

Andhra Pradesh State Council of Higher Education

Notations :

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

Question Paper Name :	BSc Mathematics 19th Sep 2021 Shift1
Duration :	180
Total Marks :	200
Display Marks:	No
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console? (SA type of questions will be always auto saved) :	Yes
Is this Group for Examiner? :	No

Mathematics

Section Id : 477203402

Section Number :	1
Mandatory or Optional :	Mandatory
Number of Questions :	100
Section Marks :	100
Enable Mark as Answered Mark for Review and Clear Response :	Yes

Question Number : 1 Question Id : 47720320429 Display Question Number : Yes Is Question Mandatory : No

If $y = A \sin x + B \cos x$, then $y(0) =$

Options :

1. ✖ 0

2. ✖ 1

3. ✖ A

4. ✔ B

Question Number : 2 Question Id : 47720320430 Display Question Number : Yes Is Question Mandatory : No

A solution of the differential equation $\left(\frac{dy}{dx}\right)^2 - x \frac{dy}{dx} + y = 0$ is

Options :

1. ✖ $y = 2$

2. ✖ $y = 2x$

3. ✓ $y = 2x - 4$

4. ✗ $y = 2x + 4$

Question Number : 3 Question Id : 47720320431 Display Question Number : Yes Is Question Mandatory : No

The solution of the differential equation $\frac{dy}{dx} = 2x$ subject to the condition $y(1) = 4$ is

Options :

1. ✗ $y = x^2$

2. ✗ $y = x + 3$

3. ✓ $y = x^2 + 3$

4. ✗ $y = 2x^3$

Question Number : 4 Question Id : 47720320432 Display Question Number : Yes Is Question Mandatory : No

The orthogonal trajectories of the family $r = a(1 + \sin \theta)$ is

Options :

1. ✗ $r = k(\sin \theta)$

2. ✗ $r^2 = k(\cos \theta)^2$

3. ✗ $r = k(1 - \cos \theta)$

4. ✓ $r = k(1 - \sin \theta)$

Question Number : 5 Question Id : 47720320433 Display Question Number : Yes Is Question Mandatory : No

The general solution of $\frac{dy}{dx} = \frac{1}{x \tan y}$ is

Options :

1. ✓ $x \cos y = e^c$

2. ✗ $x \sin y = e^c$

3. ✗ $x \sin y = c$

4. ✗ $y \cos x = e^c$

Question Number : 6 Question Id : 47720320434 Display Question Number : Yes Is Question Mandatory : No

The degree of the differential equation $\left(\frac{d^2y}{dx^2}\right)^{5/2} - x \left(\frac{dy}{dx}\right)^7 + y = 0$ is

Options :

1. ✗ 3

2. ✓ 5

3. ✗ 1

4. ✖ 8

Question Number : 7 Question Id : 47720320435 Display Question Number : Yes Is Question Mandatory : No

$$(e^y + 1) \cos x \, dx + e^y \sin x \, dy = 0 \text{ is}$$

Options :

1. ✔ an exact differential equation
2. ✖ not an exact differential equation
3. ✖ a linear differential equation of first order in y
4. ✖ a linear differential equation of first order in x

Question Number : 8 Question Id : 47720320436 Display Question Number : Yes Is Question Mandatory : No

$$\text{The solution of } \frac{dy}{dx} - \frac{dx}{dy} = 0 \text{ is}$$

Options :

1. ✖ $(xy + c)(x^2 + y^2 + c) = 0$
2. ✔ $(x - y + c)(x + y - c) = 0$
3. ✖ $(xy - c)(x^2 + y^2 c) = 0$

4. ✖ $(x - y + c)(x + 2y + c) = 0$

Question Number : 9 Question Id : 47720320437 Display Question Number : Yes Is Question Mandatory : No

The solution of the Differential Equation $y = px + \log p$ is

Options :

1. ✔ $y = cx + \log c$

2. ✖ $y = px - \log c$

3. ✖ $y + px + \log c = 0$

4. ✖ $y + cx = 0$

Question Number : 10 Question Id : 47720320438 Display Question Number : Yes Is Question Mandatory : No

The solution of the Differential Equation $p^2 + 2px + py + 2xy = 0$ is

Options :

1. ✔ $(y + x^2 - a)(\log y + x - a) = 0$

2. ✖ $(y - x^2 - a)(\log y - x - a) = 0$

3. ✖ $(y - x^2 - a)(\log y + x + a) = 0$

4. ✖ $(x^2 - y - a)(\log y - x - a) = 0$

Question Number : 11 Question Id : 47720320439 Display Question Number : Yes Is Question Mandatory : No

Which law is not satisfied by the differential operator D

Options :

1. ✖ $D(u + v) = Du + Dv$

2. ✖ $D^m D^n u = D^n D^m u$

3. ✖ $D^m D^n u = D^{m+n} u$

4. ✔ $D \cap D \equiv D \text{ \& } D \cup D \equiv D$

Question Number : 12 Question Id : 47720320440 Display Question Number : Yes Is Question Mandatory : No

The complete solution of $\frac{d^3 y}{dx^3} + 9 \frac{d^2 y}{dx^2} + 27 \frac{dy}{dx} + 27y = 0$ is

Options :

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

2. ✖ $y = (c_1 + c_2 x + c_3 x^2) e^{3x}$

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

4. ✖ $y = (c_1 e^{3x} + c_2 e^{3x} + c_3 e^{3x})$

Question Number : 13 Question Id : 47720320441 Display Question Number : Yes Is Question Mandatory : No

The complete solution of $\frac{d^4 x}{dt^4} + 4x = 0$ is

Options :

1. ✖ $y = e^x(c_1 + c_2 x) \cos x + e^{-x}(c_3 + c_4 t) \sin x$

2. ✖ $y = e^x(c_1 \cos x + c_2 \sin x) + e^{-x}(c_3 \cos x + c_4 \sin x)$

3. ✖ $y = e^t(c_1 + c_2 t) \cos t + e^{-t}(c_3 + c_4 t) \sin t$

4. ✔ $x = e^t(c_1 \cos t + c_2 \sin t) + e^{-t}(c_3 \cos t + c_4 \sin t)$

Question Number : 14 Question Id : 47720320442 Display Question Number : Yes Is Question Mandatory : No

The complete solution of $\frac{d^2 y}{dx^2} + (a + b) \frac{dy}{dx} + aby = 0$ is

Options :

1. ✔ $y = Ae^{-ax} + Be^{-bx}$

2. ✖ $y = (A + Bx)e^{-ax}$

3. ✖ $y = Ae^{ax} + Be^{bx}$

4. ✖ $y = (A + Bx)e^{ax}$

Question Number : 15 Question Id : 47720320443 Display Question Number : Yes Is Question Mandatory : No

The complete solution of $\frac{d^2y}{dx^2} + 4\frac{dy}{dx} - 12y = 0$, given that $y = 0$ and $\frac{dy}{dx} = 1$, when $x = 0$.

Options :

1. ✖ $y = \frac{1}{8}(e^{2x} - xe^{-6x})$

2. ✔ $y = -\frac{1}{8}e^{-6x} + \frac{1}{8}e^{2x}$

3. ✖ $y = e^{-6x} + e^{2x}$

4. ✖ $y = e^{-6x} - \frac{1}{8}e^{2x}$

Question Number : 16 Question Id : 47720320444 Display Question Number : Yes Is Question Mandatory : No

The number of arbitrary constants in particular integral of linear differential equation $(D^n + a_1D^{n-1} + a_2D^{n-2} + \dots + a_n)y = 0$ is / are

Options :

1. ✔ 0

2. ✖ 1

3. ✖ n

4. ✖ Infinite

Question Number : 17 Question Id : 47720320445 Display Question Number : Yes Is Question Mandatory : No

$\frac{1}{D-a} X = \text{_____}$ where X is a function of constant

Options :

1. ✔ $e^{ax} \int X e^{-ax} dx$

2. ✖ $e^{-ax} \int x e^{ax} dx$

3. ✖ $\int x e^{-ax} dx$

4. ✖ $\int x e^{ax} dx$

Question Number : 18 Question Id : 47720320446 Display Question Number : Yes Is Question Mandatory : No

Which one of the following is not correct

Options :

1. ✖ $\frac{1}{f(D)} e^{ax} = \frac{1}{f(a)} e^{ax}$, provided $f(a) \neq 0$

2. ✖

$$\frac{1}{f(D)} e^{ax} = \frac{x^k}{\phi(a)k!} e^{ax}, \text{ provided } f(D) = (D - a)^k \phi(D)$$

3. ✓ $\frac{1}{f(D)} e^{ax} = x \frac{1}{f(a)} e^{ax}, \text{ provided } f(a) \neq 0$

4. ✗ $\frac{1}{D - 1} e^x = x e^x$

Question Number : 19 Question Id : 47720320447 Display Question Number : Yes Is Question Mandatory : No

Particular Integral of $(D^2 - 4)y = \sin 3x$ is

Options :

1. ✗ $\frac{1}{13} \sin 3x$

2. ✓ $-\frac{1}{13} \sin 3x$

3. ✗ $\frac{1}{13} x \sin 3x$

4. ✗ $-\frac{1}{13} x \sin 3x$

Question Number : 20 Question Id : 47720320448 Display Question Number : Yes Is Question Mandatory : No

Particular Integral of $(D^2 + 4)(D^2 + 1)y = \cos 2x$ is

Options :

1. ✗

$\frac{1}{12}x \sin 2x$

2. ✖ $-\frac{1}{6}x \sin 2x$

3. ✔ $-\frac{1}{12}x \sin 2x$

4. ✖ $\frac{1}{6}x \sin 2x$

Question Number : 21 Question Id : 47720320449 Display Question Number : Yes Is Question Mandatory : No

Let a, b be integers with GCD=1 then the number of primes that exist in the form $ax + b$ is

Options :

1. ✖ finite

2. ✖ one

3. ✔ infinitely many

4. ✖ Zero

Question Number : 22 Question Id : 47720320450 Display Question Number : Yes Is Question Mandatory : No

If $\mathbb{Z}$ is the set of all integers then

Options :

