Question Paper Preview

Question Paper Name:	BSc Mathematics 30th April 2019 Shift 1
Subject Name:	BSc Mathematics
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

Mathematics

Number of Questions:	100
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 1 Question Id : 67809437453 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What are the order and degree respectively of the differential equation $\frac{d^2}{dx^2}\left(\frac{d^2y}{dx^2}\right)^{-3/2} = 0$?

Options :

1. 1,4

2. 4,1

3. 4,4

4. 1,1

Question Number : 2 Question Id : 67809437454 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Determine the type of the differential equation $\frac{d^2y}{dx^2} + \sin(x+y) = \sin x$

Options :

1. Linear, homogeneous

2. Nonlinear, homogeneous

3. Linear, non-homogeneous

4. Non-homogeneous, non-linear

Question Number : 3 Question Id : 67809437455 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The necessary and sufficient condition for a differential equation of first order and first degree

M dx +N dy = 0 to be exact is

Options :

1. M= - N

2. $\partial M = N$

3. $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$

4. $\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y}$

Question Number : 4 Question Id : 67809437456 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The differential equation M dx + N dy =0 possess _____number of integrating factors.

Options :

1. less than zero

2. Unique

3. Finite number

4. An infinite number

Question Number : 5 Question Id : 67809437457 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The differential equation of the orthogonal trajectories of the system of parabolas $y = ax^2$ is

Options :

1. $y' = x^2 + y$

2. y=x

3. $y^{|} = -(\frac{x}{2y})$

4. $y^{|} = (\frac{x}{2y})$

Question Number : 6 Question Id : 67809437458 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statements associated with a first order non-linear differential equation f(x,y,dy/dx) are correct.

1) Its general solution must contain only one arbitrary constant.
2) Its singular solution can be obtained by substituting particular value of the arbitrary constant in its general solution.
3) Its singular solution is an envelope of its general solution which also satisfies the equation.

Options :

1. 1,2&3

2. 1&2

3. 1&3

4. 2&3

Question Number : 7 Question Id : 67809437459 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The singular solution of the differential equation y=px+f(p) will be obtained by eliminating p between the equation y=px + f(p) and which of the following equation?

Options :

1. $x+\frac{df}{dp}=0$

2. $dy/dx = x + (df/dp)$

3. x=0

4. $dy/dx = p$

Question Number : 8 Question Id : 67809437460 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The general solution of $\frac{ydx - xdy}{y^2} = 0$ is

Options :

1. $xy=c$

2. $x=cy$

3. $y=cx$

4. $x=cy^2$

Question Number : 9 Question Id : 67809437461 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Solution of $x\sqrt{1+p^2} + p = a\sqrt{1+p^2}$

Options :

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

2. $y=cx+(c+1)$

3. $y+c=c-1$

4. $y-1=yc-ac^2$

Question Number : 10 Question Id : 67809437462 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The singular solution of $x^2(y - xp) = yp^2$

Options :

1. $x^4 - 4y^2 = 0$

2. $x^4 + 4y^2 = 0$

3. $x^4 + 3y^2 = 0$

4. $x^4 + 4y^2 = 2$

Question Number : 11 Question Id : 67809437463 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the complementary function $(D^2 + 9)y = 4x$

Options :

1. ACos 3x+BSin 3x

2. ASin 3x

3. ASin 3x-BCos 3x

4. ACos 3x-Bcos3x

Question Number : 12 Question Id : 67809437464 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the particular Integral for $\left(D^2 + 1\right)y = \cos 2x$

Options :

1. $-\frac{1}{3}Cos2x$

2. $\frac{1}{3}Cos2x$

3. $\frac{1}{3}Sin2x$

4. 3 Cos2x

Question Number : 13 Question Id : 67809437465 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If n is a positive integer then $\frac{1}{(D-a)^n}e^{ax} =$

Options :

1. $\frac{x^n}{n!}e^{\alpha x}$

2. $-\frac{x^n}{n!}e^{\alpha x}$

3. $\frac{x^n}{n!}e^{-ax}$

4. $\frac{x^n}{n!}ae^{ax}$

Question Number : 14 Question Id : 67809437466 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Solution of $(D^4 - D^2)y = 0$

Options :

1. A - Bx +C $e^x + De^{-x}$

2. A + Bx -C $e^x + De^{-x}$

3. A + Bx +C $e^x + De^{-x}$

4. A + Bx +C e^x - De^{-x}

Question Number : 15 Question Id : 67809437467 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If X is a function of x ,then $\frac{1}{D-a}X =$

Options :

1. $e^{ax}\int Xe^{ax}dx$

2. $e^{ax}\int Xe^{-ax}dx$

3. $e^{-ax}\int Xe^{-ax}dx$

4. $e^{-ax}\int Xe^{ax}dx$

Question Number : 16 Question Id : 67809437468 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the particular Integral of $(D^2 - 1)y = a^x$

Options :

1. $ae^{x}+be^{-x}$

2. $\frac{1}{(\log a)^{2}-1}x^{a}$

3. x^{a}

4. $\frac{1}{(\log a)^{2}-1}a^{x}$

Question Number : 17 Question Id : 67809437469 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Particular Integral for $(D^{4}+D^{2}+1)y=ax^{2}$

Options :

1. $a(x^{2}-2)$

2. $a(x^{2}+2)$

3. $a(x-2)$

4. 0

Question Number : 18 Question Id : 67809437470 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation $e^{y}dx+(xe^{y}+2y)dy=0$ is

Options :

1. Homogeneous

2. Variable separable

3. Exact

4. Non-homogeneous

Question Number : 19 Question Id : 67809437471 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The substitution to transform homogenous linear equation in to a linear equation with constant coefficients is

Options :

1. x=z

2. $z=e^x$

3. x=logz

4. x=y

Question Number : 20 Question Id : 67809437472 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. $-\frac{x}{4}-\frac{1}{16}+\frac{e^x}{3}$

2. $\frac{x}{4}-\frac{1}{16}-\frac{e^x}{3}$

3. $-\frac{x}{4}+\frac{1}{16}+\frac{e^x}{3}$

4. $\frac{x}{4}+\frac{1}{16}-\frac{e^x}{3}$

Question Number : 21 Question Id : 67809437473 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let a,b be integers with GCD =1 then there are ----------many primes of the form ax+b

Options :

1. Infinitely

2. Finitely

3. Unique

4. zero

Question Number : 22 Question Id : 67809437474 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The inverse of - i in the multiplicative group. {1. - 1, i . - i} is

Options :

1. 1

2. -1

3. i

4. -i

Question Number : 23 Question Id : 67809437475 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For elements a,b in a group G, the equations ax=b and ya=b have---------- number of solutions for

x and y in G.

