

Examination: 5 Yr Integ M.Sc Prog Applied Geology  
Chemistry Physics

Section 1 - Section 1

Question No.1

4.00

Bookmark ☐

The appearance of colour in solid alkali metal halides is generally due to,

- ☐ Schottky defect
- ☐ F-centres
- ☐ Interstitial position
- ☐ Frenkel defect

Question No.2

4.00

Bookmark ☐

The monomer of Teflon is,

- ☐  $\text{CF}_2=\text{CF}_2$
- ☐  $\text{CH}_2=\text{CH}(\text{Cl})\text{CH}=\text{CH}_2$
- ☐  $\text{CH}_2=\text{CHCl}$
- ☐  $\text{CH}_2=\text{CHCN}$

Question No.3

4.00

Bookmark ☐

A car travelling with  $\frac{5}{7}$  of its actual speed covers 42 km in 1 hr 40 min 48 sec. Find the actual speed of the car.

- ☐ 20KM/H
- ☐ 30KM/H
- ☐ 25KM/H
- ☐ 35KM/H

Question No.4

4.00

Bookmark ☐

Based on the information given, answer the following question.

1. A,B,C,D,E and F are travelling in a bus.
2. There are two reporters, two mechanics, one photographer and one writer in the group.
3. Photographer A is married to D who is a reporter.
4. The writer is married to B who is of the same profession as that of F.
5. A,B,C,D are two married couples and no one in this belong to the same profession.
6. F is the brother of C.

Which of the following pair is a couple?

- ☐ AD
- ☐ BF
- ☐ AB
- ☐ None of these

Question No.5

4.00

Bookmark ☐

Which of the following functions is the solution of the differential equation,  $\frac{dy}{dx} = -y$ ?

- ☐  $y = \exp(-x)$
- ☐  $y = \exp(x)$
- ☐  $y = \exp(x) - \exp(-x)$
- ☐  $y = \exp(x) + \exp(-x)$

Question No.6

4.00

Bookmark ☐

A bag contains 12 balls out of which x are white. If 6 more white balls are put in the bag, the probability of drawing a white ball is double the probability of drawing a white ball before putting 6 balls. Then the value of x is

- ☐ 4
- ☐ 3

- ☐ 5
- ☐ 6

**Question No.7**

4.00

**Bookmark** ☐

32, 31, 32, 29, 32, 27, 32 ?

- ☐ 32
- ☐ 23
- ☐ 21
- ☐ 25

**Question No.8**

4.00

**Bookmark** ☐

An observer moves towards a stationary source of sound with a velocity one-fifth of the velocity of sound. What is the percentage increase in the apparent frequency?

- ☐ 0.50%
- ☐ 20%
- ☐ Zero
- ☐ 5%

**Question No.9**

4.00

**Bookmark** ☐

Rule, Command, Dictate  
Doze, Sleep, ?

- ☐ Hibernate
- ☐ Insomnia
- ☐ Snore
- ☐ Wake

**Question No.10**

4.00

**Bookmark** ☐

If each of the base angles of a triangle is half its vertical angle, then the triangle is

- ☐ an isosceles right-angled triangle
- ☐ an equilateral triangle
- ☐ a scalene triangle
- ☐ an obtuse angled triangle

**Question No.11**

4.00

**Bookmark** ☐

A rope of mass  $m$  is tied to a wall at one end and a person is pulling the other end horizontally. The force that the person should exert to make the rope perfectly straight and horizontal is

- ☐  $\infty$
- ☐  $G$
- ☐  $mg$
- ☐ 0

**Question No.12**

4.00

**Bookmark** ☐

An arch is in the form of semi-ellipse whose span is 48m wide. The height of the arch is 20m. Then the width of the arch at a height of 10m above the base is

- ☐  $20\sqrt{2}$  m
- ☐  $24\sqrt{3}$  m
- ☐  $48\sqrt{2}$  m
- ☐  $24\sqrt{5}$  m

**Question No.13**

4.00

**Bookmark** ☐

Due to frequent power failure in this area, factories are being forced to \_\_\_\_\_ men, because of the closing of the second shift.

