in the following sentence:

The old man gave a chilling \_\_\_\_\_. What are your thoughts on how Egypt relates to biblical\_\_\_\_\_.

- Options :
1. ✘ prophesy, prophecy
  2. ✘ prophesize, prophesy
  3. ✘ prophecy, prophesize

4. ✓ prophecy, prophesy

Question Number : 165 Question Id : 8946583372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the right option to fill in the blanks in the following sentence:

He let out a \_\_\_\_\_ in the presence of a \_\_\_\_\_ up son.

Options :

1. ✓ groan, grown

2. ✗ groin, grown

3. ✗ grown, groin

4. ✗ groin, groan

Question Number : 166 Question Id : 8946583373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the right option to fill in the blanks in the following sentence:

The number of students who wanted to \_\_\_\_\_ the lab was in \_\_\_\_\_ of three hundred.

Options :

1. ✓ access, excess

2. ✗ excess, access

3. ✗ access, access

4. ✗ excess, excess

Question Number : 167 Question Id : 8946583374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the meaning of the underlined phrasal verb from the options given below:

We chipped in to save time.

Options :



1. ✘ destroyed
2. ✘ arrived
3. ✘ admitted
4. ✔ helped

Question Number : 168 Question Id : 8946583375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the right meaning of the idiomatic expression 'Play it by ear'

Options :

1. ✘ To escape instantaneously
2. ✘ To shout unanimously
3. ✘ To listen to music
4. ✔ To act spontaneously

Question Number : 169 Question Id : 8946583376 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the tense form the verb underlined in the sentence given below:

They visit the church every Sunday.

Options :

1. ✘ simple past
2. ✔ simple present
3. ✘ present perfect
4. ✘ past perfect

Question Number : 170 Question Id : 8946583377 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the tense form the verb underlined in the sentence given below:

The host has received many gifts in the birth day party.

Options :

1. ✘ simple past
2. ✘ simple present
3. ✔ present perfect
4. ✘ past perfect

Question Number : 171 Question Id : 8946583378 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option to fill in the blanks in the following sentence:

The boy was born \_\_\_\_\_ 24th July \_\_\_\_\_ 1990.

Options :

1. ✘ at, to
2. ✔ on, in
3. ✘ for, from
4. ✘ by, at

Question Number : 172 Question Id : 8946583379 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option to fill in the blanks in the following sentence:

\_\_\_\_\_ the new house, they lived very happily \_\_\_\_\_ love and care.

Options :

1. ✘ At, since

2. ✘ For, into

3. ✔ In, with

4. ✘ In, from

Question Number : 173 Question Id : 8946583380 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option to fill in the blanks in the following sentence:

Do remember \_\_\_\_\_ follow the traffic rules while crossing the road \_\_\_\_\_ the bus stop.

Options :

1. ✔ to, from

2. ✘ at, for

3. ✘ for, at

4. ✘ with, at

Question Number : 174 Question Id : 8946583381 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option to fill in the blank in the following sentence:

The kid started to smile \_\_\_\_\_ seeing his mother.

Options :

1. ✔ upon

2. ✘ in

3. ✘ along

4. ✘ for

Question Number : 175 Question Id : 8946583382 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the correct option to fill in the blanks in the following sentence:

You can sit \_\_\_\_\_ the shade of the tree.

Options :

1. ✘ with
2. ✘ under
3. ✔ in
4. ✘ by

Question Number : 176 Question Id : 8946583383 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the sentence in which the subject is in agreement with the verb from the options given below:

Options :

1. ✔ Neither Bheem nor his cousins like the big boss show.
2. ✘ Neither Bheem nor his cousins likes the big boss show.
3. ✘ Neither Bheem nor his cousins liking the big boss show.
4. ✘ Neither his cousins nor Bheem like the big boss show.

Question Number : 177 Question Id : 8946583384 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the sentence in which the subject is in agreement with the verb from the options given below:

Options :

1. ✘ The passengers, as well as the driver, wants to stop the bus.
2. ✔ The passengers, as well as the driver, want to stop the bus.



3. ✘ The passengers, as well as the driver, is wanting to stop the bus.

4. ✘ The passengers, as well as the driver, is being wanted to stop the bus.