Options :

1. finite

2. Infinite

3. zero

4. unique

Question Number : 24 Question Id : 67809437476 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If G is a group of order 10 then it must have a ----------of order 5

Options :

1. finite group

2. subgroup

3. group

4. cyclic group

Question Number : 25 Question Id : 67809437477 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Order of the permutation

$\begin{pmatrix}123456\\246513\end{pmatrix}$ is

Options :

1. Three

2. Four

3. Two

4. One

Question Number : 26 Question Id : 67809437478 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

An infinite cyclic group has precisely---------- generators.

Options :

1. Five

2. Zero

3. One

4. Two

Question Number : 27 Question Id : 67809437479 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Any two cyclic groups of ----------order are isomorphic

Options :

1. Finite

2. Infinite

3. Same

4. Distinct

Question Number : 28 Question Id : 67809437480 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

There exists a one-one onto map between the set of all left cosets of H in G and the set of all right cosets of H in G where H is

Options :

1. A subgroup of a group G.

2. A group of G.

3. Cyclic group of G.

4. Left coset of G.

Question Number : 29 Question Id : 67809437481 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If G is the ----------group then all its subgroups are normal subgorups

Options :

1. Finite

2. Infinite

3. Quaternion

4. abnormal

Question Number : 30 Question Id : 67809437482 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fundamental theorem of group homomorphism is

Options :

1. Everyhomomorphic image of a group G is not an isomorphic to a quotient group of G.

2. Every homomorphic image of a Finite group G is isomorphic to a quotient group of G.

3. Every non homomorphic image of a group G is isomorphic to a quotient group of G.

4. Every homomorphic image of a group G is isomorphic to a quotient group of G.

Question Number : 31 Question Id : 67809437483 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\bar{F} = xyz\bar{\imath} + x^2y^2z\bar{\jmath} + xyz^3\bar{k}$ Then $div\bar{F}at(2,1,-1)$ is

Options :

1. 9

2. -3

3. 32

4. 45

Question Number : 32 Question Id : 67809437484 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\nabla r =$

Options :

1. $\mathbf{r}$

2. $\bar{r}$

3. $\bar{r}/\mathbf{r}$

4. 0

Question Number : 33 Question Id : 67809437485 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The maximum value of the directional derivative of $\phi = x^2yz^3$ at (2,1,-1) is

Options :

1. $\sqrt{11}$

2. $2\sqrt{11}$

3. $3\sqrt{11}$

4. $4\sqrt{11}$

Question Number : 34 Question Id : 67809437486 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$div\bar{r} =$

Options :

1. 0

2. 1

3. 2

4. 3

Question Number : 35 Question Id : 67809437487 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$curl(\bar{r} \times \bar{a}) =$

Options :

1. 0

2. $\bar{a}$

3. $-2\bar{a}$

4. $2a$

Question Number : 36 Question Id : 67809437488 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The necessary and sufficient condition for a vector field $\bar{v}$ is to be conservative is

Options :

1. $\text{div}\,\bar{v} = 0$

2. $\text{curl}\,\bar{v} = 0$

3. $\bar{v} = 0$

4. $\text{d}\bar{v}/\text{dt} = 0$

Question Number : 37 Question Id : 67809437489 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\Delta^2(\frac{1}{r}) =$

Options :

1. 0

2. r

3. 2r

4. 4r

Question Number : 38 Question Id : 67809437490 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\phi = x^2 - y^2$ Then $\nabla^2\phi =$

Options :

1. 0

2. 1

3. 2

4. -1

Question Number : 39 Question Id : 67809437491 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The Gradient of a differentiable scalar field is

Options :

1. Irrotational only

2. Solenoidal only

3. both Irrotational and Solenoidal

4. Conservative

Question Number : 40 Question Id : 67809437492 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $\overline{A}$ is a solenoidal vector then curl(curl $\overline{A}$)=

Options :

1. 0

2. $-\nabla^2 \overline{A}$

3. $\nabla^2 \overline{A}$

4. ∇^2

Question Number : 41 Question Id : 67809437493 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

For any closed surface $\iint_s \nabla \times F.Nds =$

Options :

1. S

2. N

3. 0

4. 3V

Question Number : 42 Question Id : 67809437494 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\iiint_v \nabla.Ndv =$,Where v is the volume enclosed by S.

Options :

1. S

2. V

3. 0

4. 2S

Question Number : 43 Question Id : 67809437495 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\iint_s (ax^2 + by^2 + cz^2)ds$ over the Unit sphere is

Options :

1. 3V

2. 3(a+b+c)

3. (a+b+c)/3

4. V(a+b+c)

Question Number : 44 Question Id : 67809437496 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If ϕ is harmonic in V, then $\iint_s \frac{\partial \phi}{\partial x} ds =$ (Where S is the surface enclosing V)

Options :

1. 1

2. 0

3. V

4. S

Question Number : 45 Question Id : 67809437497 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

By applying the Green's Theorem, evaluate $\oint_c (3x - y)dx + (2x + y)dy$, where c is the curve

$x^2+y^2 = a^2$

Options :

1. 1

2. 0

3. π

4. πa^2

Question Number : 46 Question Id : 67809437498 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

By using Stokes Theorem $curl\ g\ rad\phi =$

Options :

1. 0

2. 1

3. 3

4. 4

Question Number : 47 Question Id : 67809437499 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\oint \bar{r}.d\bar{r} =$

Options :

1. r

2. 1

3. 0

4. V

Question Number : 48 Question Id : 67809437500 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$\oint (x^2 - y^2)dx + (1-2x)dy$ around the circle $x^2 + y^2 = a^2$ is

Options :

1. π

2. 0

3. πa^2

4. 2π

Question Number : 49 Question Id : 67809437501 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the simply connected region