1. ✖ usual addition is not a binary operation in $\mathbb{Z}$
2. ✖ usual subtraction is not a binary operation in $\mathbb{Z}$
3. ✖ usual multiplication is not a binary operation in $\mathbb{Z}$
4. ✔ usual division is not a binary operation in $\mathbb{Z}$

Question Number : 23 Question Id : 47720320451 Display Question Number : Yes Is Question Mandatory : No

The set Q_1 of all rational numbers other than 1 with the operation defined by $a * b = a + b - ab$ form a group. Then the inverse of -3 is

Options :

1. ✖ 3
2. ✖ 4
3. ✔ $\frac{3}{4}$
4. ✖ $\frac{4}{5}$

Question Number : 24 Question Id : 47720320452 Display Question Number : Yes Is Question Mandatory : No

The number of even permutations of degree n is

Options :

1. ✖ $\frac{n}{2}$

2. ✖ $n!$

3. ✖ n

4. ✔ $\frac{n!}{2}$

Question Number : 25 Question Id : 47720320453 Display Question Number : Yes Is Question Mandatory : No

The order of the element 1 in the group $(\{0,1,2,3,4,5\}, +_6)$ is

Options :

1. ✔ 6

2. ✖ 4

3. ✖ 3

4. ✖ 1

Question Number : 26 Question Id : 47720320454 Display Question Number : Yes Is Question Mandatory : No

The number of generators of a cyclic group of order 231 is

Options :

- 1. ✖ 30
- 2. ✖ 60
- 3. ✔ 120
- 4. ✖ 240

Question Number : 27 Question Id : 47720320455 Display Question Number : Yes Is Question Mandatory : No

Which of the following statement is correct?

Options :

- 1. ✖ Every homomorphism is an isomorphism
- 2. ✔ Every isomorphism is a homomorphism
- 3. ✖ Homomorphism and isomorphism are not related
- 4. ✖ Every endomorphism is an isomorphism

Question Number : 28 Question Id : 47720320456 Display Question Number : Yes Is Question Mandatory : No

If a, b are any two elements of a group G and H any subgroup of G then

Options :

1. ✖ $a \in Hb \Leftrightarrow aH = bH$

2. ✖ $a \in bH \Leftrightarrow Ha = Hb$

3. ✖ $a \in Hb \Rightarrow Ha \neq Hb$

4. ✔ $a \in Hb \Leftrightarrow Ha = Hb$

Question Number : 29 Question Id : 47720320457 Display Question Number : Yes Is Question Mandatory : No

If $h \in H, x \in G$ and $H \subset G$ then H is a normal subgroup of G if and only if

Options :

1. ✔ $xhx^{-1} = H$

2. ✖ $hxx^{-1} \in G$

3. ✖ $hxx^{-1} = H$

4. ✖ $xhx^{-1} = G$

Question Number : 30 Question Id : 47720320458 Display Question Number : Yes Is Question Mandatory : No

If $f = (1\ 3\ 5)$ and $g = (3\ 4)$ are two cyclic permutations of degree 5, then, $fg =$

Options :

1. ✖ (1 2 3 4)

2. ✖ (2 3 4 5)

3. ✔ (1 3 4 5)

4. ✖ (1 4 5)

Question Number : 31 Question Id : 47720320459 Display Question Number : Yes Is Question Mandatory : No

If $\vec{r} = (5 \sin t)\vec{i} - (2 \cos t)\vec{j} + 7t\vec{k}$ then $\frac{d^2\vec{r}}{dt^2} =$

Options :

1. ✖ $(5 \cos t)\vec{i} + (2 \sin t)\vec{j} + 7\vec{k}$

2. ✔ $(-5 \sin t)\vec{i} + (2 \cos t)\vec{j}$

3. ✖ $(-5 \cos t)\vec{i} + (2 \sin t)\vec{j}$

4. ✖ $(5 \cos t)\vec{i} - 2 \sin t\vec{j} + 7\vec{k}$

Question Number : 32 Question Id : 47720320460 Display Question Number : Yes Is Question Mandatory : No

The Directional derivative of $\phi = xyz$ at point $P(-1, 1, 3)$ in the direction $\vec{i} - 2\vec{j} + 2\vec{k}$ is

Options :

1. ✖ $\frac{1}{3}$

2. ✖ $\frac{2}{3}$

3. ✖ $\frac{5}{3}$

4. ✔ $\frac{7}{3}$

Question Number : 33 Question Id : 47720320461 Display Question Number : Yes Is Question Mandatory : No

If $f = (2xy + z^3) + x^2 + 3xz^2$ then grad f at the point $(1,1,1)$ is

Options :

1. ✔ $7\bar{i} + 2\bar{j} + 9\bar{k}$

2. ✖ $21\bar{i} + 3\bar{j} + 7\bar{k}$

3. ✖ $-15\bar{i} + 3\bar{j} + 7\bar{k}$

4. ✖ $2\bar{i} - 3\bar{j} + 5\bar{k}$

Question Number : 34 Question Id : 47720320462 Display Question Number : Yes Is Question Mandatory : No

If a particle moves so that its position vector is given by $\vec{r} = (2t - \cos t)\vec{i} + (-1 + \sin t)\vec{j} + (3 \cos 2t)\vec{k}$, then the velocity of the particle at $t = \pi/3$ is

Options :

1. ✖ $3\vec{i} - \vec{j} + 6\vec{k}$

2. ✖ $\vec{i} - \vec{j} - \vec{k}$

3. ✖ $\vec{i} + \vec{j} - \vec{k}$

4. ✔ $3\vec{i} + \vec{j} - 6\vec{k}$

Question Number : 35 Question Id : 47720320463 Display Question Number : Yes Is Question Mandatory : No

If $\vec{f} = (3y + 5z)\vec{i} + (3x - az)\vec{j} + (5x - 4y)\vec{k}$ is an irrotational vector, then $a =$

Options :

1. ✔ 4

2. ✖ 5

3. ✖ 3

4. ✖ 1

Question Number : 36 Question Id : 47720320464 Display Question Number : Yes Is Question Mandatory : No

A unit vector normal to the surface of the ellipsoid at (2,2,1), if the ellipsoid is defined as $f(x, y, z) = x^2 + y^2 + z^2 - 10$, is

Options :

1. ✓ $\frac{1}{3}(2\bar{i} + 2\bar{j} + \bar{k})$

2. ✗ $\frac{1}{\sqrt{3}}(\bar{i} + \bar{j} + \bar{k})$

3. ✗ $\frac{1}{\sqrt{6}}(\bar{i} + 2\bar{j} + \bar{k})$

4. ✗ $\frac{2}{\sqrt{3}}(\bar{i} + \bar{j} + \bar{k})$

Question Number : 37 Question Id : 47720320465 Display Question Number : Yes Is Question Mandatory : No

The divergence of $\vec{f}(x, y, z) = \frac{x\bar{i} + y\bar{j} + z\bar{k}}{(x^2 + y^2 + z^2)^{\frac{3}{2}}}$, $(x, y, z) \neq (0, 0, 0)$ is

Options :

1. ✓ 0

2. ✗ 1

3. ✗ 2

4. ✗ 3

Question Number : 38 Question Id : 47720320466 Display Question Number : Yes Is Question

Mandatory : No

Curl of $\vec{f}(x, y, z) = 2xy\vec{i} + (x^2 + z^2)\vec{j} + 2zy\vec{k}$ is

Options :

1. ✖ $xy^2\vec{i} - 2xyz\vec{k}$ & irrotational

2. ✔ $\vec{0}$ & irrotational

3. ✖ $xy^2\vec{i} - 2xyz\vec{k}$ & rotational

4. ✖ $\vec{0}$ & rotational

Question Number : 39 Question Id : 47720320467 Display Question Number : Yes Is Question

Mandatory : No

A vector field which has vanishing divergence is called as

Options :

1. ✔ Solenoidal field

2. ✖ Rotational field

3. ✖ Hemispheroidal field

4. ✖ Irrotational field

Question Number : 40 Question Id : 47720320468 Display Question Number : Yes Is Question

Mandatory : No

The curl of vector field $\vec{f}(x, y, z) = x^2\vec{i} + 2z\vec{j} - y\vec{k}$ is

Options :

1. ✓ $-3\vec{i}$

2. ✗ $-3\vec{j}$

3. ✗ $-3\vec{k}$

4. ✗ $\vec{0}$

Question Number : 41 Question Id : 47720320469 Display Question Number : Yes Is Question Mandatory : No

If x and y are given by $x = 3t^2$, $y = t^3 - 1$ for t varying from 0 to 1, then $\int x^2 y dx =$

Options :

1. ✗ 3

2. ✓ -3

3. ✗ 1

4. ✗ -1

Question Number : 42 Question Id : 47720320470 Display Question Number : Yes Is Question Mandatory : No

If C is the curve $y = x^3$, $0 \leq x \leq 1$, then $\int_C (xy^2 dx + 5x^2 y dy) =$

Options :

1. ✓ 2

2. ✗ 3

3. ✗ 4

4. ✗ 5

Question Number : 43 Question Id : 47720320471 Display Question Number : Yes Is Question

Mandatory : No

If C is a closed curve, S is any surface bounded by C and $\vec{F}$ is a vector field whose components have continuous derivatives in an open region of R^3 containing S , then, $\oint_C \vec{F} \cdot d\vec{r} =$

Options :

1. ✗ $\iint (\nabla \times \vec{F}) \cdot d\vec{F}$

2. ✗ $\iint (\nabla \times \vec{F}) \cdot \vec{N} ds$

3. ✗ $\iint \nabla \cdot \vec{N} ds$

4. ✓ $\iint_S (\nabla \times \vec{F}) \cdot d\vec{s}$

Question Number : 44 Question Id : 47720320472 Display Question Number : Yes Is Question

Mandatory : No

The surface integral $\iint_S (\mathbf{F} \cdot \mathbf{n} \, ds)$ over the surface S of the sphere $x^2 + y^2 + z^2 = 9$, where $\mathbf{F} = (x + y)\mathbf{i} + (x + z)\mathbf{j} + (y + z)\mathbf{k}$ and $\mathbf{n}$ is the unit outward surface normal, yields

Options :

1. ✖ 27π

2. ✔ 72π

3. ✖ 36π

4. ✖ 47π

Question Number : 45 Question Id : 47720320473 Display Question Number : Yes Is Question Mandatory : No

