SAMPLE PAPER

Class 12

(Based on Class 12 Syllabus)

For Students in the Science Stream

Time Allowed : 3 hrs

Maximum Marks : 100

MATHEMATICS

Q1.Let A = { 2 , 3 , 6 }. Which of the following relations on A are reflexive ?

a) R3R3 = { (2,2) , (3,6) , (2,6) }
b) R2R2 = { (2,2) , (3,3) , (3,6) , (6,3) }
c) R1R1 = { (2,2) , (3,3) , (6,6) }
d)None of these

Ans-c
R1R1 is a reflexive on A , because (a,a)

Q2.If $\cos^{(-1)}x+\cos^{(-1)}y=2\pi\cos^{(-1)}x+\cos^{(-1)}y=2\pi$, then the value of $\sin^{(-1)})x+\sin^{(-1)}y\sin^{(-1)}x+\sin^{(-1)}y$ is

a)0 b) ππ
c)- π – π d)None of these

Ans-c

If $\cos^{(-1)}x+\cos(-1)y=2\pi\cos^{(-1)}x+\cos^{(-1)}y=2\pi$, then the value of $\sin^{(-1)}x+\sin^{(-1)}y\sin^{(-1)}x+\sin^{(-1)}y=\pi-2\pi=-\pi$.

Q3.The number of all possible matrices of order 3×33×3 with each entry 0 or 1 is

a)81 b)512 c)89 d)18

Ans-b

$2^{3x3}=2^9=512$.

Q4.If A is a matrix of order3 × 43 × 4 , then each row of A has

a) 3 elements b) 5 elements c) 12 elements d)4 elements

Ans-d

$$A = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{31} & a_{32} & a_{33} & a_{34} \end{bmatrix}_{3\times4}$$

,therefore matrix A has 4 elements in each row.

Q5.If P is of order 2 × 32 × 3 and Q is of order 3 × 23 × 2, then PQ is of order

a) 2 x 22 x 2 b) 3 × 33 × 3
c) 3 × 23 × 2 d) None of these
Ans- a

Here, matrix P is of order 2 × 3 and matrix Q is of order 2 × 2 , then , the product PQ is defined only when : no. of columns in P = no. of rows in Q. And the order of resulting matrix is given by : rows in P x columns in Q.

Q6.The function f (x) = 1 + | sin x l is

a) differentiable nowhere
b)continuous nowhere
c)continuous everywhere
d)differentiable everywhere

Ans-c

f(x)=1+|sinx| f(x)=1+|sinx| is not derivable at those x for
which xforwhichsinx=0,xforwhichsinx=0, however, 1+|sinx|1+|sinx| is continuous everywhere (being the sum of two continuous functions)

Q7.Let f (x) = [x], then f (x) is

a) continuous for all x∈R
b) continuous nowhere
c)differentiable for all x∈ (R – I)
d) differentiable for all x∈R

Ans-c

f(x) = [x] is derivable at all x except at integral points i.e. on R – I .

Q8. The cross product of two parallel vectors is ?

a)1 b)0 c)perpendicular d)parallel

Ans-b

Q9.The conditional probability of an event E's complement E', given the occurrence of the event F

a) P (E'|F) = P (E|F)
b) P (E'|F) = – 1 + P (E|F)
c) P (E'|F) = 1
d) P (E'|F) = 1 - P (E|F)

Ans-d

As the total probability of an event is always 1 . therefore , P (E'|F) = 1 – P (E|F).

Q10.Two coins are tossed once ,where E :no tail appears , F : no head appears.
Find P(E/F).

a)0 b)0.35 c)0.24 d)0.25

Ans-a
S={HH,HT,TH,TT}
E={HH}
F={TT}
E∩F=φ
⇒P(E)=1/4,P(F)=1/4,P(E∩F)=0
⇒P(E/F)= $\frac{P(E\cap F)}{P(F)}$ = $\frac{0}{1/4}$ =0

Q11.Direction cosines of a line are

a)The sines of the angles made by the line with the positive directions of the coordinate axes.
b) The tangents of the angles made by the line with the negative directions of the coordinate axes.
c)The cosines of the angles made by the line with the positive directions of the coordinate axes..
d) The cotangents of the angles made by the line with the negative directions of the coordinate axes.

Ans-c

Direction cosines of a line are the cosines of the angles made by the line with the positive direction of the coordinate axis.i.e. x- axis , y-axis and z – axis respectively.