Options :

1. The region interior to a circle

2. The region between two concentric circles in the same region

3. The region between two infinitely long co-axial cylinders

4. The region between two spheres in the same region.

Question Number : 50 Question Id : 67809437502 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If F is irrotational and C is a closed curve then $\int_c F.dr =$

Options :

1. C

2. 0

3. 1

4. -1

Question Number : 51 Question Id : 67809437503 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of the xoy plane is

Options :

1. z=0

2. x=0

3. x=z

4. z=y

Question Number : 52 Question Id : 67809437504 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every plane section of a sphere is

Options :

1. a cone

2. a cylinder

3. a triangle

4. a line

Question Number : 53 Question Id : 67809437505 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of the plane passing through the lines 2x+3y-5z-4=0 =3x-4y+5z-6 and parallel to X-axis is

Options :

1. 17y-25z=0

2. 17y+25z=0

3. 17x+25y=0

4. 17y+25x=0

Question Number : 54 Question Id : 67809437506 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The distance of the point (1,-2,8) from the plane 2x-3y+6z=63 is

Options :

1. 0

2. 1

3. 4

4. -1

Question Number : 55 Question Id : 67809437507 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The nature of intersection of the planes,2x+3y-z =0 ; 3x+3y+z =0; x-y+2z-5=0 is

Options :

1. No two of the planes are coplanar

2. No two of the planes are parallel

3. Not intersect at any point

4. (1,-3,4) is the unique point of intersection of the planes.

Question Number : 56 Question Id : 67809437508 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of the sphere passing through (0, 0, 0), (a, 0, 0), (0, b, 0), (0, 0, c) is

Options :

1. $x^2+y^2+z^2+2ax+2by+2cz=0$

2. $x^2+y^2+z^2-2ax-2by-2cz=0$

3. $x^2+y^2+z^2-ax-by-cz=0$

4. $x^2+y^2+z^2+ax+by+cz=0$

Question Number : 57 Question Id : 67809437509 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $x^2 + y^2 + z^2 - a^2 = 0$ is a sphere then the pole of the plane $lx + my + nz = p \quad (p \neq 0)$ is

Options :

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

2. $\left(-\frac{a^2l}{p}, \frac{a^2m}{p}, \frac{a^2n}{p}\right)$

3. $\left(-\frac{a^2l}{p}, -\frac{a^2m}{p}, \frac{a^2n}{p}\right)$

4. $\left(\frac{a^2l}{p}, \frac{a^2m}{p}, -\frac{a^2n}{p}\right)$

Question Number : 58 Question Id : 67809437510 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If distance between the parallel lines $ax + by + cz + d_1 = 0, ax + by + cz + d_2 = 0$ is

Options :

1. $\frac{|d_1^2-d_2^2|}{a^2+b^2+c^2}, d_1, d_2 < 0$

2. $\frac{|d_1-d_2|}{\sqrt{a^2+b^2+c^2}}, d_1 < 0, d_2 < 0$

3. $\frac{|d_1+d_2|}{\sqrt{a^2+b^2+c^2}} d_1, d_2 < 0$

4. $\frac{|d_1+d_2|}{\sqrt{a^2-b^2+c^2}} d_1, d_2 < 0$

Question Number : 59 Question Id : 67809437511 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The length of the tangent line from the point (3, 1, -1) to the sphere $x^2 + y^2 + z^2 - 3x + 5y + 7 = 0$ is

Options :

1. $\sqrt{14}$

2. 14

3. $\sqrt{12}$

4. 12

Question Number : 60 Question Id : 67809437512 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The equation of a sphere of radius r which touches the three co-ordinate axes is

Options :

1. $x^2+y^2+z^2+\sqrt{2}x+\sqrt{2}y+\sqrt{2}z+r^2=0$

2. $2(x^2+y^2+z^2)+\sqrt{2}x+\sqrt{2}y+\sqrt{2}z+r^2=0$

3. $2(x^2+y^2+z^2)+r\sqrt{2}x+r\sqrt{2}y+r\sqrt{2}z+r^2=0$

4. $x^2+y^2+z^2+r\sqrt{2}x+r\sqrt{2}y+r\sqrt{2}z+r^2=0$

Question Number : 61 Question Id : 67809437513 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Every ordered field contains(an ordered subfield isomorphic to)

Options :

1. Natural numbers only

2. The integers and natural numbers.

3. The rational numbers

4. Integers only

Question Number : 62 Question Id : 67809437514 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following is correct statement ?

Options :

1. A sequence can have at most one limit.

2. Every Cauchy sequence is not bounded.

3. Every bounded sequence infinite sequence has a subsequence that cannot converges to a real number.

4. If a Cauchy sequence has a subsequence that converges to l, then the original sequence cannot converges to l.

Question Number : 63 Question Id : 67809437515 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A sequence is Cauchy if it is

Options :

1. convergent

2. bounded above

3. bounded below

4. divergent

Question Number : 64 Question Id : 67809437516 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $n \in R$ and $x,a \in R^+$ then $\lim x \to a \left(\frac{x^n - a^n}{x - a} \right) =$

Options :

1. na

2. na^{n-1}

3. an^{n-1}

4. $(na)^{n-1}$

Question Number : 65 Question Id : 67809437517 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statement is wrong ?

Options :

1. The constant function $f(x)=k$,$k \in R$ is continuous on R

2. The Identity function $f(x)=x$,$x \in R$ is continuous on R

3. The function $f(x)=\sin x$, $x \in R$ is continuous on R

4. The function $f(x)=\cos x$ $x \in R$ is discontinuous on R

Question Number : 66 Question Id : 67809437518 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$f(x) = |x|$ is ---------- at $x = 0$

Options :

1. continuous only

2. discontinuous only

3. either continuous or discontinuous

4. neither continuous nor discontinuous

Question Number : 67 Question Id : 67809437519 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If $f:[a,b] \rightarrow R$ is derivable at $c \in [a,b]$, then f is ----------

Options :

1. discontinuous at c only

2. continuous at c only

3. either continuous or discontinuous at c

4. piece wise discontinuous on c

Question Number : 68 Question Id : 67809437520 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which of the following statement is correct ?