If S is the surface of the sphere $x^2 + y^2 + z^2 = 1$, then by Gauss divergence theorem, $\int_C (ax\bar{\mathbf{i}} + by\bar{\mathbf{j}} + cz\bar{\mathbf{k}}) \cdot \bar{\mathbf{n}} \, ds =$

Options :

1. ✖ $\frac{4\pi}{3}(a + b)$

2. ✖ $\frac{4\pi}{3}(b + c)$

3. ✖ $\frac{4\pi}{3}(c + a)$

4. ✔ $\frac{4\pi}{3}(a + b + c)$

Question Number : 46 Question Id : 47720320474 Display Question Number : Yes Is Question Mandatory : No

The value of $\int (xdy - ydx)$ around the circle $x^2 + y^2 = 1$ is

Options :

1. ✖ 0

2. ✖ π

3. ✔ 2π

4. ✖ $\frac{\pi}{2}$

Question Number : 47 Question Id : 47720320475 Display Question Number : Yes Is Question Mandatory : No

For any closed surface S $\iint_S \text{curl } \vec{F} \cdot \hat{n} ds =$

Options :

1. ✔ 0

2. ✖ π

3. ✖ 2π

4. ✖ 1

Question Number : 48 Question Id : 47720320476 Display Question Number : Yes Is Question Mandatory : No

$\int xy \, dx dy$ over the positive quadrant of the circle $x^2 + y^2 = a^2$

Options :

1. ✓ $\frac{a^4}{8} \pi$

2. ✗ $\frac{a^4}{4} \pi$

3. ✗ $\frac{a^2}{8} \pi$

4. ✗ $\frac{a^2}{4} \pi$

Question Number : 49 Question Id : 47720320477 Display Question Number : Yes Is Question Mandatory : No

The area of a Cardioid $y = a(1 + \cos \theta)$ is

Options :

1. ✓ $\frac{3\pi a^2}{2}$

2. ✗ $3\pi a^2$

3. ✗ $\frac{3\pi a^2}{4}$

4. ✗

$$\frac{3\pi a^2}{8}$$

Question Number : 50 Question Id : 47720320478 Display Question Number : Yes Is Question Mandatory : No

If $\vec{F} = x^2\vec{i} + y^2\vec{j} + z^2\vec{k}$ and S is the surface of the sphere $x^2 + y^2 + z^2 = 4$ above the XY plane, then $\int_S (\nabla \times \vec{F}) \cdot \vec{N} ds =$

Options :

1. ✖ 2π

2. ✖ -2π

3. ✔ -4π

4. ✖ 4π

Question Number : 51 Question Id : 47720320479 Display Question Number : Yes Is Question Mandatory : No

If the plane $2ax - 3ay + 4az + 6 = 0$ passes through the midpoint of the line joining the centres of the spheres $x^2 + y^2 + z^2 + 6x - 8y - 2z = 13$ and $x^2 + y^2 + z^2 - 10x + 4y - 2z = 4$, then $a =$

Options :

1. ✖ -1

2. ✖ 1

3. ✔ -2

4. ✖ 2

Question Number : 52 Question Id : 47720320480 Display Question Number : Yes Is Question Mandatory : No

The co-ordinates of the point in which the line joining the points $(3, 5, -7)$ and $(-2, 1, 8)$ and intersected by the YZ -plane are

Options :

1. ✔ $(0, \frac{13}{5}, 2)$

2. ✖ $(0, -\frac{13}{5}, -2)$

3. ✖ $(0, -\frac{13}{5}, \frac{2}{5})$

4. ✖ $(0, \frac{13}{5}, \frac{2}{5})$

Question Number : 53 Question Id : 47720320481 Display Question Number : Yes Is Question Mandatory : No

A line joining the points $(1, 1, 1)$ and $(2, 2, 2)$ intersects the plane $x + y + z = 9$ at the point

Options :

1. ✖ $(3, 4, 2)$

2. ✖ $(2, 3, 4)$

3. ✖ (3,2,4)

4. ✔ (3,3,3)

Question Number : 54 Question Id : 47720320482 Display Question Number : Yes Is Question Mandatory : No

The lines $\frac{x-2}{1} = \frac{y-3}{1} = \frac{z-4}{-k}$ and $\frac{x-1}{k} = \frac{y-4}{2} = \frac{z-5}{1}$ are coplanar, if

Options :

1. ✖ $K = 0$ or -1

2. ✖ $k = 1$ or -1

3. ✔ $k = 0$ or -3

4. ✖ $k = 3$ or -3

Question Number : 55 Question Id : 47720320483 Display Question Number : Yes Is Question Mandatory : No

The distance of a point $(1, -2, 3)$ from the plane $x - y + z = 5$ and parallel to the line $\frac{x}{2} = \frac{y}{3} = \frac{z}{-6}$ is

Options :

1. ✔ 1

2. ✖ 7

3. ✖

4. ✖ 13

Question Number : 56 Question Id : 47720320484 Display Question Number : Yes Is Question Mandatory : No

A plane passes through the points of intersection of the spheres $x^2 + y^2 + z^2 = 36$ and $x^2 + y^2 + z^2 - 4x - 4y - 8z - 12 = 0$. A line joining the centres of the spheres intersects this plane at

Options :

1. ✖ (1,1,1)

2. ✔ (1,1,2)

3. ✖ (1,2,1)

4. ✖ (2,1,1)

Question Number : 57 Question Id : 47720320485 Display Question Number : Yes Is Question Mandatory : No

The equation of the tangent plane to the sphere $x^2 + y^2 + z^2 + 2x - 6y + 1 = 0$ at the point $(1, 2, -2)$ is

Options :

1. ✖ $x - 2y + z + 5 = 0$

2. ✖ $x + y + z - 1 = 0$

3. ✓ $2x - y - 2z - 4 = 0$

4. ✗ $2x + y - 2z - 8 = 0$

Question Number : 58 Question Id : 47720320486 Display Question Number : Yes Is Question Mandatory : No

The point which is farthest on the sphere $x^2 + y^2 + z^2 = 144$ from the point $(2,4,4)$ is

Options :

1. ✗ $(3,6,6)$

2. ✗ $(-3, -6, -6)$

3. ✗ $(4,8,8)$

4. ✓ $(-4, -8, -8)$

Question Number : 59 Question Id : 47720320487 Display Question Number : Yes Is Question Mandatory : No

If the sphere $k(x^2 + y^2 + z^2) - 15x - 25y - 11z = 0$ passes through the point $(1,2,3)$ then its centre is

Options :

1. ✗ $\left(\frac{15}{7}, \frac{25}{7}, \frac{11}{7}\right)$

2. ✓ $\left(\frac{15}{14}, \frac{25}{14}, \frac{11}{14}\right)$

3. ✖ $\left(\frac{30}{7}, \frac{50}{7}, \frac{22}{7}\right)$

4. ✖ $\left(\frac{15}{28}, \frac{25}{28}, \frac{11}{28}\right)$

Question Number : 60 Question Id : 47720320488 Display Question Number : Yes Is Question Mandatory : No

The area of the circle formed by the intersection of the spheres $x^2 + y^2 + z^2 = 36$ and $x^2 + y^2 + z^2 - 4x - 4y - 8z - 12 = 0$ is

Options :

1. ✖ 9π

2. ✖ 18π

3. ✖ 27π

4. ✔ 30π

Question Number : 61 Question Id : 47720320489 Display Question Number : Yes Is Question Mandatory : No

The Archimedean property of the real numbers is

Options :

1. ✖ If x and y are real numbers such that $x < y$, then $\exists$ a rational number r such that $x < r < y$

2. ✖ Between any two distinct real numbers there is an irrational number

3. ✖ A union of arbitrary collection of open sets in $\mathbb{R}$ is an open set

4. ✔ The set $\mathbb{N}$ of natural numbers is not bounded above

Question Number : 62 Question Id : 47720320490 Display Question Number : Yes Is Question Mandatory : No

The series $\frac{1}{3^p} + \frac{1}{5^p} + \frac{1}{7^p} + \frac{1}{9^p} + \dots$ is

Options :

1. ✖ convergent if $P < 1$

2. ✖ convergent if $P = 1$

3. ✔ convergent if $P > 1$

4. ✖ divergent if $P = 1$

Question Number : 63 Question Id : 47720320491 Display Question Number : Yes Is Question Mandatory : No

If $s_n = 1 - \frac{1}{2!} + \dots + \frac{(-1)^n}{n!}$, then the incorrect statement among the given options is

Options :

1. ✖ $\{s_n\}$ is a Cauchy sequence

2. ✔ $\{s_n\}$ is not a convergent sequence

3. ✖ $\{s_n\}$ is a bounded sequence

4. ✖ $\{s_n\}$ is a convergent sequence

Question Number : 64 Question Id : 47720320492 Display Question Number : Yes Is Question Mandatory : No

If $0 < x < y$, then $\lim_{n \rightarrow \infty} (y^n + x^n)^{\frac{1}{n}} =$

Options :

1. ✖ e

2. ✖ x

3. ✔ y

4. ✖ 0

Question Number : 65 Question Id : 47720320493 Display Question Number : Yes Is Question Mandatory : No

If $f(x) = \frac{|x|}{x}$, $x \neq 0$, then,

Options :

1. ✖ f is continuous at $x = 0$ for $f(0) = 0$

2. ✖ f is continuous at $x = 0$ for $f(0) \neq 1$

3. ✖ f is continuous at $x = 0$ for $f(0) = 1$

4. ✔ f cannot be continuous at $x = 0$ for any value of $f(0)$

Question Number : 66 Question Id : 47720320494 Display Question Number : Yes Is Question Mandatory : No

The point of discontinuity of the function $f(x) = \begin{cases} \frac{\sin x}{x} & x \neq 0 \\ 0 & x = 0 \end{cases}$ is

Options :

1. ✖ $x = 1$

2. ✖ $x = -1$

3. ✔ $x = 0$

4. ✖ $x = \pi/2$

Question Number : 67 Question Id : 47720320495 Display Question Number : Yes Is Question Mandatory : No

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

Options :

1. ✖ $\pi/2$

2. ✖ ∞

3. ✖ 0

4. ✔ 1

Question Number : 68 Question Id : 47720320496 Display Question Number : Yes Is Question Mandatory : No