- ☐ throw away
- ☐ put off
- ☐ lay off
- ☐ send off

**Question No.14**

4.00

**Bookmark** ☐

Baking soda is the common name for,

- ☐ Calcium carbonate
- ☐ Sodium bicarbonate
- ☐ Sodium carbonate
- ☐ Calcium bicarbonate

**Question No.15**

4.00

**Bookmark** ☐

The catalyst employed in the manufacturing of nitric acid by Ostwald process is,

- ☐ Platinum gauze
- ☐  $V_2O_5$
- ☐ Palladium turnings
- ☐  $VOSO_4$

**Question No.16**

4.00

**Bookmark** ☐

In a code language, Sam Fun Dun means Sun is Shining, Fun Bun Tun means Sun and Moon and Sam Dam Lam is Star is twinkling, which word means Shining?

- ☐ Tun
- ☐ Dun
- ☐ Bun
- ☐ Sam

**Question No.17**

4.00

**Bookmark** ☐

The focal length of a convex mirror is 20 cm its radius of curvature will be

- ☐ 20 cm
- ☐ 80 cm
- ☐ 10 cm
- ☐ 40 cm

**Question No.18**

4.00

**Bookmark** ☐

A convex lens has a focal length of 3 centimeters. How far from the mirror is the object, if the image formed is 4 centimeters away?

- ☐ 3 cm
- ☐ 1 cm
- ☐ 10 cm
- ☐ 8 cm

**Question No.19**

4.00

**Bookmark** ☐

The isotope of carbon 14 is radioactive and has half-life period of 5730 years. If we start with 500 carbon 14 nuclei, how many will remain after 11460 years?

- ☐ 250
- ☐ 500
- ☐ 125
- ☐ 62

## Question No.20

4.00

Bookmark ☐

A particle is undergoing uniform circular motion with a constant angular velocity. The particle is having:

- ☐ a constant linear velocity
- ☐ an acceleration with changing direction
- ☐ a constant acceleration
- ☐ an angular position that is constant

## Question No.21

4.00

Bookmark ☐

Chose the option that is CLOSEST in meaning to the given word:

DETRIMENTAL

- ☐ Aversion
- ☐ Harmful
- ☐ Beneficial
- ☐ Demolition

## Question No.22

4.00

Bookmark ☐

The angle between the asymptotes of the hyperbola  $\frac{x^2}{9} - \frac{y^2}{4} = 1$  is approximately

- ☐ 75°
- ☐ 65°
- ☐ 33°
- ☐ 67°

## Question No.23

4.00

Bookmark ☐

The metal present in chlorophyll, the green pigment of plants is,

- ☐ Magnesium
- ☐ Calcium
- ☐ Manganese
- ☐ Zinc

## Question No.24

4.00

Bookmark ☐

Choose the best antonym of the italicized word.

An artisan well is dug up to an *impervious* layer of rocks.

- ☐ superficial
- ☐ hidden
- ☐ hard
- ☐ penetrable

## Question No.25

4.00

Bookmark ☐

The coordination number of copper in  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  is,

- ☐ 4
- ☐ 3
- ☐ 6
- ☐ 5

## Question No.26

4.00

Bookmark ☐

Which one of the following is NOT a correct statement?

- ☐ Hybridization of phosphorus in  $\text{P}_4$  is  $\text{sp}^3$
- ☐ White phosphorous contains discrete  $\text{P}_4$  molecules
- ☐ White phosphorous is stored under water

- ☐ White phosphorus is least reactive

**Question No.27**

4.00

**Bookmark** ☐

When the price of a product was decreased by 10%, the number of products sold increased by 30%. What was the increase on the total revenue?