Question Number : 178 Question Id : 8946583385 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the sentence in which the subject is in agreement with the verb from the options given below:

Options :

1. ✘ Each man and each boy are expected to meet his obligation.

2. ✘ Each man and each boy will be expected to meet his obligation.

3. ✘ Each man and each boy were expected to meet his obligation.

4. ✔ Each man and each boy is expected to meet his obligation.

Question Number : 179 Question Id : 8946583386 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the sentence in which the subject is in agreement with the verb from the options given below.

Options :

1. ✔ Either October or November is a good vacation month.

2. ✘ Either October or November are good vacation months.

3. ✘ Either October or November were a good vacation month.

4. ✘ Either October nor November are a good vacation month.

Question Number : 180 Question Id : 8946583387 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Identify the sentence in which the subject is in agreement with the verb from the options given below:

Options :

1. ✘ Ten thousand rupees are a reasonable salary for an undergraduate.
2. ✘ Ten thousand rupees were a reasonable salary for an undergraduate.
3. ✔ Ten thousand rupees is a reasonable salary for an undergraduate.
4. ✘ Ten thousand rupees have a reasonable salary for an undergraduate.

Question Number : 181 Question Id : 8946583388 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the suitable option for changing the following sentence  
from active voice to passive voice:

*The Physics students used the telescope.*

Options :

1. ✔ The telescope was used by the physics students.
2. ✘ The telescope will be used by the physics students.
3. ✘ The telescope would be used by the physics students.
4. ✘ The telescope were used by the physics students.

Question Number : 182 Question Id : 8946583389 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the suitable option for changing the following sentence  
from passive voice to active voice:

*The last piece of cake was eaten by whom?*

Options :

1. ✘ Who has eaten the last piece of cake?

2. ✓ Who ate the last piece of cake?

3. ✗ Who had eaten the last piece of cake?

4. ✗ Who has ate the last piece of cake?

Question Number : 183 Question Id : 8946583390 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the suitable option for changing the following sentence  
from active voice to passive voice:

*The Guard will give you the instructions.*

Options :

1. ✓ The Instructions will be given to you by the Guard.

2. ✗ The Instructions were given to you by the Guard.

3. ✗ The Instructions has been given to you by the Guard.

4. ✗ The Instructions has given to you by the Guard.

Question Number : 184 Question Id : 8946583391 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the suitable option for changing the following sentence  
from passive voice to active voice:

*The Moon is viewed by millions of people every day.*

Options :

1. ✗ Millions of people viewed the Moon every day.

2. ✗ Millions of people views the Moon every day.

3. ✗ Millions of people will view the Moon every day.



4. ✓ Millions of people view the Moon every day.

Question Number : 185 Question Id : 8946583392 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the suitable option for changing the following sentence  
from active voice to passive voice:

*The Engineer remodeled the office to make it look better.*

Options :

1. ✗ The office will be remodeled by the Engineer to make it look better.
2. ✗ The office were remodeled by the Engineer to make it look better.
3. ✓ The office was remodeled by the Engineer to make it look better.
4. ✗ The office is remodeled by the Engineer to make it look better.

Question Number : 186 Question Id : 8946583393 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence which is grammatically correct  
from the options given below:

Options :

1. ✓ He wants to avail himself of leave for two days.
2. ✗ He wants to leave himself for two days.
3. ✗ He wants to himself avail leave for two days.
4. ✗ He himself avail leave for two days.

Question Number : 187 Question Id : 8946583394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence which is grammatically correct  
from the options given below:

Options :

1. ✘ My boss asked to me to attend to a meeting.
2. ✔ The doctor attends to a patient.
3. ✘ I am working here since 2001.
4. ✘ He has gone to Chennai last month.

Question Number : 188 Question Id : 8946583395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence which is grammatically correct  
from the options given below:

Options :

1. ✘ I am a bit in a hurry.
2. ✔ I am in a bit of a hurry.
3. ✘ I am a bit of a hurry.
4. ✘ I am in bit of a hurry.

Question Number : 189 Question Id : 8946583396 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence which is grammatically correct  
from the options given below:

Options :

1. ✘ Everybody will get a share.
2. ✔ Everybody will get his/her share.
3. ✘ Everybody will get an share.
4. ✘ Everybody will get share.