For the function $x^3 - x^2 - 14x + 24$ on $[-4, 3]$, the value of $c \in (-4, 3)$ satisfying Rolle's Theorem is

Options :

1. ✔ $\frac{1 - \sqrt{43}}{3}$

2. ✖ $\frac{2 + \sqrt{43}}{3}$

3. ✖ $\frac{2 - \sqrt{43}}{3}$

4. ✖ $\frac{3 + \sqrt{43}}{3}$

Question Number : 69 Question Id : 47720320497 Display Question Number : Yes Is Question Mandatory : No

Let $y = \frac{1}{3x-2}$ then value of y_2 at $x = 1$ is

Options :

1. ✖ 3

2. ✖ 9

3. ✓ 18

4. ✗ 36

Question Number : 70 Question Id : 47720320498 Display Question Number : Yes Is Question Mandatory : No

$f(x) = \tan x$ is differentiable at every point in

Options :

1. ✗ $\mathbb{R}$

2. ✓ $\mathbb{R} - \left\{ (2n+1)\frac{\pi}{2} \right\}$

3. ✗ $\mathbb{R} - \{n\pi/n \in \mathbb{Z}\}$

4. ✗ $\mathbb{R}^+$

Question Number : 71 Question Id : 47720320499 Display Question Number : Yes Is Question Mandatory : No

if f_1 and f_2 are two real valued bounded functions defined on $[a, b]$, then for every partition P on $[a, b]$:

Options :

1. ✗ $U(P, f_1 + f_2) = U(P, f_1) + U(P, f_2)$

2. ✓ $U(P, f_1 + f_2) \leq U(P, f_1) + U(P, f_2)$

3. ✖ $U(P, f_1 + f_2) \geq U(P, f_1) + U(P, f_2)$

4. ✖ $U(P, f_1 + f_2) \neq U(P, f_1) + U(P, f_2)$

Question Number : 72 Question Id : 47720320500 Display Question Number : Yes Is Question Mandatory : No

A function f is Riemann integrable on $[a, b]$ if and only if

Options :

1. ✖ $\int_a^{\bar{b}} f \, dx$ alone exists

2. ✖ $\int_{\bar{a}}^b f \, dx$ alone exists

3. ✖ $\int_a^{\bar{b}} f \, dx \neq \int_{\bar{a}}^b f \, dx$

4. ✔ $\int_a^{\bar{b}} f \, dx = \int_{\bar{a}}^b f \, dx$

Question Number : 73 Question Id : 47720320501 Display Question Number : Yes Is Question Mandatory : No

For function $f(x) = x$ in the interval $[0, 3]$ and let $P\{0, 1, 2, 3\}$ be the partition of $[0, 3]$, then the value of $L\{P, f\}$ is:

Options :

1. ✖ 0

2. ✓ 3

3. ✗ 6

4. ✗ 9

Question Number : 74 Question Id : 47720320502 Display Question Number : Yes Is Question Mandatory : No

$$\int_{-3}^1 |x| dx =$$

Options :

1. ✗ -2

2. ✓ 5

3. ✗ 4

4. ✗ 0

Question Number : 75 Question Id : 47720320503 Display Question Number : Yes Is Question Mandatory : No

Characteristic of Ring Z_4 is

Options :

1. ✓ 4

2. ✗ 2

3. ✖ 3

4. ✖ 0

Question Number : 76 Question Id : 47720320504 Display Question Number : Yes Is Question Mandatory : No

The Characteristic of an integral domain is

Options :

1. ✖ zero

2. ✖ prime

3. ✖ Either 1 or integer

4. ✔ Either 0 or prime

Question Number : 77 Question Id : 47720320505 Display Question Number : Yes Is Question Mandatory : No

Non-commutative ring (not necessarily with multiplicative identity) of order n exists for some prime p if and only if

Options :

1. ✖ $p^2 = n$

2. ✔ $p^2 | n$

3. ✖ $P^2 \leq n$

4. ✖ $P^2 \geq n$

Question Number : 78 Question Id : 47720320506 Display Question Number : Yes Is Question Mandatory : No

Let f be a ring homomorphism, then f is one-one if and only $\ker f = \underline{\hspace{1cm}}$

Options :

1. ✖ i

2. ✖ 1

3. ✖ $\{\pm 1\}$

4. ✔ $\{0\}$

Question Number : 79 Question Id : 47720320507 Display Question Number : Yes Is Question Mandatory : No

The polynomial $x^2 - x + 1$ is irreducible over

Options :

1. ✖ any finite field

2. ✔ F_2

3. ✖ $\mathbb{Q}$ and F_1

4. ✖ F_2 and F_1

Question Number : 80 Question Id : 47720320508 Display Question Number : Yes Is Question Mandatory : No

If a polynomial $p[x]$ is irreducible in $F(x)$ then

Options :

1. ✖ $F(x) | \langle p[x] \rangle$ is not a field

2. ✔ $F(x) | \langle p[x] \rangle$ is a field

3. ✖ $F(x) | \langle p[x] \rangle$ is not a ring

4. ✖ $F(x) | \langle p[x] \rangle$ is not an integral domain

Question Number : 81 Question Id : 47720320509 Display Question Number : Yes Is Question Mandatory : No

Let V be a vector space over a field F . A non – empty subset W of V is a subspace of V if and only if for all $w_1, w_2 \in W, \alpha, \beta \in F$

Options :

1. ✖ $\alpha w_1 - \beta w_2 \notin W$

2. ✖ $\alpha w_1 + \beta w_2 \notin W$

3. ✓ $\alpha w_1 + \beta w_2 \in W$

4. ✗ $(\alpha w_1)(\beta w_2) \in W$

Question Number : 82 Question Id : 47720320510 Display Question Number : Yes Is Question Mandatory : No

The union of two subspaces U and W of a vector space V is also a subspace of V if and only if

Options :

1. ✗ $U + W = \emptyset$

2. ✗ $U \cup W = \emptyset$

3. ✗ $U \cap W = \emptyset$

4. ✓ either $U \subset W$ or $W \subset U$

Question Number : 83 Question Id : 47720320511 Display Question Number : Yes Is Question Mandatory : No

If S and T are subsets of a vector space V , then $S \subset T$ implies that

Options :

1. ✗ $\langle S \rangle \cap \langle T \rangle = \emptyset$

2. ✗ $\langle T \rangle \subset \langle S \rangle$

3. ✓ $\langle S \rangle \subset \langle T \rangle$

4. ✖ $\langle S \rangle \cup \langle T \rangle = V$

Question Number : 84 Question Id : 47720320512 Display Question Number : Yes Is Question Mandatory : No

A vector space V is said to be finite dimensional if there is _____ subset S of V such that $\langle S \rangle = V$

Options :

1. ✖ an empty

2. ✖ an finite

3. ✔ a finite

4. ✖ a unique

Question Number : 85 Question Id : 47720320513 Display Question Number : Yes Is Question Mandatory : No

Which of the following is linear mapping

Options :

1. ✖ $T: \mathbb{R}^2 \rightarrow \mathbb{R}^2$ such that $T(2, -5) = (2, 3)$ and $T(-2, 5) = (1, 0)$

2. ✖ $T: \mathbb{R}^3 \rightarrow \mathbb{R}^3$ such that $T(1, 2, 3) = (-1, 0, 0)$, $T(0, 4, -2) = (3, -1, 0)$ and $T(1, 6, 1) = (1, 7, -2)$

3. ✖ $T: \mathbb{R}^2 \rightarrow \mathbb{R}^2$ such that $T(1, 1) = (2, 0)$ and $T(2, 2) = (7, 2)$

4. ✓ $T: \mathbb{R}^2 \rightarrow \mathbb{R}^2$ such that $T(3,2) = (2, -4)$ and $T(1,1) = (0,2)$

Question Number : 86 Question Id : 47720320514 Display Question Number : Yes Is Question Mandatory : No

Let $T: \mathbb{R}^2 \rightarrow \mathbb{R}^2$ such that $T(1,2) = (2,3)$ and $T(0,1) = (1,4)$ then

Options :

1. ✓ $T(x,y) = (y, -5x + 4y)$

2. ✗ $T(x,y) = (2x, \frac{3}{2}y)$

3. ✗ $T(x,y) = (x + 1, 5x + 4y)$

4. ✗ $T(x,y) = (2x + y, 3x + 4y)$

Question Number : 87 Question Id : 47720320515 Display Question Number : Yes Is Question Mandatory : No

Let $P_2[x]$ be the vector space of all polynomials over $\mathbb{R}$ of degree less than or equal to 2. Let D be the differentiation operator on $P_2[x]$. Then matrix of D relative to basis $[x^2, 1, x]$ is equal to

Options :

1. ✓ $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 1 \\ 2 & 0 & 0 \end{bmatrix}$

2. ✗ $\begin{bmatrix} 0 & 0 & 0 \\ 2 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

3. ✖ $\begin{bmatrix} 0 & 0 & 2 \\ 0 & 0 & 0 \\ 0 & 1 & 0 \end{bmatrix}$

4. ✖ $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 2 \\ 0 & 1 & 0 \end{bmatrix}$

Question Number : 88 Question Id : 47720320516 Display Question Number : Yes Is Question Mandatory : No

Let U and V be two vector space over the same field R . If $T: U \rightarrow V$ be a linear map then the incorrect statement among the given options is

Options :

1. ✖ $T(u_1 - u_2) = T(u_1) - T(u_2), u_1, u_2 \in U$

2. ✖ $T(u_1 + u_2) = T(u_1) + T(u_2), u_1, u_2 \in U$

3. ✔ $T(u_1 \cdot u_2) = T(u_1) \cdot T(u_2)$

4. ✖ $T(3u_1 + 2u_2) = 3T(u_1) + 2T(u_2)$

Question Number : 89 Question Id : 47720320517 Display Question Number : Yes Is Question Mandatory : No

Cramer's Rule is useful when the given system of equations has

Options :

1. ✖ finite of solutions

2. ✔ unique solution

3. ✖ infinite number of solutions

4. ✖ no solution

Question Number : 90 Question Id : 47720320518 Display Question Number : Yes Is Question Mandatory : No