Options :

1. f(x)=Sin x is derivable at every a∈R.

2. $f(x)=e^{x}$ is not derivable at every point in R

3. If f is continuous at c the f is derivable at c

4. f(x)= Sin x is not derivable at every a ∈R

Question Number : 69 Question Id : 67809437521 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a polynomial equation f(x)=0 has n real roots, then $f^{1}(x)= 0$ has

Options :

1. at least (n+1) roots

2. at most (n+1) real roots

3. at least(n-1) real roots.

4. equal to (n-1) real roots.

Question Number : 70 Question Id : 67809437522 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Taylor's series expansion

Options :

1. If it exists, it is not unique

2. If it exists, it is unique

3. Not unique in all cases

4. If it exists it does not have a continuous derivatives

Question Number : 71 Question Id : 67809437523 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A bounded function f is Riemann integrable on[a,b] , then

Options :

1. $\Rightarrow \int_a^{\overline{b}} f(x)dx = \int_{\overline{a}}^b f(x)dx$

2. Not implies infimum = supremum

3. $\int_a^{\overline{b}} f(x)dx = \int_{\overline{a}}^b f(x)dx \int_a^b f(x)dx \leq M(b-a)$

4. $\Leftrightarrow \int_a^{\overline{b}} f(x)dx = \int_{\overline{a}}^b f(x)dx$

Question Number : 72 Question Id : 67809437524 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If f∈R[a,b] and m,M are the infimum and supremum of f on [a,b], then

Options :

1. $m(b-a) \leq \int_a^b f(x)dx \leq M(b-a)$

2. $\int_a^b f(x)dx \leq M(b-a)$

3. $m(b-a) \leq 0$

4. $M(b-a) \geq 0$

Question Number : 73 Question Id : 67809437525 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. f must be integrable on[a,b]

2. f need not be integrable on[a,b]

3. f is continuous on [a,b]

4. f is not continuous on [a,b]

Question Number : 74 Question Id : 67809437526 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

f.g may be integrable on [a,b] even though

Options :

1. f is not integrable on [a,b]

2. f,g are not integrable on [a,b]

3. g is not integrable on b

4. f+g is integrable on [a,b]

Question Number : 75 Question Id : 67809437527 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one of the following statement is false?

Options :

1. Intersection of two subrings is a sub ring

2. Intersection of two subfields is not a subfield.

3. Center of a subring is a ring

4. Union of two subrings may not be a subring

Question Number : 76 Question Id : 67809437528 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which one the following statement is true?

Options :

1. A Field is an Integral domain

2. A commutative division ring is not a field

3. An infinite integral domain which is not a field is not the ring of integers.

4. A nonzero finite integral domain is not a field.

Question Number : 77 Question Id : 67809437529 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

According to Wedderburn theorem

Options :

1. Finite division ring is non commutative

2. Infinite division ring is commutative

3. Every finite division ring is commutative

4. Every finite division ring is non commutative.

Question Number : 78 Question Id : 67809437530 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The composition of ring homomorphisms

Options :

1. is a ring homomorphism.

2. Does not exist

3. Not necessarily a homomorphism

4. A homomorphism

Question Number : 79 Question Id : 67809437531 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let R[x] be the ring of polynomials over a ring R then

Options :

1. R is commutative iff R[x] is non commutative

2. R is commutative iff R[x] is commutative

3. R is non commutative iff R[x] is commutative

4. R has unity iff R[x] has non unity.

Question Number : 80 Question Id : 67809437532 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The polynomial $P = x^4 + 1$ is irreducible over **Q**

Options :

1. but not over any infinite field.

2. and over any finite field

3. and over any infinite field

4. but not over any finite field

Question Number : 81 Question Id : 67809437533 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Union of two subspaces

Options :

1. must be a subspace

2. may not be a subspace

3. must be a space

4. Does not exist

Question Number : 82 Question Id : 67809437534 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Any two bases of a Finite dimensional vector spaces V, have

Options :

1. The same number of elements

2. Finite number of elements

3. infinite number of elements

4. not the same number of elements

Question Number : 83 Question Id : 67809437535 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If two vectors are Linear dependent then one of them is the ----------of the other.

Options :

1. vector multiple

2. scalar multiple

3. multiple

4. not multiple

Question Number : 84 Question Id : 67809437536 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If S= $\{v_1, v_2, v_3, ...\}$ is a basis of V, then every element of V ----------

Options :

1. can be expressed uniquely as a linear combination of $v_1, v_2, v_3.....$

2. can not be expressed as a linear combination of $v_1, v_2, v_3.....$

3. can not be expressed uniquely as a linear combination of $v_1, v_2, v_3.....$

4. can be expressed as a linear combinations of $v_1, v_2, v_3.....$

Question Number : 85 Question Id : 67809437537 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If u and w are two sub-spaces of a vector space V, then dim(u+w)=

Options :

1. dim u + dim w – dim(u∩w)

2. dim u ∩ dim w

3. dim u + dim w

4. dim u – dim w

Question Number : 86 Question Id : 67809437538 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let T:V→W be a linear transformation then Rank T + Nullity T =

Options :

1. Dim W

2. Dim V

3. Dim(V+W)

4. Dim(V-W)

Question Number : 87 Question Id : 67809437539 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If S and T are subsets of a vector space V, then S ⊂ T ⇒

Options :

1. L(S)=L(T)

2. L(S)⊂ L(T)

3. L(T)⊂ L(S)

4. L(S)∪ L(T)

Question Number : 88 Question Id : 67809437540 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let A be nxn matrix over F. Then A is invertible if and only if columns of A are

Options :

1. Linearly independent over F

2. Linearly dependent over F

3. Either independent or dependent

4. Polynomials on F

Question Number : 89 Question Id : 67809437541 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the number of unknowns exceed the number of equations, then the system of equations has

Options :

1. a zero solution.

2. an infinite solution

3. no solution

4. a non zero solution

Question Number : 90 Question Id : 67809437542 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

There is a unique solution of the following linear system. What is it?