Q12.If l, m, n are the direction cosines of a line, then

a) $2l^2+ m^2+ n^2= 1$
b) $l^2+ m^2+ 2n^2= 1.l2$

c) $l^2+ 2m^2+ n^2= 1$
d) $l^2 +m^2 + n^2 = 1$

Ans-d
If l, m , n are the direction cosines of a line then , we know that , $l^2+ m^2+ n^2= 1$.

Q13.If l, m and n are the direction cosines of a line, Direction ratios of the line are the numbers which are
a) Proportional to the direction cosine l of the line
b) Inversely Proportional to the direction cosine l of the line
c)Proportional to the direction cosines of the line
d) Inversely Proportional to the direction cosines of the line

Ans-c

If l, m and n are the direction cosines of a line, Direction ratios of the line are the numbers which are Proportional to the direction cosines of the line.

Q14. Skew lines are lines in different planes which are

a) intersecting
b)parallel
c)parallel and intersecting
d)neither parallel nor intersecting

Ans-d

By definition : The Skew lines are lines in different planes which are neither parallel nor intersecting

Q15.Find the rate of change of the area of a circle with respect to its radius r when r = 3 cm .

a) 3π cm^2 /s b) 6π cm^2 /s c) 2π cm^2 /s d)None of these

Ans-b

The area of a circle (A) with radius (r) is given by,

$A=\pi r^2$

Now, the rate of change of the area with respect to its radius is given by,

$\frac{dA}{dr} = \frac{d}{dr}(\pi r^2) = 2\pi r$

Therefore,when r=3cm

$\frac{dA}{dr}$ = 2 π(3) =6 π

Hence, the area of the circle is changing at the rate of 6π cm^2 /s when its radius is 3 cm.

Q16.Find the slope of the tangent to the curve y = x^3 – 3x + 2 at the point whose x-coordinate is 3.

a)20 b)27 c)24 d)22

Ans-c

The given curve is y = x^3 – 3x + 2

$\frac{dy}{dx}$ = $3x^2$ - 3

The slope of the tangent to a curve at (x_0, y_0) is :

$$\left.\frac{dy}{dx}\right]_{X_0 - Y_0}$$

Hence, the slope of the tangent at the point where the x-coordinate is 3 is given by

$$\left.\frac{dy}{dx}\right]_{X=3} = \left.3x^2 - 3\right]_{X=3}$$

= $3(3)^2$ – 3 = 27 – 3 = 24

Q17.Which of these statements is true:

- **I. 10 kg is a scalar quantity.**
- **II. 20 m/s^2 is a vector quantity.**

a)Only I is true b)Only II is true
c)Both are true d)Both are false

Ans-c

I.10 kg is a scalar quantity because it involves only magnitude.
II. 20 m/s^2 is a vector quantity as it involves magnitude as well as direction.

Q18.The type of problems which seek to maximise (or, minimise) profit (or, cost) form a general class of problems called_____.

a)Constraint problems
b)optimisation problems
c)maximisation problems
d)None of these

Ans-b

Q19.Let x,y be two variables , and x >0, xy=1.Then,what will be the minimum value of x + y?
a)1 b)2 c)3 d)

Ans-b
Let A=x + y=x+1/x (xy=1)

$$\frac{dA}{dx} = 1 - \frac{1}{x^2} \quad , \frac{d^2A}{dx^2} = \frac{2}{x^3}$$

$$\text{Now} \quad \frac{dA}{dx} = 0 \quad \Rightarrow x = 1,-1$$

$$\text{Also at x=1,} \quad \frac{d^2A}{dx^2} = 2 > 0$$

x=1 is a minimum point of A.So minimum value of A=1 + 1/1 = 2.

Q20.f(x) = $2x^3 - 21x^2 + 36x + 7$ has a maxima at ?

a)x=1 b)x=4 c)x=5 d)None of these

Ans-a
f'(x) = $6x^2 – 42x +36$
f"(x) = 12x – 42
Now f'(x) = 0
⇒ $6(x^2 – 7x + 6)= 0$
⇒ x=1,6
Also f"(1) = 12 -42 = -30 < 0
Therefore , x has a maxima at x=1

Q21.If x= -1 and x=2 are extreme points of the function y=alogx + bx^2 ,then

a)a=3 ; b= 1/3
b)a=-3 ; b=1/2
c)a=2 ; b=1/2
d)None of these

Ans-c
$\frac{dy}{dx} = \frac{a}{x} + 2bx + 1$
Since x = -1 and x =2 are extreme points ,so dy/dx at these points must be zero.Hence,
-a-2b+1=0 and a/2 + 4b + 1 =0
⇒ a + 2b -1 =0 and a + 8b + 2 =0

$\Rightarrow$ a=2 ,b =-1/2

Q22.What will be the maximum area of a rectangle which has a perimeter of 176cms ?