If the unique solution of the system of simultaneous equations $x_1 + x_2 - 3x_3 = -6$, $-7x_2 + 7x_3 = 7$, $3x_3 = 9$ is $x_1 = a, x_2 = b, x_3 = c$, then, $a =$

Options :

1. ✔ 1

2. ✖ -1

3. ✖ 2

4. ✖ 3

Question Number : 91 Question Id : 47720320519 Display Question Number : Yes Is Question Mandatory : No

Let M_{ij} be the ij^{th} minor of an element a_{ij} of a square matrix A of order n .
Then the ij^{th} cofactor of a_{ij} is

Options :

1. ✖ M_{ij}

2. ✖ $-M_{ij}$

3. ✖ $\pm M_{ij}$

4. ✔ $(-1)^{i+j} M_{ij}$

Question Number : 92 Question Id : 47720320520 Display Question Number : Yes Is Question Mandatory : No

Let A and B be matrices of order 6 such that $|AB^2| = 144$ and $|A^2B^2| = 72$, then $|A| =$

Options :

1. ✖ 2

2. ✔ $\frac{1}{2}$

3. ✖ -2

4. ✖ $-\frac{1}{2}$

Question Number : 93 Question Id : 47720320521 Display Question Number : Yes Is Question Mandatory : No

If a, b, c are different numbers and $\begin{bmatrix} 0 & x+b & x^2+c \\ x-b & 0 & x^2-a \\ x^3-c & x+a & 0 \end{bmatrix}$ is a singular matrix, then $x =$

Options :

1. ✔ 0

2. ✖ a

3. ✖ b

4. ✖ c

Question Number : 94 Question Id : 47720320522 Display Question Number : Yes Is Question Mandatory : No

If λ_1, λ_2 are the eigen values of the matrix $A = \begin{bmatrix} 5 & 3 \\ 3 & 5 \end{bmatrix}$ then $\lambda_1 + \lambda_2 =$

Options :

1. ✖ 2

2. ✖ 8

3. ✔ 10

4. ✖ 16

Question Number : 95 Question Id : 47720320523 Display Question Number : Yes Is Question Mandatory : No

$A = \begin{bmatrix} 2 & 0 & 0 \\ 1 & 2 & 1 \\ -1 & 0 & 1 \end{bmatrix}$ then $A^{-1} =$

Options :

1. ✖ $\frac{1}{2} \begin{bmatrix} -1 & -1 & 0 \\ 1 & 0 & -1 \\ -1 & 1 & 1 \end{bmatrix}$

2. ✓ $\frac{1}{2} \begin{bmatrix} 1 & 0 & 0 \\ -1 & 1 & -1 \\ 1 & 0 & 2 \end{bmatrix}$

3. ✗ $\frac{1}{2} \begin{bmatrix} 0 & 0 & 0 \\ 1 & 1 & -1 \\ -1 & 0 & 1 \end{bmatrix}$

4. ✗ $\frac{1}{2} \begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & -1 \\ -1 & 0 & 1 \end{bmatrix}$

Question Number : 96 Question Id : 47720320524 Display Question Number : Yes Is Question Mandatory : No

If the eigen values of the matrix $\begin{bmatrix} 3 & 7 & 11 \\ 0 & 5 & 13 \\ 0 & 0 & 7 \end{bmatrix}$ are α, β, γ and $\beta < \alpha < \gamma$ then $\beta + \gamma =$

Options :

1. ✗ 8

2. ✗ 12

3. ✗ 15

4. ✓ 10

Question Number : 97 Question Id : 47720320525 Display Question Number : Yes Is Question Mandatory : No

The normalized vector of $V = (2, 3) \in \mathbb{R}^2$, with respect to the inner product $\langle u, v \rangle = x_1 y_1 + 2x_2 y_2$ is

Options :

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

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

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

4. ✔ $\left(\frac{2}{3\sqrt{2}}, \frac{3}{3\sqrt{2}}\right)$

Question Number : 98 Question Id : 47720320526 Display Question Number : Yes Is Question Mandatory : No

If $\|u\|^2 = \langle u, v \rangle$ then find $\|au\|$ where $u \in V$ and $a \in F$

Options :

1. ✖ $\|au\| = a^{\frac{2}{3}}\|u\|$

2. ✖ $\|au\| = \sqrt{a}\|u\|$

3. ✖ $\|au\| = \|u\|$

4. ✔ $\|au\| = a\|u\|$

Question Number : 99 Question Id : 47720320527 Display Question Number : Yes Is Question Mandatory : No

The norm of $V = (3,4) \in R^2$ with respect to Euclidean inner product space is

Options :

1. ✖ 3

2. ✖ 33

3. ✔ 5

4. ✖ $\sqrt{33}$

Question Number : 100 Question Id : 47720320528 Display Question Number : Yes Is Question Mandatory : No

The normalized vector of $V = (1,2,1) \in R^2$ is

Options :

1. ✖ $\left(\frac{1}{\sqrt{5}}, \frac{1}{\sqrt{5}}, \frac{1}{\sqrt{5}}\right)$

2. ✔ $\left(\frac{1}{\sqrt{6}}, \frac{2}{\sqrt{6}}, \frac{1}{\sqrt{6}}\right)$

3. ✖ $\left(\frac{2}{\sqrt{5}}, \frac{1}{\sqrt{5}}, \frac{1}{\sqrt{5}}\right)$

4. ✖ $\left(\frac{1}{\sqrt{5}}, \frac{1}{\sqrt{5}}, \frac{2}{\sqrt{5}}\right)$

Analytical Ability

Section Id :	477203403
Section Number :	2
Mandatory or Optional :	Mandatory
Number of Questions :	40
Section Marks :	50
Enable Mark as Answered Mark for Review and Clear Response :	Yes

Question Number : 101 Question Id : 47720320529 Display Question Number : Yes Is Question

Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What is the average marks of 10 students?

- I. The average marks of 9 of the them is 72
- II. The marks obtained by one of them is 80.

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✖ The statement II alone is sufficient to answer the question.
- 3. ✖ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
- 4. ✔ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 102 Question Id : 47720320530 Display Question Number : Yes Is Question

Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What is the volume of the cylinder ?

- I. The height of the cylinder is 7cm
- II. The area of its base is 100sq.cm

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✖ The statement II alone is sufficient to answer the question.
- 3. ✔ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
- 4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 103 Question Id : 47720320531 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

Is the positive integer a divisible by 42 ?

- I. a is an even number
- II. a is divisible by 84

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✔ The statement II alone is sufficient to answer the question.
- 3. ✖ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.

4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 104 Question Id : 47720320532 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What is the area of the triangle formed joining the points A,B and C ?

- I. $A = (2,5)$, $B = (3,2)$
II. A, B and C lie on a straight line

Options :

1. ✖ The statement I alone is sufficient to answer the question.
2. ✔ The statement II alone is sufficient to answer the question.
3. ✖ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 105 Question Id : 47720320533 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

Is the positive integer x even?

- I. $2x$ is even
II. x^2 is even

Options :

1. ✖ The statement I alone is sufficient to answer the question.

2. ✓ The statement II alone is sufficient to answer the question.
3. ✗ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
4. ✗ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 106 Question Id : 47720320534 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

Will it be a Sunday tomorrow?

- I. It is not Saturday today
II. Sunday is holiday

Options :

1. ✓ The statement I alone is sufficient to answer the question.
2. ✗ The statement II alone is sufficient to answer the question.
3. ✗ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
4. ✗ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 107 Question Id : 47720320535 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

In a class of 120 students, how many girls got distinction?

- I. 20 boys in the class got distinction
- II. 25% of the students in the class got distinction

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✖ The statement II alone is sufficient to answer the question.
- 3. ✔ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
- 4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 108 Question Id : 47720320536 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What is the present age of A?

- I. A was married in his 25th year
- II. A was central government employee and retired in 2020 after completing 60 years.

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✔ The statement II alone is sufficient to answer the question.
- 3. ✖ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.

4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 109 Question Id : 47720320537 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What is the two- digit number?

- I. The sum of the two digits is 8
- II. The difference between the two digits is 3

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.
- 2. ✖ The statement II alone is sufficient to answer the question.
- 3. ✖ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
- 4. ✔ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 110 Question Id : 47720320538 Display Question Number : Yes Is Question Mandatory : No

Note: The question is followed by data in the form of two statements labeled I and II. Using the data answer the question.

What are the dimensions of a rectangle?

- I. Its area is 12 sq. meters.
- II. Its diagonal is 5 meters.

Options :

- 1. ✖ The statement I alone is sufficient to answer the question.

2. ✖ The statement II alone is sufficient to answer the question.
3. ✔ Both the statements I and II are sufficient to answer the question but neither statement alone is not sufficient.
4. ✖ Both the statements I and II together are not sufficient to answer the question and additional data is required.

Question Number : 111 Question Id : 47720320539 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 1, 16, 81, _____, 625

Options :

1. ✖ 125
2. ✖ 144
3. ✖ 216
4. ✔ 256

Question Number : 112 Question Id : 47720320540 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 0, 2, 6, 12, 20, _____, 42

Options :

1. ✔ 30
2. ✖ 32

3. ✖ 34

4. ✖ 28

Question Number : 113 Question Id : 47720320541 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 0, 7, 26, 63, _____, 215, 342

Options :

1. ✖ 126

2. ✔ 124

3. ✖ 125

4. ✖ 127

Question Number : 114 Question Id : 47720320542 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 6, 15, 35, _____, 143, 221

Options :

1. ✖ 81

2. ✖ 93

3. ✖ 79

4. ✓ 77

Question Number : 115 Question Id : 47720320543 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 216, 343, _____, 729

Options :

1. ✗ 470

2. ✓ 512

3. ✗ 570

4. ✗ 626

Question Number : 116 Question Id : 47720320544 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: 8 : 16 :: 125 : _____

Options :

1. ✗ 426

2. ✗ 138

3. ✓ 625

4. ✗ 526

Question Number : 117 Question Id : 47720320545 Display Question Number : Yes Is Question Mandatory : No

Find the missing number in the series: $6 : 35 :: 7 : \underline{\hspace{2cm}}$

Options :

1. ✖ 38

2. ✔ 48

3. ✖ 43

4. ✖ 61

Question Number : 118 Question Id : 47720320546 Display Question Number : Yes Is Question Mandatory : No

Find the missing letter: V, S, P, M,.....