$x_1 + x_2 - x_3 = 0$

$-7x_2 + 7x_3 = 7$

$3x_3 = 9$

Options :

1. $x_1 = 1, x_2 = 2, x_3 = 3$

2. $x_1 = -1, x_2 = 2, x_3 = 3$

3. $x_1 = 1, x_2 = 2, x_3 = -3$

4. $x_1 = 1, x_2 = -2, x_3 = 3$

Question Number : 91 Question Id : 67809437543 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The value of the determinant remains

Options :

1. Not same if the rows and columns are interchanged

2. Same if the rows and columns are interchanged

3. Same if the rows and columns are not same

4. Same if the number of rows and columns are not equal

Question Number : 92 Question Id : 67809437544 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find x if $\begin{vmatrix} x & 2 \\ 2 & x \end{vmatrix} = 0$

Options :

1. 4

2. -4

3. ±2

4. 0

Question Number : 93 Question Id : 67809437545 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If in a determinant the elements of any row (or column) are multiplied by the same scalar, say k,

then the value of the new determinant is

Options :

1. k times the given determinant

2. 0

3. infinity

4. 1

Question Number : 94 Question Id : 67809437546 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A necessary and sufficient condition that an nxn matrix A over a field F be diagonalizable is that

Options :

1. A has n linearly independent characteristic vectors in $V_n(F)$

2. A has n linearly dependent characteristic vectors in $V_n(F)$

3. A has n vectors in $V_n(F)$

4. A has n characteristic roots in $V_n(F)$

Question Number : 95 Question Id : 67809437547 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If an nxn matrix A has n distinct eigen values , then A is

Options :

1. orthonormal basis

2. normal basis

3. Diagonalizable

4. basis

Question Number : 96 Question Id : 67809437548 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Eigen values of $\begin{pmatrix} 5 & 4 \\ 1 & 2 \end{pmatrix}$ are

Options :

1. 1,6

2. 2,6

3. 6, 0

4. 0,1

Question Number : 97 Question Id : 67809437549 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let w_1, w_2 be two subspaces of a vector space V .If w_1, w_2 are inner product spaces, then

Options :

1. $w_1.w_2$ is also an inner product space.

2. $w_1 + w_2$ is also an inner product space.

3. V is an inner product space

4. $w_1 - w_2$ is an inner product space

Question Number : 98 Question Id : 67809437550 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

By using Cauchy Schwarz inequality, the Cosine of an angle is of absolute value

Options :

1. at least 1

2. equal to 1

3. at most 1

4. more than 0

Question Number : 99 Question Id : 67809437551 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let V be an inner product space .If $v \in V$, then the norm of v (or length of v) is defined as

Options :

1. $\sqrt{v.V}$

2. $\sqrt{u.v}$

3. $\sqrt{v+V}$

4. $v.V$

Question Number : 100 Question Id : 67809437552 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Let V be an inner product space. Then $|(u,v)|$

Options :

1. $\neq \|u\| \|v\|$

2. $\geq \|u\| \|v\|$

3. $\leq \|u\| \|v\|$

4. $= \|u\| \|v\|$

Analytical Ability

Number of Questions:	38
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 101 Question Id : 67809437553 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

What is the volume of the Cylinder?

I. The area of its base is 126 sq.cm
II. The height of the Cylinder is 15 cm.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 102 Question Id : 67809437554 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Note: A question is followed by data in the form of two statements labeled as 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 and B lie on a straight line.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 103 Question Id : 67809437555 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

What is the sum of the real numbers X, Y and Z?

I. X+Z=8
II. X, Y and Z are in arithmetic progression

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 104 Question Id : 67809437556 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

What is the average age of A, B and C?

I. A is 20 years old and B is 10 years old.
II. C is older than A.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 105 Question Id : 67809437557 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

What is the profit of A and B?

I. A and B invested in 3:5 ratio.
II. Total profit is Rs. 5,00,000.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 106 Question Id : 67809437558 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Note: A question is followed by data in the form of two statements labeled as 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 60.
II. The marks obtained by one of them is 52.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 107 Question Id : 67809437559 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Note: A question is followed by data in the form of two statements labeled as 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 4.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 108 Question Id : 67809437560 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

What is the value of a?

I. $2a + b = 11$.
II. $3a + 2b = 18$.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 109 Question Id : 67809437561 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Equation of the straight line is

I. It is passing through the Origin.
II. Slope of the line is 1.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 110 Question Id : 67809437562 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Number of students passed in an examination in a class of strength of 80 is

I. Number of Girls in the class is 32.
II. Pass percentage of the class is 75%.

Options :

1. Statement I alone is sufficient to answer the question.

2. Statement II alone is sufficient to answer the question.

3. Statement I and II both are needed to answer the question.

4. Statement I and II both are insufficient to answer the question.

Question Number : 111 Question Id : 67809437563 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
1, 2, 6, 24, 120, _____

Options :

1. 600

2. 720

3. 840

4. 784

Question Number : 112 Question Id : 67809437564 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
0, 8, 24, 48, _____

Options :

1. 63

2. 68

3. 81

4. 80

Question Number : 113 Question Id : 67809437565 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
10, 11, 13, 16, _____, 25

Options :

1. 19

2. 20

3. 21

4. 22

Question Number : 114 Question Id : 67809437566 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
6, 60, 210, 504, _____

Options :

1. 962

2. 990

3. 1000

4. 1008

Question Number : 115 Question Id : 67809437567 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
2, 3, 5, 8, 13, 21, _____

Options :

1. 34

2. 28

3. 27

4. 32

Question Number : 116 Question Id : 67809437568 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
V, S, P, M, _____

Options :

1. I

2. J

3. K

4. H

Question Number : 117 Question Id : 67809437569 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
JLO, KMP, LNQ, _____

Options :

1. MOR

2. MOP

3. MPR

4. NOR

Question Number : 118 Question Id : 67809437570 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
96:120::_____:60

Options :

1. 48

2. 42

3. 36

4. 35

Question Number : 119 Question Id : 67809437571 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
36:5::81: _____

Options :

1. 9

2. 8

3. 7

4. 11

Question Number : 120 Question Id : 67809437572 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is the correct option that fits in the blank of the given series:
1, 2, 6, 21, 88, _____

Options :

1. 446

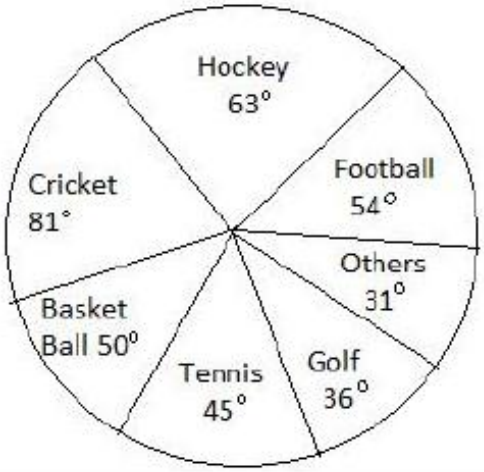
2. 444

3. 445

4. 450

Question Id : 67809437573 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No
Question Numbers : (121 to 127)

Directions: The Circle-graph given here shows the spending of a country on various sports during a particular year. Study the graph carefully and answer the question.