a) 2210 sqcms
b) 1836 sqcms
c) 1967 sqcms
d) 1936 sqcms

Ans-d
Let the sides of the rectangle be x,y ;then
2x + 2y = 176 ....(1)
Therefore its area A=xy=x(88-x)
[From (1)] = $88x - x^2$
$\Rightarrow \frac{dA}{dx}$ = 88-2x ,
$\frac{d^2A}{dx^2} = -2 < 0$
Now $\frac{dA}{dx} = 0 \Rightarrow x = 44$;
Also then,
$\frac{d^2A}{dx^2} < 0$
So area will be maximum when x=44 and maximum area = 44x44=1936 sqcms

Q23.If ∫f(x)∫f(x) dx = f (x), then
a) f (x) = x
b)f(x) = e^x
c) f (x) = 0
d)None of these

Ans-b
∫f(x)dx=f(x)$\Rightarrow \frac{d}{dx}$(f(x))=f(x)

Q24.∫ log $(\frac{1}{x} - x)dx$ is equal to

a)log 2
b) $\frac{1}{2}$ log 2
c)0
d)None of these

Ans-c
∫ log(1−x)dx−∫ logxdx=0

Q25.A black and a red dice are rolled. Find the conditional probability of obtaining a sum greater than 9, given that the black die resulted in a 5.

a) $\frac{4}{8}$

b) $\frac{1}{3}$
c) $\frac{4}{9}$
d) $\frac{2}{3}$
Ans- b

n(S)=36.
Let A = event of getting sum greater than 9.
= {(4,6),(5,5),(6,4),(5,6),(6,5),(6,6)}
And B = event of getting 5 on black die.
={(5,1),(5,2),(5,3),(5,4),(5,5),(5,6)}
$\Rightarrow A \cap B = \{(5,5),(5,6)\}$
$\Rightarrow P(A \cap B) = \frac{2}{36} = \frac{1}{18},$
$P(B) = \frac{6}{36} = \frac{1}{6}$
$\Rightarrow P(A/B) = \frac{P(A \cap B)}{P(B)}$
$= \frac{1/18}{1/6} = \frac{6}{18} = \frac{1}{3}$

SCIENCE

Q26.Which of the following is a natural polymer?

a)Proteins b)PVC c)Buna-S d)All of these

Ans-a-Proteins

Q27.Write the name of the product formed when benzenediazonium chloride solution is treated with potassium iodide.

a)Potassium Chloride b)Sodium Chloride
c) Iodobenzene d)None of these

Ans- c-Iodobenzene

Q28.Name of the crystal defect which reduces the density of an ionic solid?

a)Schotthy defect b)Crystal Defect c)Solid Defect d)None of these

Ans-a- Schotthy defect

Q29.Aluminum crystallizes in an FCC structure. Atomic radius of the metal is 125 pm. What is the length of the side of the unit cell of the metal?

a) 353.5 x 10 cm b) 353.5 x 10^{-10} cm c) 353.5 x 10^{-11} cm d)None of these

Ans-b

Cubic close packing is same as FCC

a=2√2r

a=2 x 4.414 x 125pm

For FCC a = 353.5 pm

a = 353.5 x 10^{-10} cm

Q30.What is the formula of a compound in which the element Y forms CCP lattice and atoms of X occupy 1/3 rd of tetrahedral voids?

a)X^2Y_3 b)X_2Y2 c)X_2Y_3 d)None of these

Ans-c

No of Y atoms =4

No of tetrahedral voids =8, but only 1/3 occupied by X.Therefore

8 x 1/3 = 8/3X ; hence formula is $X_{8/3}Y_4$ = X_8Y_{12} or X_2Y_3

Q31.Write the names of the monomers of the following problem ?

Nylon -6 , 6

a) Hexa diamine and absorbic acid
b) 3-hydroxybutonic acid
c) Hexamethylenediamine and Adipic Acid
d) Hexamethylenodiamine acid

Ans-c
Hexamethylenediamine and Adipic Acid

Q32.Which of the following statement about CHEMISORPTION is false?

a)It takes place at high temperature
b)It is reversible
c)It is highly specific
d)It requires activation energy

Ans - b

It is actually irreversible

Q33.Which of the following statements about PHYISORPTION is true?

a)It is related to the case of liquification of gas
b)It is irreversible
c)It forms multi-molecular layers
d)Both a and c

Ans -d

Q34. Sodium benzoate is an example of _____.

a)Disinfectant
b)Food Preservative
c)Antacid
d)None of the Above
Ans - b

Q35.How many atoms per unit cell (Z)are present in BCC unit cell ?

a)2 b)3 c)1 d)4

Ans – a

No of atoms per unit cell (Z) in BCC Lathree is 2 .