Options :

1. ✖ K

2. ✔ J

3. ✖ I

4. ✖ H

Question Number : 119 Question Id : 47720320547 Display Question Number : Yes Is Question

Mandatory : No

Find the missing letters: ZYX, WVU,.....QPO, NML, KJI

Options :

1. ✖ SRT

2. ✔ TSR

3. ✖ TRS

4. ✖ RST

Question Number : 120 Question Id : 47720320548 Display Question Number : Yes Is Question

Mandatory : No

Find the missing letters: EJO, DHL, CFI, BDF,.....

Options :

1. ✔ ABC

2. ✖ ACE

3. ✖ ABD

4. ✖ ABE

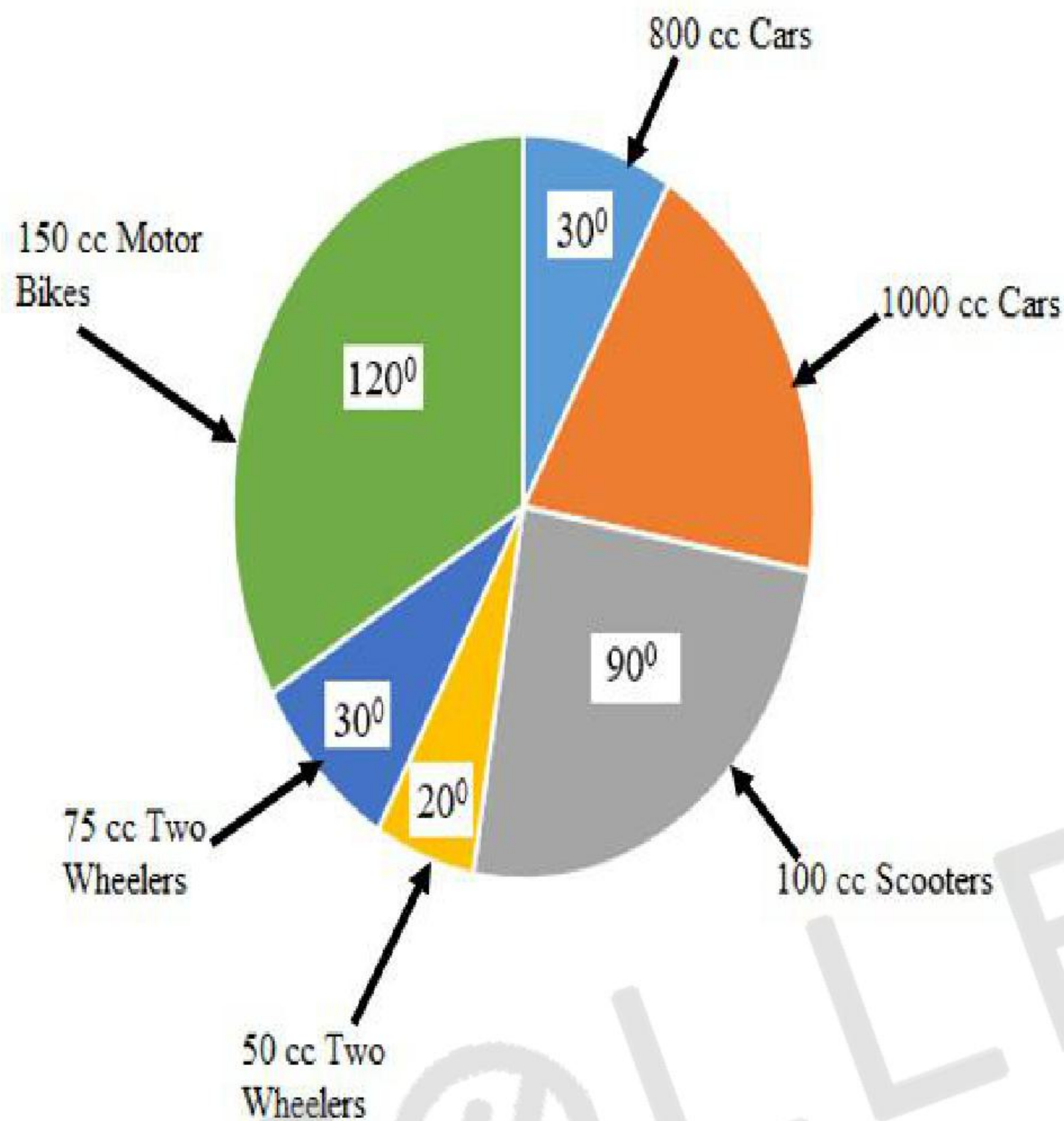
Question Id : 47720320549 Sub Question Shuffling Allowed : Yes Group Comprehension

Questions : No

Question Numbers : (121 to 127)

Note: An automobile company manufactures vehicles as given in the following Pie diagram.

Study this carefully and answer questions.



Sub questions

Question Number : 121 Question Id : 47720320550 Display Question Number : Yes Is Question Mandatory : No

The ratio of the 75 CC Two-Wheelers and 50 CC Two-Wheelers is

Options :

1. ✗ 2 : 1

2. ✗ 1 : 2

3. ✓ 3 : 2

4. ✗ 2 : 3

Question Number : 122 Question Id : 47720320551 Display Question Number : Yes Is Question Mandatory : No

The percentage of 150 CC motor bikes in the total production by the company is

Options :

- 1. ✖ 30 %
- 2. ✔ 33 $\frac{1}{3}$ %
- 3. ✖ 32 $\frac{1}{3}$ %
- 4. ✖ 32 %

Question Number : 123 Question Id : 47720320552 Display Question Number : Yes Is Question Mandatory : No

If the number of 75 CC Two-Wheelers manufactured in a month is 2700, then the total number of vehicles manufactured by the company in that month is

Options :

- 1. ✔ 32400
- 2. ✖ 30860
- 3. ✖ 32600
- 4. ✖ 33800

Question Number : 124 Question Id : 47720320553 Display Question Number : Yes Is Question

Mandatory : No

In a period, if the total number of vehicles manufactured by the company is 7200, then the number of 1000 CC Cars among them is

Options :

1. ✖ 1200

2. ✔ 1400

3. ✖ 1000

4. ✖ 1500

Question Number : 125 Question Id : 47720320554 Display Question Number : Yes Is Question

Mandatory : No

In a Particular period, if the number of 800cc cars produced by the company is 2000, then the number of 100cc scooters produced in the same period is

Options :

1. ✔ 6000

2. ✖ 7200

3. ✖ 8000

4. ✖ 5600

Question Number : 126 Question Id : 47720320555 Display Question Number : Yes Is Question

Mandatory : No

If in a particular period total 36000 vehicles are produced and in that period if 10% of 50cc two wheelers produced are defective, the number of defective 50cc two wheelers is

Options :

1. ✖ 300

2. ✔ 200

3. ✖ 100

4. ✖ 150

Question Number : 127 Question Id : 47720320556 Display Question Number : Yes Is Question Mandatory : No

In a particular period, the total number of 75 cc two wheelers produced is 1200, then what is the total number of vehicles produced in the same period?

Options :

1. ✖ 13200

2. ✖ 13400

3. ✖ 14000

4. ✔ 14400

Question Id : 47720320557 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (128 to 130)

Directions: Questions 128 to 130 are to be answered using the coding and decoding of the letters in the English alphabet as given below:

The r^{th} letter is coded as $(r+1)^{\text{th}}$ letter if r is odd and as $(r-1)^{\text{th}}$ letter if r is even. In decoding the inverse process is followed.

Sub questions

Question Number : 128 Question Id : 47720320558 Display Question Number : Yes Is Question Mandatory : No

What is the code letter for T ?

Options :

1. ✓ S

2. ✗ U

3. ✗ V

4. ✗ R

Question Number : 129 Question Id : 47720320559 Display Question Number : Yes Is Question Mandatory : No

Which letter is coded as J ?

Options :

1. ✗ H

2. ✓ I

3. ✗ K

4. ✗ L

Question Number : 130 Question Id : 47720320560 Display Question Number : Yes Is Question Mandatory : No

What is the code word for QUALITY ?

Options :

1. ✖ RVBKJUX
2. ✖ RVBKJUZ
3. ✔ RVBKJSZ
4. ✖ RVBKIUZ

Question Number : 131 Question Id : 47720320561 Display Question Number : Yes Is Question Mandatory : No

In a code if COW is coded as DPX , then using the same code, BULL is coded as

Options :

1. ✔ CVMM
2. ✖ CJMM
3. ✖ BVMM
4. ✖ DVMM

Question Number : 132 Question Id : 47720320562 Display Question Number : Yes Is Question Mandatory : No

In a code TANK is written as SZOL and FRIEND is written as EQHFOE. Using the same coding, answer the question.

The code for ZENITH is

Options :

1. ✓ YDMJUI

2. ✗ ADMJUI

3. ✗ YFMJUI

4. ✗ ADMJUG

Question Number : 133 Question Id : 47720320563 Display Question Number : Yes Is Question Mandatory : No

In a code TANK is written as SZOL and FRIEND is written as EQHFOE. Using the same coding, answer the question.

The code for PARADE is

Options :

1. ✗ OZQZEF

2. ✗ OZPBEG

3. ✓ OZQBEF

4. ✗ OZQBFE

Question Number : 134 Question Id : 47720320564 Display Question Number : Yes Is Question Mandatory : No

In a code TANK is written as SZOL and FRIEND is written as EQHFOE. Using the same coding, answer the question.

The code for PIPE is

Options :

1. ✖ QJOD

2. ✖ OHOD

3. ✔ OHQF

4. ✖ QJQF

Question Number : 135 Question Id : 47720320565 Display Question Number : Yes Is Question Mandatory : No

In a code TANK is written as SZOL and FRIEND is written as EQHFOE. Using the same coding, answer the question.

Which word is coded as BATS ?

Options :

1. ✖ CBTR

2. ✖ CZSR

3. ✖ CBST

4. ✔ ABSR

Question Number : 136 Question Id : 47720320566 Display Question Number : Yes Is Question Mandatory : No

Pointing to a man, a woman said "His Mother is the only Daughter of My Mother". How is the woman related to man ?