Sub questions

Question Number : 121 Question Id : 67809437574 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What percent of the total spending is spent on Tennis?

Options :

1. 12 1/2 %

2. 22 1/2 %

3. 25%

4. 45%

Question Number : 122 Question Id : 67809437575 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How much percent more is spent on Hockey than that on Golf?

Options :

1. 27%

2. 35%

3. 37.5%

4. 75%

Question Number : 123 Question Id : 67809437576 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How much percent less is spent on Football than that on Cricket?

Options :

1. 22 2/9%

2. 27%

3. 33 1/3%

4. 37 ½%

Question Number : 124 Question Id : 67809437577 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the total amount spent on sports during the year was Rs. 2 crores, the amount spent on Cricket and Hockey together was :

Options :

1. Rs. 8,00,000

2. Rs. 80,00,000

3. Rs. 1,20,00,000

4. Rs. 1,60,00,000

Question Number : 125 Question Id : 67809437578 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If the total amount spent during the year was Rs. 5 crores, the amount spent on Tennis is

Options :

1. Rs.60,00,000

2. Rs. 62,50,000

3. Rs.52,50,000

4. Rs.60,62,000

Question Number : 126 Question Id : 67809437579 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which two games spent 40% of the funds?

Options :

1. Hockey and Football

2. Tennis and Football

3. Golf and Football

4. Hockey and Tennis

Question Number : 127 Question Id : 67809437580 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Which game got maximum funds?

Options :

1. Hockey

2. Cricket

3. Tennis

4. Football

Question Id : 67809437581 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No

Question Numbers : (128 to 132)

In a code, an English word of n letters is coded as follows:

(I). If n is even each of the first n/2 letters of the word are shifted forward by 3 places. The last n/2 letters are shifted backward by 3 places.

(II). If n is odd, each of the first (n-1)/2 letters of the word are shifted forward by 3 places, the last (n-1)/2 letters are shifted backward by 3 places and the middle letter is unchanged.

For example, POISON is coded as SRLPLK and EMCET is coded as HPCBQ.

Decoding is the inverse process of this coding. Answer the question using this coding and decoding process.

Sub questions

Question Number : 128 Question Id : 67809437582 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The code word for BANARAS is ?

Options :

1. EDQDOXP

2. EDQAMXP

3. EDQAOXP

4. EDQAMWP

Question Number : 129 Question Id : 67809437583 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The code word for POTATO is

Options :

1. SRWXQL

2. SRXXQL

3. SRWYQL

4. SRXXWL

Question Number : 130 Question Id : 67809437584 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The code word for LOUSY is

Options :

1. ORUQV

2. ORXPY

3. ORRPV

4. ORUPV

Question Number : 131 Question Id : 67809437585 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The word coded as LAZY is

Options :

1. IXCB

2. OACB

3. WHJB

4. WHIB

Question Number : 132 Question Id : 67809437586 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

The word coded as HOUSE is

Options :

1. ELXUH

2. ELUVH

3. ELUUH

4. ELXVH

Question Number : 133 Question Id : 67809437587 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If in a certain language GAMBLE is coded as FBLCKF, how is FLOWER coded in that code?

Options :

1. GKPVFQ

2. EMNXDS

3. GMPVDS

4. HNQYGT

Question Number : 134 Question Id : 67809437588 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If in a certain language CHAMPION is coded as HCMAIPNO, how is NEGATIVE coded in that code?

Options :

1. ENAGITEV

2. NEAGVEIT

3. MGAETIVE

4. EGAITEVN

Question Number : 135 Question Id : 67809437589 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If CAB is coded as WUV how is DEAF coded in that language?

Options :

1. XYUZ

2. UWYV

3. XMUY

4. UYXZ

Question Number : 136 Question Id : 67809437590 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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 : 137 Question Id : 67809437591 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

A man walks 6km to the east and then turn to the south 2km. Again he turns to the east and walks 2km. Next he turns northwards and walks 8km. How far is he now from his starting point?

Options :

1. 18km

2. 10km

3. 16km

4. 12km

Question Number : 138 Question Id : 67809437592 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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 : 139 Question Id : 67809437593 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. 12, 21

2. 20, 35

3. 16, 28

4. 24, 42

Question Number : 140 Question Id : 67809437594 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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 Number : 141 Question Id : 67809437595 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. 52

2. 51

3. 54

4. 53

Question Number : 142 Question Id : 67809437596 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

While climbing a 40 feet tall pole, a monkey ascends 4 feet in a single jump, but slips down 2 feet immediately. How many jumps does it require to reach the top of the pole?

Options :

1. 10

2. 2

3. 20

4. 19

Question Number : 143 Question Id : 67809437597 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If a month in an year starts with Monday, then the date of the fourth day after the second Saturday in the month, will be ?

Options :

1. 16

2. 17

3. 18

4. 19

Question Number : 144 Question Id : 67809437598 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Options :

1. 124

2. 120

3. 32

4. 130

Question Number : 145 Question Id : 67809437599 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In a village $1/4^{th}$ of the youth are educated and $1/5^{th}$ of the youth are employed. If the number of unemployed youth is 128, how many educated youth are there in that Village?