1(Body centre atom) + 8 (at corners) x 1/8 per corner atom = 1 + 8 x 1/8 = 1+1 = 2 atoms.

Q36.Which one of the following is a polysaccharide ?

a)Starch b)Fructose c)Glucose d)Maltose

Ans – a-Starch

Q37.Amoxycillin is a _____.

a)Antiseptic b)Bacteria c)Board spectrum antibiotic d)None of the above

Ans-c- Board spectrum antibiotic

Q38.Aspartame is used as :

a)Analgesic to relive pain
b)Medicine to treat high blood pleasure
c)An antibiotic
d)An artificial sweetner

Ans-d- An artificial sweetner

Q39.Name of the colors corresponding to the digits 4 and 7 in the colour code scheme for carbon resistors.

a)4-Blue ; 7-Red b) 4-Yellow ; 7-Voilet c)4-Green ; 7-Violet d)None of these

Ans-b- 4-Yellow ; 7-Voilet

Q40.State which of the two, a capacitor or an inductor, tends to become a Short when the frequency of the applied alternating voltage has a very high value.

a)Inductor b)Both c)Capacitor d)Neither

Ans- c-Capacitor

Q41.The equivalent wavelength of a moving electron has the same value as that of a photon having an energy of $6*10^{-17}$ J. calculate the momentum of the electron.

a)3 x 10 kg ms b)2 x 10^{12} kg ms^{-1} c)2 x 10^{-25} kg ms^{-1} d)None of these

Ans- c-2 x 10^{-25} kg ms^{-1}

Energy of the photon E=hv = $\frac{hc}{\lambda}$

Therefore $\lambda = \frac{hc}{E}$

Therefore ,Wavelength of the moving electron

$\lambda = \frac{hc}{E}$

Therefore,Momentum of the electron

p= $\frac{h}{\lambda} = \frac{hE}{hc} = \frac{E}{c}$

$= \frac{6 \text{ x } 10^{-17}}{3 \text{ x } 10^{8}}$ kg ms^{-1}

=2 x 10^{-25} kg ms^{-1}

Q42.What is the minimum number of satellites that enables a global positioning system (GPS) receiver to determine ones longitude/ latitude position i.e,. to make a 2D position fix.

a)One b)Three c)Two d)Four

Ans-b- Three.

Q43.Which of the following 3 statements are true with respect to EXTRINSIC SEMI CONDUCTORS.

I.Their electrical conductivity is high

II.Their electrical conductivity depends on only temperature.

III.There is a permitted energy state of the impurity atom between valence and conduction bands .

a)I (b) II c) Both 1 & III d) All three.

Ans- c

Statement II is false as their electrical conductor depends on both temperature as well as on dopant concentration

Q44.What is the voltage and frequency of mains supply in india .

a) 110 V & 50 NZ b) 120 V & 50 NZ c) 260 V &650 NZ d) 220 V & 50 NZ

Ans-d- 220 V & 50 NZ

Q45.Can a transformer be used to step up D.C Voltage.

a)Yes b)In certain conditions c)No d)When joined in a series.

Ans – c-No

Q 46.The radius of the innermost electron orbit of a hydrogen atom is 5.3×10^{-11}m.Calculate its radius in n=3 orbit.

a) 4.77×10^{-10} m b) 4.33×10^{-10} m c) 5.3×10^{-11} m d) 6.77×10^{-1} m

Ans-a

Radius of orbit

$r_n=n^2r_0$

Where r_0 is bohr's radius $= 5.3 \times 10^{-11}$ m

Radius of n =3 orbit

$r_3 = (3)^2 \times 5.3 \times 10^{-11}$m

$=47.7 \times 10^{-11}$m

$=4.77 \times 10^{-10}$ m

Q47.As per Rayleigh scattering law , the amount of scattering varies _____ with the fourth power of wavelength .

(a) inversely (b) equally (c) directly (d) None of these

Ans- a- inversely

Q48.Which of the following spectral series of hydrogen atom lies in the visible range of electromagnetic wave ?

a)Paschen Series b)Lyman Series c)Balmer Series d)Pfund series

Ans-c-Balmer Series

Q49.Electromagnetic wave consists of periodically oscillating electric and magnetic vectors_____.

a) in mutually perpendicular planes but vibrating with a phase difference of π.
b) in randomly oriented planes but vibrating in phase.
c) in mutually perpendicular planes but vibrating with a phase difference of π/2.
d) in mutually perpendicular planes but vibrating in phase.