- ☐ 16%
- ☐ 23%
- ☐ 17%
- ☐ 15%

**Question No.28**

4.00

**Bookmark** ☐

In a spectrum of hydrogen atom, the Lyman series is observed in the region,

- ☐ Ultraviolet
- ☐ Near-Infrared
- ☐ Visible
- ☐ Far-Infrared

**Question No.29**

4.00

**Bookmark** ☐

Sulphide ores common for the metals are,

- ☐ Al, Cu and Pb
- ☐ Ag, Mg and Pb
- ☐ Ag, Cu and Sn
- ☐ Ag, Cu and Pb

**Question No.30**

4.00

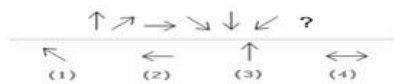
**Bookmark** ☐

A point mass of 1 Kg collides elastically with a stationary point mass of 5 Kg. After the collision, the 1 Kg mass reverses its direction and moves with a speed of 2 m/s. Which of the following statement is correct for the system of these two masses?

- ☐ Total kinetic energy of the system is 6 J
- ☐ Momentum of the 5 Kg mass after collision is 4 Kg m/s
- ☐ Kinetic energy of the large mass after collision is 5 J
- ☐ Total momentum of the system is 3 Kg m/s

**Question No.31**

4.00

**Bookmark** ☐

- ☐ 2
- ☐ 3
- ☐ 1
- ☐ 4

**Question No.32**

4.00

**Bookmark** ☐

In a camp there is sufficient food for 105 soldiers for 21 days. If 42 soldiers leave the camp, how long would the food last ?

- ☐ 35
- ☐ 30
- ☐ 65
- ☐ 45

## Question No.33

4.00

Bookmark ☐

Which one of the following circuit elements stores energy in the electromagnetic field

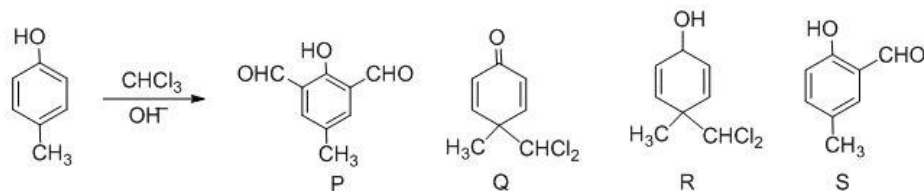
- ☐ Inductance
- ☐ Resistance
- ☐ Transistor
- ☐ Diode

## Question No.34

4.00

Bookmark ☐

The major product of the following reaction is,



- ☐ P
- ☐ Q
- ☐ S
- ☐ R

## Question No.35

4.00

Bookmark ☐

Choose the best synonym of the italicized word.

Lucia has a *penchant* for fine poetry.

- ☐ liking
- ☐ bias
- ☐ training
- ☐ desire

## Question No.36

4.00

Bookmark ☐

Suppose two equal charges of magnitude  $q$  each are kept one at  $x = 0$  and the other at  $x = 2a$ , where can you place a third charge so that the whole system is in equilibrium and how much charge has to be placed.

- ☐  $q/2$  Coulombs at  $x = a$
- ☐  $-q$  Coulombs at  $x = -2a$
- ☐  $-q/4$  Coulombs at  $x = a$
- ☐  $+q$  Coulombs at  $x = -2a$

## Question No.37

4.00

Bookmark ☐

My tuition master's criteria for the essay \_\_\_\_\_ unclear to me.

- ☐ was being
- ☐ are
- ☐ is
- ☐ was

## Question No.38

4.00

Bookmark ☐

Correct the error in the italicized part of the sentence by choosing the most appropriate option.

All *along the journey* she remained silent.

- ☐ All through the journey
- ☐ All during the journey
- ☐ All along in the journey
- ☐ Throughout all journey

## Question No.39

4.00

Bookmark ☐

Such an \_\_\_\_\_ discussion of the recent economic crisis is usually not found in newspapers; normally, such treatment could be found only in scholarly journals.