Options :

1. 50

2. 55

3. 65

4. 40

Question Number : 146 Question Id : 67809437600 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

$a \times b = a^2 + b^2 - 2ab \Rightarrow (a \times a) \times (b \times b)) \times (c \times c) =$

Options :

1. 0

2. 1

3. 2

4. a+b+c

Question Number : 147 Question Id : 67809437601 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

If N is the set of positive integers, then {n ∈ *N* I *n* -2 I< 3 } =

Options :

1. {1,2,3,4,5}

2. {1,2,3,4}

3. {2,3,4,5}

4. {2,3}

Question Id : 67809437602 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No
Question Numbers : (148 to 150)

Directions: Read the following information to answer the given question.

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 : 67809437603 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

What is F's position in relation 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 : 67809437604 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who is between E and C?

Options :

1. D

2. B

3. A

4. Cannot be determined

Question Number : 150 Question Id : 67809437605 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who is to the immediate right of A?

Options :

1. D.

2. C

3. B

4. E

Communicative English

Number of Questions:	46
Display Number Panel:	Yes
Group All Questions:	No

Question Number : 151 Question Id : 67809437606 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

Khushwant Singh's "Train to Pakistan" is _____ historical novel.

Options :

1. a

2. an

3. the

4. no article required

Question Number : 152 Question Id : 67809437607 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

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

There was _____ ugly scar on the face of the prisoner.

Options :

1. a

2. an

3. the

4. no article required

Question Number : 153 Question Id : 67809437608 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the appropriate preposition from the given options:

I hope to finish my project _____ the end of the month.

Options :

1. at

2. for

3. in

by

4.

Question Number : 154 Question Id : 67809437609 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the appropriate preposition from the given options:

The doctor gave me his telephone number to call him _____ any emergency.

Options :

1. for

2. in

3. at

4. over

Question Number : 155 Question Id : 67809437610 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with the correct form of the verb from the given options:

I _____ for you since morning.

Options :

1. am waiting

2. have been waiting

3. was waiting

4. had been waiting

Question Number : 156 Question Id : 67809437611 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Complete the sentence with the correct form of the verb from the given options:

I _____ him only last Monday.

Options :

1. met

2. have met

3. had met

4. was met

Question Number : 157 Question Id : 67809437612 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the right option to fill in the blank to change the given sentence from active voice into passive voice:

I know the truth.

The truth _____ to me.

Options :

1. was known

2. has been known

3. had been known

4. is known

Question Number : 158 Question Id : 67809437613 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the appropriate form of the verb from the given options:

He is a fool. He _____ anything.

Options :

1. do not know

2. was not known

3. does not know

4. is not known

Question Number : 159 Question Id : 67809437614 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the appropriate form of the verb from the given options:

Neither Sunil nor you _____ at the meeting yesterday.

Options :

1. was present

2. is present

3. were present

4. are present

Question Number : 160 Question Id : 67809437615 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct question tag for the following statement:

We discussed this matter many times.

Options :

1. isn't it?

2. wasn't it?

3. did we?

4. didn't we?

Question Number : 161 Question Id : 67809437616 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the synonym for the word 'tentative':

Options :

1. real

2. imaginary

3. provisional

4. permanent

Question Number : 162 Question Id : 67809437617 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the synonym for the word 'hinder':

Options :

1. obstruct

2. encourage

3. activate

4. exhort

Question Number : 163 Question Id : 67809437618 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the antonym for the word 'frequent':

Options :

1. repetitive

2. redundant

3. rare

4. eloquent

Question Number : 164 Question Id : 67809437619 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the antonym for the word 'rapid':

Options :

1. slow

2. fast

3. candid

4. cowardly

Question Number : 165 Question Id : 67809437620 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the one word substitute for the given expression:

The production of silk and the rearing of silkworms for this purpose.

Options :

1. horticulture

2. sericulture

3. aquaculture

4. aviculture

Question Number : 166 Question Id : 67809437621 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct one word substitute for the given expression:

A word or a group of words that is the same when you read it forwards from the beginning or backwards from the end.

Options :

1. homophone

2. anagram

3. homonym

4. palindrome

Question Number : 167 Question Id : 67809437622 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose a prefix/suffix for the word given in the bracket to fill the blank with the right form of the word:

The economy of India improved after _____ (liberal) in the 90s.

Options :

1. -ation

2. -ization

3. –ate

4. -ity

Question Number : 168 Question Id : 67809437623 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the right word:

Yesterday night, a police _____ stopped us to check our vehicle for drugs.

Options :

1. petrol

2. patrol

3. patron

4. pattern

Question Number : 169 Question Id : 67809437624 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the right word:

Success depends upon one's ability to _____oneself to new circumstances.

Options :

1. adsorb

2. adopt

3. adept

4. adapt

Question Number : 170 Question Id : 67809437625 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the right word:

Many farmers are leaving villages because of the severe _____.

Options :

1. draft

2. draught

3. drought

4. drout

Question Number : 171 Question Id : 67809437626 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the part of the sentence that has a mistake:

X rays are very powerful/ that they can penetrate/ most solids as easily as/ light

1 2 3

passes through glass.

4

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 172 Question Id : 67809437627 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the part of the sentence that has a mistake:

The equipment in the office/ are /in bad shape /and in need of repair.

1 2 3 4

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 173 Question Id : 67809437628 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the part of the sentence that has a mistake:

Mr.Sreedhar is / senior /than you, /isn't he?

1 2 3 4

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 174 Question Id : 67809437629 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the part of the sentence that has a mistake:

Scarcely had /Hamlet's father died/ than his mother /married his uncle Claudius.

1 2 3 4

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 175 Question Id : 67809437630 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Identify the part of the sentence that has a mistake:

As soon as /I receive the news/ I will inform/ to you.

1 2 3 4

Options :

1. 1

2. 2

3. 3

4. 4

Question Number : 176 Question Id : 67809437631 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct alternative to replace the *italicized and underlined part* to improve the Sentence:

Have you been there, we could have fought it out with them.

Options :

1. If you are there

2. Had you been there

3. You being there

4. Being you there

Question Number : 177 Question Id : 67809437632 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct alternative to replace the *italicized and underlined part* to improve the Sentence:

Being a rainy day, we stayed home.

Options :

1. Having been a rainy day

2. Had been a rainy day

3. It, being a rainy day

4. Is being a rainy day

Question Number : 178 Question Id : 67809437633 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct alternative to replace the *italicized and underlined part* to improve the Sentence:

The students *have waited* in the hot sun for more than two hours now.