Ans-d

Q50.Electromagnets are made of soft iron because of which properties of soft iron.

a) high susceptibility and low retentivity
b) high susceptibility and high retentivity
c) low susceptibility and high retentivity
d) low susceptibility and low retentivity

Ans-d

GENERAL KNOWLEDGE

Q 51.In which year did Sher Shah Suri defeat Humayun ?

a) 1539 b) 1545 c) 1607 d) 1589

Ans-a

Q 52. Who is the Author of the famous novel "The White Tiger " ?

a) Kiran Desai b) Salman Rushdie
b) c) Aravind Adiga d) Arundhati Roy

Ans-c

Q 53. Who was the first ever recipient of the Dada Sahib Phalke Award ?

a) Prithvi Raj Kapoor b) Sohrab Modi
c) Dev Anand d) Devika Rani

Ans-d

Q 54. Yogeshwar Dutt won which medal in wrestling in the London Olympics ?

a) Gold b) Silver c) Bronze d) No Medal

Ans-c

Q 55.In which country will the next Asian Games be held ?

a) South Korea b) Vietnam

c) Indonesia d) Singapore

Ans-c

Q 56.Laisram Sarita Devi is associated with which sport ?

a) Athletics b) Boxing c) Weightlifting d) Swimming

Ans-b

Q 57. When is the World Environment Day ?

a) 1 May b) 25 November c) 6 July d) 5 June

Ans-d

Q 58. In which country are the ruins of Petra situated ?

a) Argentina b) Jordan c) Israel d) Egypt

Ans-b

Q 59. What is the old name of Zimbabwe ?

a) East Africa b) Siam c) Rhodesia d) Zaire

Ans-c

Q 60. Which city in India is famous for Glass works ?

a) Agra b) Bhopal c) Moradabad d) Ferozabad

Ans-d

Q 61. The Andes range of mountains are located in _____.

a) Europe b) North America c) Australia d) South America

Ans-d

Q 62.What is the Japanese parliament called ?

a) Duma b) Tshogdu c) Diet d) Knesset

Ans-c

Q 63. Which river flows through Berlin ?

a) Rhine b) Spree c) Daunbe d) Seine

Ans-b

Q 64.Mont Blanc Tunnel is between which two countries ?

a) France and United Kingdom b) Italy and Switzerland
c) France and Italy d) Italy and Germany
Ans-c

Q 65. Who invented the printing press ?

a) G.Bradshaw b) L.E. Waterman
c) Thomas Newcome d) J. Gutenberg
Ans-d

Q 66.Inferno ,a movie based on Dan Brown's book had an Indian actor in its cast.Who was it?

a) Naseeruddin Shah b)Amitabh Bachchan c)Irfan Khan d)No Indian actor
Ans-c

Q 67.Wuthering Heights was written by which author ?

a) Charles Dickens b) Mark Twain c) Charlotte Bronte d) Emily Bronte
Ans-d

Q 68.When is World Soil Day celebrated ?

a) 8 December b) 24 January c) 5 December d) 14 January
Ans-c

Q 69.India conducted a joint military exercise – Shakti 2016 with another country .Which country was it ?

a) Italy b) USA c) Bangladesh d) France
Ans-d

Q 70. Nathaniel Hawthorne is a famous _____.

a) Actor b)Politician c)Writer d)Singer
Ans-c

Q 71. When were the first Grammy music awards given ?

a) 1905 b) 1932 c) 1971 d) 1959
Ans-d

Q 72. Who has been elected the new president of France?

a) Le Pen b) Angela Merkel
c) Emmanuel Macron d) Francois Hollande
Ans-c

Q 73. '25' is the music album of which singer ?

a) Beyonce b) Jennifer Lopez c) Adele d) none of these
Ans-c

Q 74.Who is the president of Tanzania ?

a) Robert Mugabe b) John Magufuli
b) c) Uhuru Kenyatta d) None of these
Ans-b

Q 75.Which movie won the Oscar for Best Picture in the Academy Awards 2017 ?

a) Moonlight b)La La Land c)Jungle Book d) Manchester by the sea
Ans-a

MENTAL ABILITY

Q 76. In a certain code RADIO is XZOPL and SHEET is NBGGI ,then how will you code HEATER ?

a) BNGZIX b) BGZGIX c) BGZIGX d) GZBIXZ
Ans-c

Q 77. If FAIR is written as IENX .Then how will you write TAPE ?
a)WEVL b) WEUK c) WFUK d) XEUK
Ans-b