Options :

1. ✔ Mother

2. ✖ Grand Mother

3. ✖ Sister

4. ✖ Daughter

Question Number : 137 Question Id : 47720320567 Display Question Number : Yes Is Question Mandatory : No

If $5 @ 6 = 61$ and $8 @ 10 = 164$ then $7 @ 9 = ?$

Options :

1. ✖ 124

2. ✖ 120

3. ✖ 32

4. ✔ 130

Question Number : 138 Question Id : 47720320568 Display Question Number : Yes Is Question Mandatory : No

If $a \Delta b = a^2 - ab + b^2$ then $(a \Delta a) \Delta (a \Delta a) = ?$

Options :

1. ✖ a^2

2. ✖ a^3

3. ✓ a^4

4. ✗ a^8

Question Number : 139 Question Id : 47720320569 Display Question Number : Yes Is Question Mandatory : No

The time in the clock is 3.00 PM. If the hours hand is pointing towards West, then the direction of the minutes hand is

Options :

1. ✗ North

2. ✓ South

3. ✗ South-West

4. ✗ East

Question Number : 140 Question Id : 47720320570 Display Question Number : Yes Is Question Mandatory : No

The Angle between the Minutes hand and Hours hand of a clock when the Time is 8.30 is

Options :

1. ✗ 80°

2. ✓ 75°

3. ✗ 60°

4. ✖ 105°

Question Number : 141 Question Id : 47720320571 Display Question Number : Yes Is Question Mandatory : No

If January 1st falls on Saturday in a year, then the number of Saturdays in that year is

Options :

1. ✖ 52

2. ✖ 51

3. ✔ 53

4. ✖ 54

Question Number : 142 Question Id : 47720320572 Display Question Number : Yes Is Question Mandatory : No

January 1st of 2012 is Sunday, then January 15th of 2013 is

Options :

1. ✖ Sunday

2. ✖ Monday

3. ✔ Tuesday

4. ✖ Wednesday

Question Number : 143 Question Id : 47720320573 Display Question Number : Yes Is Question Mandatory : No

A Person walks facing North 10 mts and then he turning left and walks 5 mts. He again turns left and walks 10 mts. How far is he from his original position and towards which direction ?

Options :

1. ✖ 20 mts South

2. ✖ 15 mts West

3. ✖ 10 mts East

4. ✔ 5 mts West

Question Number : 144 Question Id : 47720320574 Display Question Number : Yes Is Question Mandatory : No

How many Integers from 1 to 100 exist such that each is divisible by 5 and also has 5 as a digit.

Options :

1. ✖ 10

2. ✔ 11

3. ✖ 12

4. ✖ 20

Question Number : 145 Question Id : 47720320575 Display Question Number : Yes Is Question Mandatory : No

In a row Ajith is 16th from left and 18th from right, then total number of persons in the row is

Options :

1. ✖ 32

2. ✖ 34

3. ✖ 31

4. ✔ 33

Question Number : 146 Question Id : 47720320576 Display Question Number : Yes Is Question Mandatory : No

If the ratio of two numbers is 4 : 7. If 14 is added to each number then the ratio becomes 5 : 7 then the numbers are

Options :

1. ✖ 12, 21

2. ✖ 20, 35

3. ✔ 16, 28

4. ✖ 24, 42

Question Number : 147 Question Id : 47720320577 Display Question Number : Yes Is Question Mandatory : No

The number of 3's that are preceded by 5 but not followed by 2 in the following sequence of digits is

3147531245321887538162537531675324

Options :

1. ✖ 7

2. ✖ 5

3. ✔ 4

4. ✖ 6

Question Id : 47720320578 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (148 to 150)

Read the following information to solve the given questions from 148 to 150.

- i)A, B, C, D, E and F are sitting in a circle facing centre.
- ii)A is between B and E.
- iii)C is between D and F.
- iv)E is to the immediate right of D.

Sub questions

Question Number : 148 Question Id : 47720320579 Display Question Number : Yes Is Question Mandatory : No

What is F's position related to E ?

Options :

1. ✖ Immediate left

2. ✖ Second to the Right

3. ✔ Third to the Right

4. ✖ Second to the left

Question Number : 149 Question Id : 47720320580 Display Question Number : Yes Is Question Mandatory : No

Who is between E and C ?

Options :

1. ✔ D

2. ✖ B

3. ✖ A

4. ✖ F

Question Number : 150 Question Id : 47720320581 Display Question Number : Yes Is Question Mandatory : No

Who is to the Immediate Right of A ?

Options :

1. ✖ D

2. ✖ C

3. ✖ F

4. ✔ B

Communicative English

Section Id : 477203404

Section Number : 3

Mandatory or Optional : Mandatory

Number of Questions : 46

Section Marks : 50

Enable Mark as Answered Mark for Review and
Clear Response : Yes

Question Number : 151 Question Id : 47720320582 Display Question Number : Yes Is Question
Mandatory : No

Fill in the blank with the correct article from the given options.

_____ lion is a noble beast.

Options :

1. ✔ The

2. ✖ A

3. ✖ An

4. ✖ No article needed

Question Number : 152 Question Id : 47720320583 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct article from the given options.

Always carry _____ umbrella with you.

Options :

1. ✖ No article needed

2. ✖ a

3. ✔ an

4. ✖ the

Question Number : 153 Question Id : 47720320584 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct preposition.

Sita has been ill _____ last Thursday.

Options :

1. ✖ from

2. ✔ since

3. ✖ for

4. ✖ to

Question Number : 154 Question Id : 47720320585 Display Question Number : Yes Is Question

Mandatory : No

Fill in the blank with suitable preposition.

The train will start ____ six 'o' clock in the morning.

Options :

1. ✖ by
2. ✖ on
3. ✖ No preposition is needed
4. ✔ at

Question Number : 155 Question Id : 47720320586 Display Question Number : Yes Is Question

Mandatory : No

Use the correct form of the tense given in the options to fill in the blank.

The boys _____ in the ground.

Options :

1. ✖ is playing
2. ✔ are playing
3. ✖ will playing
4. ✖ will played

Question Number : 156 Question Id : 47720320587 Display Question Number : Yes Is Question

Mandatory : No

Use the correct form of the tense given in the options to fill in the blank.

I ____ for twenty years in Lucknow.

Options :

1. ✖ was lived
2. ✖ is lived
3. ✖ will lived
4. ✔ have lived

Question Number : 157 Question Id : 47720320588 Display Question Number : Yes Is Question

Mandatory : No

Fill in the blank with suitable word to convert the voice of the sentence from active to passive.

The Telegraph wires ____ cut.

Options :

1. ✖ have cut
2. ✖ are cut
3. ✔ have been
4. ✖ is cut

Question Number : 158 Question Id : 47720320589 Display Question Number : Yes Is Question

Mandatory : No

Choose the appropriate word from the given options to make the sentence complete and meaningful.

Columbus ____ America.

Options :

1. ✓ discovered
2. ✗ Is discovered
3. ✗ was discovered
4. ✗ will discover

Question Number : 159 Question Id : 47720320590 Display Question Number : Yes Is Question Mandatory : No

Choose the appropriate word from the given options to make the sentence complete and meaningful.

Man is a ____ animal.

Options :

1. ✗ sociable
2. ✓ social
3. ✗ society
4. ✗ sociology

Question Number : 160 Question Id : 47720320591 Display Question Number : Yes Is Question

Mandatory : No

Choose the correct question tag for the following.

The girls are playing. ____?

Options :

1. ✖ do they
2. ✖ are they
3. ✔ aren't they
4. ✖ is they

Question Number : 161 Question Id : 47720320592 Display Question Number : Yes Is Question

Mandatory : No

Identify the synonym for the word BRITTLE

Options :

1. ✖ Weak
2. ✖ Thin
3. ✖ Scanty
4. ✔ Delicate

Question Number : 162 Question Id : 47720320593 Display Question Number : Yes Is Question

Mandatory : No

Identify the synonym for the word RIDICULOUS

Options :

1. ✓ Funny
2. ✗ Proud
3. ✗ Furious
4. ✗ Lovely

Question Number : 163 Question Id : 47720320594 Display Question Number : Yes Is Question Mandatory : No

Identify the antonym for the word NATURAL

Options :

1. ✗ Unnatural
2. ✓ Artificial
3. ✗ normal
4. ✗ Natural less

Question Number : 164 Question Id : 47720320595 Display Question Number : Yes Is Question Mandatory : No

Identify the antonym for the word RIGID

Options :

1. ✖ Rough
2. ✖ Hard
3. ✖ Silent
4. ✔ Flexible

Question Number : 165 Question Id : 47720320596 Display Question Number : Yes Is Question Mandatory : No

Choose one word substitute for the given sentence.

One who knows many languages.

Options :

1. ✖ Monolinguist
2. ✔ Polyglot
3. ✖ Bilingualist
4. ✖ Linguist

Question Number : 166 Question Id : 47720320597 Display Question Number : Yes Is Question Mandatory : No

Choose one word substitute for the given sentence.

Having an evil reputation.

Options :

1. ✔

Notorious

2. ✖ Famous

3. ✖ Optimist

4. ✖ Pessimist

Question Number : 167 Question Id : 47720320598 Display Question Number : Yes Is Question Mandatory : No

Choose a prefix to fill in the blank with the right form of the word.

_____ understanding will take place if there is no proper communication.

Options :

1. ✖ Dis

2. ✖ Re

3. ✖ Pre

4. ✔ Mis

Question Number : 168 Question Id : 47720320599 Display Question Number : Yes Is Question Mandatory : No

Choose a suffix to fill in the blank with the right form of the word.

The dog is a faith ____ animal.

Options :

1. ✔ ful

2. ✖ less

3. ✖ fully

4. ✖ ed

Question Number : 169 Question Id : 47720320600 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct word from the words often confused.

The tent is made of ____.

Options :

1. ✖ Canvass

2. ✖ Cannvas

3. ✔ Canvas

4. ✖ Canvase

Question Number : 170 Question Id : 47720320601 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct word from the words often confused.

Her father ____ her to work hard.