- ☐ erudite
- ☐ overt
- ☐ ingenious
- ☐ arrogant

## Question No.40

4.00

Bookmark ☐

The number of binary operations on the set {a,b} is

- ☐ 10
- ☐ 20
- ☐ 8
- ☐ 16

## Question No.41

4.00

Bookmark ☐

If a, b and c are in arithmetic progression then the value of the determinant

$$\begin{vmatrix} x+2 & x+3 & x+2a \\ x+3 & x+4 & x+2b \\ x+4 & x+5 & x+2c \end{vmatrix} \text{ is}$$

- ☐ 0
- ☐ x
- ☐ 1
- ☐ 2x

## Question No.42

4.00

Bookmark ☐

The ozone layer is found in which layer of the atmosphere,

- ☐ Stratosphere
- ☐ Thermosphere
- ☐ Mesosphere
- ☐ Troposphere

## Question No.43

4.00

Bookmark ☐

The system of equations  $x+2y+3z=6$ ,  $x+y+z=3$  and  $2x+3y+4z=9$  has

- ☐ a unique solution
- ☐ infinitely many solutions
- ☐ no solution
- ☐ None of these

## Question No.44

4.00

Bookmark ☐

Ganga purchased an iron box at  $\frac{9}{10}$ th of its selling price and sold it at 8% more than its selling price. Find her gain percent.

- ☐ 10%
- ☐ 40%
- ☐ 30%
- ☐ 20%

## Question No.45

4.00

Bookmark ☐

An Op-amp as a voltage follower has a voltage gain of

- ☐ Zero
- ☐ Less than Unity
- ☐ Unity
- ☐ Infinity

## Question No.46

4.00

Bookmark ☐

Let T be the absolute temperature. Then, the kinetic energy of the molecules is proportional to

- ☐  $\log(T)$
- ☐ T
- ☐  $T_2$
- ☐  $T_4$

## Question No.47

4.00

Bookmark ☐

The more appropriate value of  $\sin^{-1}\left(\sin \frac{3\pi}{5}\right)$  is

- ☐  $\frac{9\pi}{5}$
- ☐  $\frac{3\pi}{5}$
- ☐  $\frac{8\pi}{5}$
- ☐  $\frac{2\pi}{5}$

## Question No.48

4.00

Bookmark ☐

Which of the following is correct

- ☐ Light waves and waves on a string are transverse while sound waves are longitudinal.
- ☐ Sound waves and waves on a string are longitudinal while light waves are transverse.
- ☐ Light waves and waves on a string are longitudinal while sound waves are transverse.
- ☐ Sound waves and waves on a string are transverse while light waves are longitudinal.

## Question No.49

4.00

Bookmark ☐

Which is not an intensive variable in thermodynamics

- ☐ Chemical Potential
- ☐ Temperature
- ☐ Entropy
- ☐ Pressure

## Question No.50

4.00

Bookmark ☐

During an adiabatic process, the pressure of a gas is found to be proportional to the cube of its absolute temperature. The ratio  $C_p/C_v$  for the gas is

- ☐ 3/2
- ☐ 2
- ☐ 5/3



## Question No.51

4.00

Bookmark ☐

ABCD is a rhombus whose one angle is  $60^\circ$ . Then the ratio of the lengths of its diagonals is

- ☐  $\sqrt{2} : 1$
- ☐  $\sqrt{3} : 1$
- ☐  $2 : 1$
- ☐  $3 : 1$

## Question No.52

4.00

Bookmark ☐

If the distance between two positive charges is decreased by half, the electrostatic force between them becomes:

- ☐ Half of the original force
- ☐ One fourth of the original force
- ☐ Four times the original force
- ☐ Two times the original force

## Question No.53

4.00

Bookmark ☐

I don't mind \_\_\_\_\_ you with the cooking.

- ☐ for helping
- ☐ helping
- ☐ to help
- ☐ help

## Question No.54

4.00

Bookmark ☐

Which of the following statement is incorrect for the nuclear force between two nucleons?

- ☐ It is spin dependent
- ☐ It has a non-central dependent
- ☐ It is charge dependent
- ☐ It is velocity dependent

## Question No.55

4.00

Bookmark ☐

Which circuit element will oppose any change in current through a circuit

- ☐ Diode
- ☐ Capacitance
- ☐ Resistance
- ☐ Inductance

## Question No.56

4.00

Bookmark ☐

The two most common oxides of chromium are,

- ☐ CrO and CrO<sub>3</sub>
- ☐ CrO<sub>2</sub> and CrO<sub>3</sub>
- ☐ Cr<sub>2</sub>O<sub>3</sub> and CrO<sub>3</sub>
- ☐ CrO<sub>4</sub> and CrO<sub>3</sub>

## Question No.57

4.00

Bookmark ☐

Bromine is a,

- ☐ Yellow liquid
- ☐ Red solid
- ☐ Red liquid
- ☐ Violet gas

## Question No.58

4.00

Bookmark ☐

Which one of the oxidation states is common for lanthanoids?