Study the following information and answer the question 78 given below .
P = Q means Q is the father of P
P * Q means P is the sister of Q
P ? Q means Q is the mother of P
P $ Q means P is the brother of Q
P © Q means Q is the son of P
P x Q means P is the daughter of Q

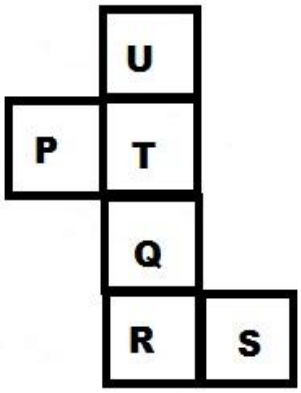
Q 78. Which of the following is not correct ?
a) R X S ? T means R is the granddaughter of T.
b) P = Q ? R means R is the grandmother of P.
c) L $ M * O means O is the sister of L.
d) M * O P ©P=Q means Q and O are husband and wife.
Ans-c

Q 79. Pointing towards a man in the photograph, Archana said "He is the son of only son of my grandmother ".How is the man related to Archana ?

a) Cousin b) Nephew c) Brother d) Son

Ans-c

See the diagram below which gives the plane view of a cube. Then answer the 3 questions below :-



Q 80. Which face will be opposite to face "T" after folding the cube ?

(a) P (b) Q (c) R (d) U

Answer : c – i.e. R

Q 81. Which face will be on top if face "T" is at the bottom ?

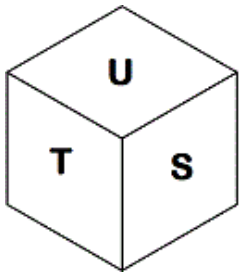
(a) Q (b) R (c) S (d) U

Answer : b – i.e. R

Q 82. Which two faces will be opposite to each other ?

(a) P & R (b) Q & S (c) P & U (d) Q & U

Answer : d – i.e. Q & U

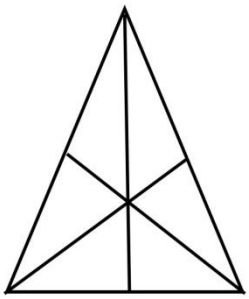


U → Q

P → S

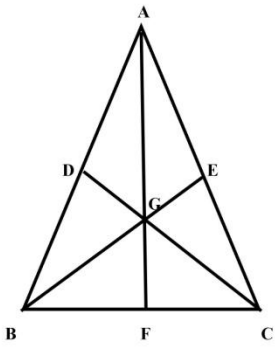
T → R

Q 83.How many triangles are there in the following figure ?



a)16 b)14 c) 7 d) 10

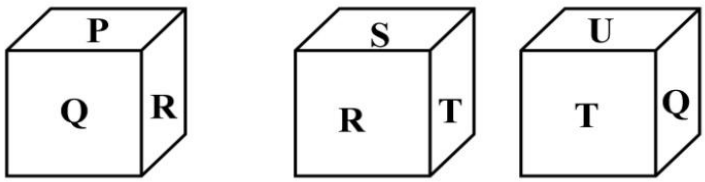
Answer – a



The triangles are :

- AGE , GFC ,BGF ,DGB ,ADG,EGC
- AGC , AGB, BGC
- AFC , AFB, BEC, BDC, ABE, DAC
- ABC
- Hence 16 triangles

Q 84. The six faces of a dice have been named as P,Q,R,S,T and U.The dice is rolled 3 times.The three positions of the dice are as under :