Question Number : 190 Question Id : 8946583397 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the sentence which is grammatically correct

from the options given below:

Options :

1. ✘ He left the place with his belonging.
2. ✘ He left the place with their goods and belongs.
3. ✘ He left the place with his belonging goods.
4. ✔ He left the place with his goods.

Question Number : 191 Question Id : 8946583398 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the word with correct spelling from the following options:

Options :

1. ✘ embarassed
2. ✔ embarrassed
3. ✘ embarased
4. ✘ embarasad

Question Number : 192 Question Id : 8946583399 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Choose the word with correct spelling from the following options:

Options :

1. ✘ repititively
2. ✘ repetitively
3. ✔ repetitively

4. ✘ repitetively

Question Number : 193 Question Id : 8946583400 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Choose the word with correct spelling from the following options:

Options :

1. ✔ illuminate

2. ✘ iluminnate

3. ✘ illuminete

4. ✘ illumineite

Question Number : 194 Question Id : 8946583401 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Choose the word with correct spelling from the following options:

Options :

1. ✔ Forbearance

2. ✘ Forberence

3. ✘ Forbearence

4. ✘ Forbarence

Question Number : 195 Question Id : 8946583402 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical  
Correct Marks : 1 Wrong Marks : 0

Choose the word with correct spelling from the following options:

Options :

1. ✘ Evangalist

2. ✔ Evangelist



3. ✖ Evengelist

4. ✖ Evengalist

**Sub-Section Number:** 2  
**Sub-Section Id:** 89465876  
**Question Shuffling Allowed :** Yes

**Question Id : 8946583403 Question Type : COMPREHENSION Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No**

**Question Numbers : (196 to 200)**

**Read the following passage and answer the five questions (46-50) that follow:**

Gender issue has become so important across the world lately. Many people think that gender plays a very important role in the society. Public views on gender have become so exact on certain issues till they are being accepted as facts by the community. For instance, issues engrossing equality, inequality and stereotyping on gender nowadays attracted most people's attention.

United Nations Population Fund affirmed that equality will only exist when both men and women have an equal right in the power allocation of power and influence. And also they will have a corresponding chance to gain money and finance their life by working or doing businesses. They will as well have equivalent right of entry in education as well to share responsibility for the household chores. Society always tries to differentiate between what a man and a woman can achieve because it is understandable for a man and a woman to have different physical appearance, difference body size, different capabilities, different strength and etc. A man is continuously being described as a conqueror and always acts as an oppressor of woman's life. In some areas, such as military, leadership, role in family and chances of being promoted in workplace, it is found that women cannot survive just as men can do. Society incessantly believes that men can perform well in those areas just because the past had shown that men are better in those areas. This will prevent the women from showing their capabilities. This will lead to many other problems.

**Sub questions**

**Question Number : 196 Question Id : 8946583404 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical**

**Correct Marks : 1 Wrong Marks : 0**

**According to the passage, what has attracted most people's attention now a days?**

**Options :**

1. ✓ inequality and stereotyping

2. ✗ gender equality

3. ✗ atheism

4. ✗ equality only in education

Question Number : 197 Question Id : 8946583405 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When does equality exist in the society?

Options :

1. ✓ When men and women have an equal right in the power allocation.

2. ✗ When women gain more money in business.

3. ✗ When men and women earn equal money.

4. ✗ When men have the right in the power allocation.

Question Number : 198 Question Id : 8946583406 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the meaning of the word 'incessantly'?

Options :

1. ✓ invariably

2. ✗ ceasingly

3. ✗ seasonally

4. ✗ intermittently

Question Number : 199 Question Id : 8946583407 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the antonym of 'conqueror'?

Options :

1. ✘ vanquisher
2. ✘ subjugator
3. ✘ defeater
4. ✔ loser

Question Number : 200 Question Id : 8946583408 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes  
Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

According to the passage, why is man continuously being described as a conqueror over woman?

Options :

Man and woman do not have different physical appearance

1. ✘ and different capabilities.
2. ✘ Man and woman have different life styles.
3. ✘ Women get exhausted easily in all domains.
4. ✔ Past has shown that men are better in certain areas.