Options :

1. had waited

2. has waited

3. have been waiting

4. are waiting

Question Number : 179 Question Id : 67809437634 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct alternative to replace the *italicized and underlined part* to improve the Sentence:

For suppose, you became the Prime Minister, what would you do to solve this problem?

Options :

1. Suppose if

2. Suppose

3. Supposed

4. If suppose

Question Number : 180 Question Id : 67809437635 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct alternative to replace the *italicized and underlined part* to improve the Sentence:

It is surprising that the government school student answered all the questions correctly with *hardly no effort* at all.

Options :

1. hard effort
2. a great effort
3. hardly any effort
4. hardingly no effort

Question Number : 181 Question Id : 67809437636 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the meaning of the italicized words:

He received a *pink slip* from his boss today.

Options :

1. promotion letter
2. bonus letter
3. termination letter
4. warning letter

Question Number : 182 Question Id : 67809437637 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Find the meaning of the italicized words:

People believe that he amassed a lot of wealth by *sharp practice* in his profession.

Options :

1. intelligent methods
2. dishonest methods

3. hard work

4. knowledgeable methods

Question Number : 183 Question Id : 67809437638 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the correct phrasal verb:

He has a very log nose. He must have _____ his father.

Options :

1. taken after

2. taken up

3. taken into

4. taken to

Question Number : 184 Question Id : 67809437639 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the correct phrasal verb:

He wants to _____ his America trip owing to his ill health.

Options :

1. put on

2. put out

3. put off

4. put in

Question Number : 185 Question Id : 67809437640 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Fill in the blank with the correct phrasal verb:

He was _____ by his father for teasing his sister.

Options :

1. pulled down

2. pulled through

3. pulled out

4. pulled up

Question Id : 67809437641 Sub Question Shuffling Allowed : Yes Group Comprehension Questions : No
Question Numbers : (186 to 190)

Read the following passage carefully and choose the correct option for the question asked:

Arun, whom I have known for three years, is one of my favourite students. He is always bubbling with enthusiasm and eagerness. Whenever I announce a language activity, he is the first to volunteer. His attitude, high level of motivation and gentle approach have helped him win the hearts of his classmates and teachers and succeeded in all his endeavours.

Three years ago, when I expressed my appreciation for his many positive qualities, he responded in Telugu, "Sir, my only limitation is that I don't know English. Due to this, everyone looks down upon me. Anyhow, I'm quite confident that I'll be able to master the language and speak fluently. I've started taking steps to improve my English."

Most of his classmates spoke English fluently and performed well whenever they made oral presentations, took part in a mock interview or group discussion. Arun didn't consider this situation a problem or threat; rather he took it as a challenge and opportunity.

Three years ago, Arun was not able to produce even a single sentence in English. Now he is able to write on his own and communicate well. How did he learn and master the language so quickly? He attributes his success to his self-confidence, desire to learn and the perseverance to master the language.

Sub questions

Question Number : 186 Question Id : 67809437642 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Who is the author of the above passage?

Options :

1. Arun

2. Arun's friend

3. Arun's teacher

4. Arun's brother

Question Number : 187 Question Id : 67809437643 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Why does everyone look down upon Arun?

Options :

1. Arun is overactive.

2. Arun is a bad person.

3. Arun's friends do not like him.

4. Arun does not know English well.

Question Number : 188 Question Id : 67809437644 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Arun took his situation as

Options :

1. a challenge

2. a problem

3. a threat

4. a danger

Question Number : 189 Question Id : 67809437645 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

How many years did Arun take to master the English language?

Options :

1. two

2. three

3. many

4. hardly any time

Question Number : 190 Question Id : 67809437646 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

One of the reasons for Arun's success in mastering the English language is his

Options :

1. intelligence

2. natural talent

3. his parent's help

4. perseverance

Question Number : 191 Question Id : 67809437647 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to arrange the words in the jumbled sentence to make it meaningful.

make it drink / you can lead / but you cannot / a horse to water

A B C D

Options :

1. BDCA

2. DCBA

3. ABCD

4. CDAB

Question Number : 192 Question Id : 67809437648 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to arrange the words in the jumbled sentence to make it meaningful.

make an omelet / a few eggs / you cannot / without breaking

A B C D

Options :

1. DBAC

2. BADC

3. CADB

4. CBDA

Question Number : 193 Question Id : 67809437649 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to arrange the words in the jumbled sentence to make it meaningful.

for over / the English / two hundred years / ruled India

A B C D

Options :

1. CBDA

2. BDAC

3. CDAB

4. CBDA

Question Number : 194 Question Id : 67809437650 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to arrange the words in the jumbled sentence to make it meaningful.

the best players / selected / the committee / for the team /

A B C D

Options :

1. DBAC

2. DACB

3. CADB

4. CBAD

Question Number : 195 Question Id : 67809437651 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to arrange the words in the jumbled sentence to make it meaningful.

is used / simple present tense / habitual events / to talk about

A B C D

Options :

1. DBCA

2. BDCA

3. BADC

4. ADCB

Question Number : 196 Question Id : 67809437652 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to show the function of the following sentence:

How about I pick you up at eight o'clock on my way to the college?

Options :

1. requesting

2. suggesting

3. apologizing

4. commanding

Question Number : 197 Question Id : 67809437653 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to show the function of the following sentence:

Why don't you join us for lunch on Sunday?

Options :

1. requesting

2. seeking permission

3. inviting

4. commanding

Question Number : 198 Question Id : 67809437654 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to show the function of the following sentence:

Get this letter signed by your father and bring it tomorrow morning.

Options :

1. requesting

2. seeking permission

3. apologizing

4. commanding

Question Number : 199 Question Id : 67809437655 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to show the function of the following sentence:

Would it be possible for me to use your computer for a few minutes, please?

Options :

1. seeking permission

2. advising

3. commanding

4. apologizing

Question Number : 200 Question Id : 67809437656 Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Choose the correct option to show the function of the following sentence:

Would you mind bringing some medicines from the pharmacy, please?

Options :

1. requesting

2. commanding

3. advising

4. apologizing