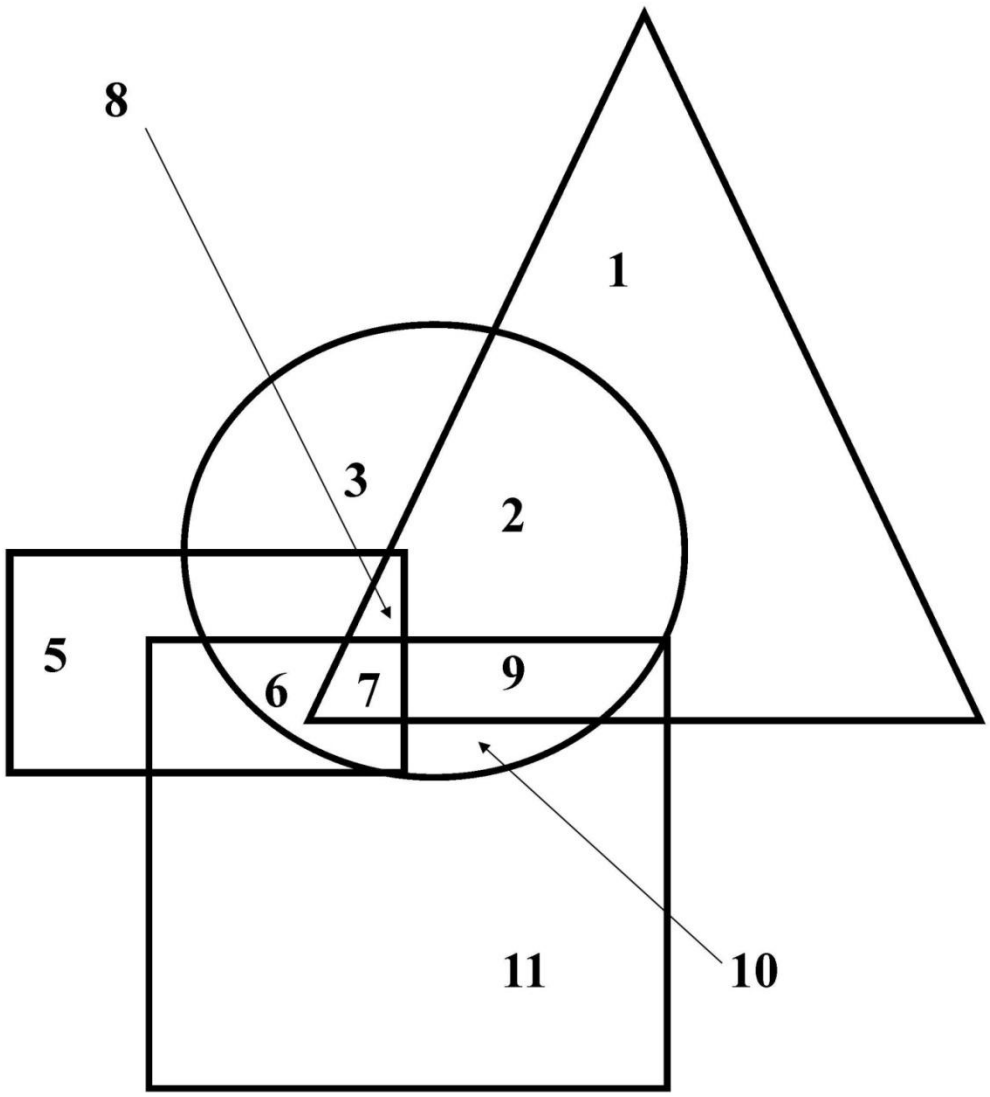


Find the alphabet opposite P.

a) R b)S c)T d) U

Answer – c
T is opposite to P

INFO FOR Questions 85 to 87.
In the following diagram ,rectangle, square, circle and triangle represent the regions of wheat, gram, maize and rice cultivation respectively.



Q 85.Which area is cultivated by all the four commodities ?

a) 7 b) 8 c) 9 d) 2
Ans-a

Q 86. Which area is cultivated by Wheat and Maize only ?

a) 8 b) 6 c) 5 d) 4

Ans-d

Q 87. Which area is cultivated by Rice only ?

a) 5 b) 1 c) 2 d) 11

Ans-b

Q 88. A clock loses $\frac{1}{2}$ % on true time during one week and gains $\frac{1}{4}$ % on true time during the next week.If it is set right at 12 'O' clock on Saturday morning ,the what time will it indicate at the end of second week ? (1/a96)

a) 11:34 b) 11:48 c) 12:15 d) 13:03

Ans-a

Q 89. Between 2 'O' clock to 10 'O' clock, how many times will the hands of a clock be at right angles ?

a)14 b) 12 c) 16 d) 15

Ans-a

Q 90. In this question,a statement is given ,followed by two conclusions.Mark your answer as

a) If only conclusion I follows
b) If only conclusion II follows
c) If either conclusion I or II follows
d) If neither conclusion I nor II follows

STATEMENT : We follow some of the best and effective teaching and learning practices used by leading institutes all over the world –A statement by a professor of Global institute.

Conclusions : I.The Global institute is one of the leading institutes of the world.
II. Whatever is being followed by world's leading institutes will definitely be good and useful.

Answer - d

INFORMATION FOR Q 91 & 92

Five men A,B,C,D, and E read a newspaper.The one who reads first gives it to C.The one who reads last had taken it from A. E was not the first or the last to read.There were two readers between B and A.