Options :

1. ✔ counselled

2. ✖ council

3. ✖ counselled

4. ✖ counselling

Question Number : 171 Question Id : 47720320602 Display Question Number : Yes Is Question Mandatory : No

Identify the part of the sentence which is wrong.

The majority of the/ computer professionals recommends/ that effective measures/ should be taken against software piracy.

1

2

3

4

Options :

1. ✖ 1

2. ✔ 2

3. ✖ 3

4. ✖ 4

Question Number : 172 Question Id : 47720320603 Display Question Number : Yes Is Question Mandatory : No

Identify the part of the sentence which is wrong.

My brother-in-laws/ who live in Bombay/ have come/ to stay with us.

1

2

3

4

Options :

1. ✔ 1

2. ✖ 2

3. ✖ 3

4. ✖ 4

Question Number : 173 Question Id : 47720320604 Display Question Number : Yes Is Question Mandatory : No

Identify the part of the sentence which is wrong.

While going/ through the report/ yesterday I find/ several mistakes.

1

2

3

4

Options :

1. ✖ 1

2. ✖ 2

3. ✔ 3

4. ✖ 4

Question Number : 174 Question Id : 47720320605 Display Question Number : Yes Is Question Mandatory : No

Identify the part of the sentence which is wrong.

I have been travelling by local trains/ since last 7 years/ but had never experienced/ such a horrible situation as this.

1

2

3

4

Options :

1. ✖ 1

2. ✓ 2

3. ✗ 3

4. ✗ 4

Question Number : 175 Question Id : 47720320606 Display Question Number : Yes Is Question Mandatory : No

Identify the part of the sentence which is wrong.

Unless you take/ interest into the studies/ you will not succeed/ in the examination.

1

2

3

4

Options :

1. ✗ 1

2. ✓ 2

3. ✗ 3

4. ✗ 4

Question Number : 176 Question Id : 47720320607 Display Question Number : Yes Is Question Mandatory : No

Choose the correct alternative to replace the italicized and underlined part to improve the sentence.

She cut a sad figure in her first performance on the stage.

Options :

1. ✗ made a sorry figure

- 2. ✖ put a sad face
- 3. ✔ cut a sorry figure
- 4. ✖ No improvement

Question Number : 177 Question Id : 47720320608 Display Question Number : Yes Is Question Mandatory : No

Choose the correct alternative to replace the italicized and underlined part to improve the sentence.

Hardly does the sun rise when the stars disappeared.

Options :

- 1. ✖ have the sun rose
- 2. ✔ had the sun risen
- 3. ✖ did the sun rose
- 4. ✖ the sun rose

Question Number : 178 Question Id : 47720320609 Display Question Number : Yes Is Question Mandatory : No

Choose the correct alternative to replace the italicized and underlined part to improve the sentence.

They have stopped from constructing new buildings.

Options :

- 1. ✖ to construct

- 2. ✖ at Constructing
- 3. ✔ constructing
- 4. ✖ No improvement

Question Number : 179 Question Id : 47720320610 Display Question Number : Yes Is Question Mandatory : No

Choose the correct alternative to replace the italicized and underlined part to improve the sentence.

Stop taking drugs lest you are caught.

Options :

- 1. ✔ should be caught
- 2. ✖ will be caught
- 3. ✖ maybe caught
- 4. ✖ would be caught

Question Number : 180 Question Id : 47720320611 Display Question Number : Yes Is Question Mandatory : No

Choose the correct alternative to replace the italicized and underlined part to improve the sentence.

She is having a lot of money

Options :

1. ✗ has lot of
2. ✓ has a lot of
3. ✗ is having lot of
4. ✗ No correction

Question Number : 181 Question Id : 47720320612 Display Question Number : Yes Is Question Mandatory : No

Choose the exact meaning of the underlined idiom in the sentence below.

After the intermediate exams, the students were like cat on a wall.

Options :

1. ✓ in a dilemma
2. ✗ depressed
3. ✗ enthusiastic
4. ✗ frightened

Question Number : 182 Question Id : 47720320613 Display Question Number : Yes Is Question Mandatory : No

Choose the exact meaning of the idiom/phrase that is underlined in the sentence below.

Our school is at a stone's throw from the railway station.

Options :

1. ✖ at a distance
2. ✖ very far
3. ✖ one mile
4. ✔ quite near

Question Number : 183 Question Id : 47720320614 Display Question Number : Yes Is Question Mandatory : No

Choose the exact meaning of the idiom/phrase that is underlined in the sentence below.

In this competition there is complete fair play

Options :

1. ✔ no cheating
2. ✖ good chances
3. ✖ good name
4. ✖ success

Question Number : 184 Question Id : 47720320615 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct phrasal verb from the options given below.

The train _____ while we were going to Chennai.

Options :

1. ✗ brake down
2. ✗ break out
3. ✓ broke down
4. ✗ break up

Question Number : 185 Question Id : 47720320616 Display Question Number : Yes Is Question Mandatory : No

Fill in the blank with the correct phrasal verb from the options given below.

The principal _____ his duties very responsibly.

Options :

1. ✗ carried on
2. ✗ carried by
3. ✗ carried to
4. ✓ carried out

Question Id : 47720320617 Sub Question Shuffling Allowed : Yes Group Comprehension

Questions : No

Question Numbers : (186 to 190)

To answer the questions from 186-190, read the passage carefully and choose the correct option.

Some people think that the aim of education is merely to give knowledge. Others believe that knowledge alone is not enough but that which enables a man to earn his living can be called education. Still others believe that education should aim solely at making good citizens and good patriots. As a matter of fact, education should aim at all these three things together. It should give men knowledge, make them self-reliant and able to serve others. It should produce men who love their own country but who do not want to harm other countries.

Sub questions

Question Number : 186 Question Id : 47720320618 Display Question Number : Yes Is Question Mandatory : No

What do some people think of the aim of education?

Options :

1. ✓ Give knowledge
2. ✗ To prosper
3. ✗ Take away knowledge
4. ✗ Ignorance

Question Number : 187 Question Id : 47720320619 Display Question Number : Yes Is Question Mandatory : No

What enables a man to earn his living?

Options :

1. ✗ Food
2. ✗

Culture

3. ✓ Education

4. ✗ Knowledge

Question Number : 188 Question Id : 47720320620 Display Question Number : Yes Is Question Mandatory : No

The word 'solely' means:

Options :

1. ✗ Many

2. ✗ Totally

3. ✗ Fully

4. ✓ Only

Question Number : 189 Question Id : 47720320621 Display Question Number : Yes Is Question Mandatory : No

How many things should the knowledge of education give to men?

Options :

1. ✗ 5

2. ✓ 3

3. ✗ 4

4. ✖ 1

Question Number : 190 Question Id : 47720320622 Display Question Number : Yes Is Question Mandatory : No

What is the suitable title for the passage?

Options :

1. ✖ Knowledge

2. ✖ Living

3. ✖ Good citizens

4. ✔ Education

Question Number : 191 Question Id : 47720320623 Display Question Number : Yes Is Question Mandatory : No

Choose the correct option to make a meaningful sentence.

The clothes / to my father/ who was very much surprised/ that i ordered were sent.

a

b

c

d

Options :

1. ✖ d,b,c,a

2. ✖ a,b,c,d

3. ✔ a,d,b,c

4. ✖ a,b,d,c

Question Number : 192 Question Id : 47720320624 Display Question Number : Yes Is Question Mandatory : No

Choose the correct option to make a meaningful sentence.

After his arrival/ immediately/ he began to/ quarrel with his wife.

a

b

c

d

Options :

1. ✔ b,a,c,d

2. ✖ a,b,c,d

3. ✖ c,a,b,d

4. ✖ d,a,c,b

Question Number : 193 Question Id : 47720320625 Display Question Number : Yes Is Question Mandatory : No

Choose the correct option to make a meaningful sentence.

His speech/ to take a glass of water/ in the middle of/ he stopped

a

b

c

d

Options :

1. ✖ a,c,d,b

2. ✖ d,a,b,c

3. ✖ c,b,a,d

4. ✓ d,c,a,b

Question Number : 194 Question Id : 47720320626 Display Question Number : Yes Is Question Mandatory : No

Choose the correct option to make a meaningful sentence.

Among your friends to make sure/ equally share/ the prize money/ that all are satisfied.

a

b

c

d

Options :

1. ✗ c,d,a,b

2. ✗ a,c,d,b

3. ✓ b,c,a,d

4. ✗ d,b,a,c

Question Number : 195 Question Id : 47720320627 Display Question Number : Yes Is Question Mandatory : No

Choose the correct option to make a meaningful sentence.

The man/ at the police station/ whose cycle was stolen/ made a complaint.

a

b

c

d

Options :

1. ✓ a,c,d,b

2. ✗ c,a,d,b

3. ✖ d,a,c,b

4. ✖ b,a,c,d

Question Number : 196 Question Id : 47720320628 Display Question Number : Yes Is Question Mandatory : No

Identify the mood in the following sentence.

“Leave the room”. The speaker is ____.

Options :

1. ✔ Commanding

2. ✖ Requesting

3. ✖ Suggesting

4. ✖ Wishing

Question Number : 197 Question Id : 47720320629 Display Question Number : Yes Is Question Mandatory : No

Identify the mood in the following sentence.

“Long live the queen”!

Options :

1. ✖ Commanding

2. ✖ Instructing

3. ✓ Wishing

4. ✗ Complimenting

Question Number : 198 Question Id : 47720320630 Display Question Number : Yes Is Question Mandatory : No

Identify the mood in the following sentence.

“Look, the man is fat like a clown”.

Options :

1. ✗ Complimenting

2. ✓ Criticising

3. ✗ Requesting

4. ✗ Wishing

Question Number : 199 Question Id : 47720320631 Display Question Number : Yes Is Question Mandatory : No

Identify the mood in the following sentence.

“Madam, I am sorry for coming late to the class.”

Options :

1. ✗ Commenting

2. ✗ Appreciating

3. ✖ Commanding

4. ✔ Apologizing

Question Number : 200 Question Id : 47720320632 Display Question Number : Yes Is Question Mandatory : No

Identify the mood in the following sentence.

“hey, you are looking very pretty today”.

Options :

1. ✖ Wishing

2. ✖ Requesting

3. ✔ Appreciating

4. ✖ Suggesting