Q 91.B passed the newspaper to whom ?

a) A b) C c) D d) E

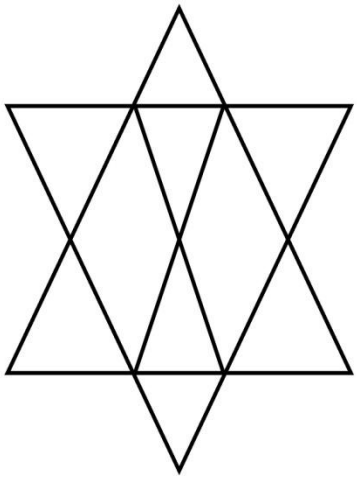
Ans-b

Q 92. Who read the news paper last ?

a) A b) B c) C d) D

Ans-d

Q 93. Determine the number of pentagons in the following figure ?



a) 5 b) 9 c) 8 d) 10

Ans-d

Q 94. If B is the product of 2 different composite numbers.Then what is B ?

a) 10 b) 32 c) 6 d) 8

Ans-b

Q 95. Read the two statements and find out the correct conclusion.
Statement 1 : All Reds are Greens.
Statement 2 : All Greens are Blue

Which is the correct conclusion :

a) No reds are blue
b) All reds are blue
c) Some reds are blue
d) All blues are reds

Ans-b

INFORMATION FOR Q 96 & 97
Consider the words and their codes given in the table below and answer the following 2 questions.

JOIN	**GPHN**
GET	**JFV**
EAT	**FAV**
GREAT	**JRFAV**
FOUL	**EPQL**

Q 96. How many alphabets have been retained as codes ?

a) 2 b) 3 c) 4 d) 5

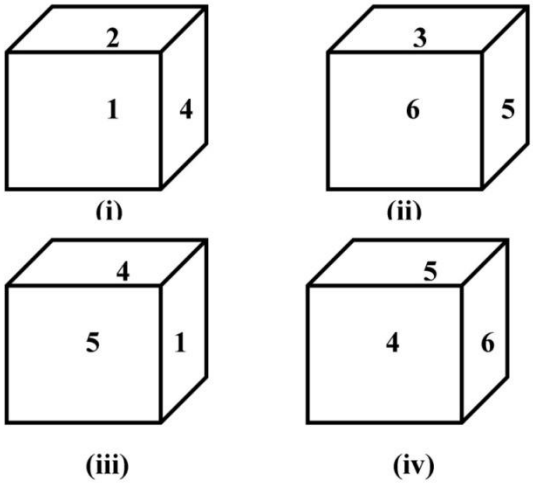
Ans-c

Q 97. How will you code FIGURE ?

a) EHJQRF b) FDELVF c) FIJPRA d) FHJQAR

Ans-a

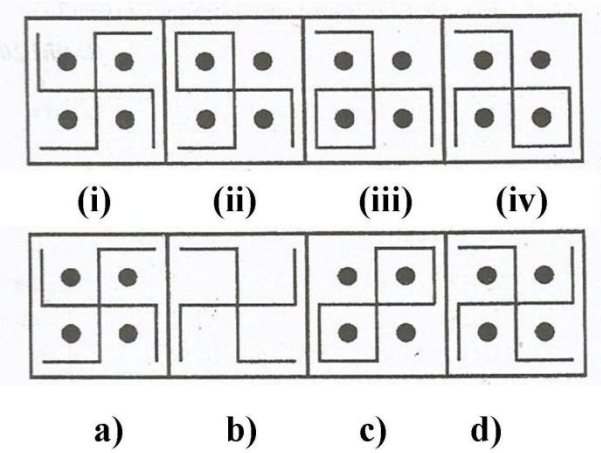
Q 98. Observe the dice given below and find out which number is opposite 3 ?



a) 1 b) 2 **c) 4** d) 6

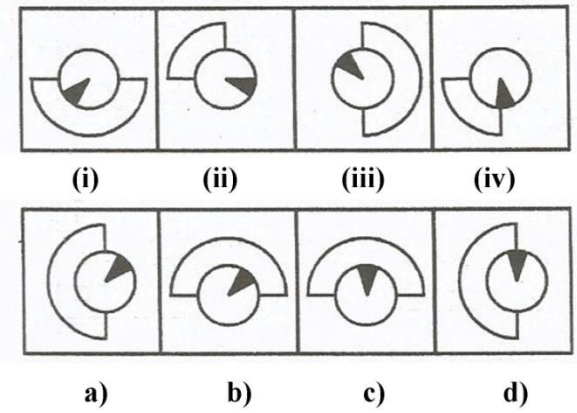
Ans-c

Q 99. Study the picture below from (i) to (iv) and find out which figure out of the four options a,b,c and d will come next in the series.



Answer - d

Q 100 . Study the picture below from (i) to (iv) and find out which figure out of the four options a,b,c and d will come next in the series.



Answer - b