- ☐ +2
- ☐ +3
- ☐ +4
- ☐ +6

## Question No.59

4.00

Bookmark ☐

The approximate change in the volume of a cube of side x meters caused by increasing the side by 3% is

- ☐  $0.9x^3\text{m}^3$
- ☐  $0.06x^3\text{m}^3$
- ☐  $0.6x^3\text{m}^3$
- ☐  $0.09x^3\text{m}^3$

## Question No.60

4.00

Bookmark ☐

The professor was as usual \_\_\_\_\_ about his favourite subject.

- ☐ urging on
- ☐ dragging on
- ☐ going on
- ☐ rambling on

## Question No.61

4.00

Bookmark ☐

The ascending order (lowest first) of ligands according to spectrochemical series is,

- ☐  $\text{Cl}^- < \text{H}_2\text{O} < \text{NH}_3$
- ☐  $\text{Cl}^- < \text{NH}_3 < \text{H}_2\text{O}$
- ☐  $\text{H}_2\text{O} < \text{NH}_3 < \text{Cl}^-$
- ☐  $\text{NH}_3 < \text{OH}_2 < \text{Cl}^-$

## Question No.62

4.00

Bookmark ☐

6, 11, 21, 36, 56, ?

- ☐ 81
- ☐ 70

- ☐ 75
- ☐ 90
- ☐ 65

**Question No.63**

4.00

Bookmark ☐

Silver objects tarnish (turn black) in air, due to reaction with,

- ☐ Carbon disulphide
- ☐ Ozone
- ☐ Hydrogen sulphide
- ☐ Carbon dioxide

**Question No.64**

4.00

Bookmark ☐

If the lowest resonant frequency of a tube with both ends open is  $f_0$ , then the resonant frequency of the same tube if one end is closed is

- ☐  $\frac{f_0}{2}$
- ☐  $f_0$
- ☐  $2f_0$
- ☐  $\frac{f_0}{4}$

**Question No.65**

4.00

Bookmark ☐

A circular field has a circumference of 360km. three cyclists start together and can cycle 60km , 72km , and 90km a day, round the field . After how many days will they meet again at the starting point ?

- ☐ 40 days
- ☐ 45 days
- ☐ 60 days
- ☐ 50 days

**Question No.66**

4.00

Bookmark ☐

The statement that is NOT correct about ozone is,

- ☐ O—O bond lengths are equal
- ☐ O<sub>3</sub> is diamagnetic in nature
- ☐ Thermal decomposition of O<sub>3</sub> is endothermic
- ☐ O<sub>3</sub> has a bent structure

**Question No.67**

4.00

Bookmark ☐

The correct order of ionization energies of C, N, and O is (lowest first),

- ☐ N < C < O
- ☐ N < O < C
- ☐ C < O < N
- ☐ O < N < C

## Question No.68

4.00

Bookmark ☐

If  $\left(\frac{1+i}{1-i}\right)^m = 1$  then the least integer m is

- ☐ 5
- ☐ 4
- ☐ 2
- ☐ -5

## Question No.69

4.00

Bookmark ☐

The compound that does NOT liberate  $\text{CO}_2$  on treatment with aqueous sodium bicarbonate solution is,

- ☐ Benzoic acid
- ☐ Salicylic acid
- ☐ Benzenesulfonic acid
- ☐ Carboic acid (Phenol)

## Question No.70

4.00

Bookmark ☐

Concentrated nitric acid, upon long standing, turns yellow-brown due to the formation of,

- ☐  $\text{NO}_2$
- ☐  $\text{N}_2\text{O}$
- ☐  $\text{N}_2\text{O}_4$
- ☐  $\text{NO}$

## Question No.71

4.00

Bookmark ☐

SI unit of power of lens is

- ☐ dioptre
- ☐ metre
- ☐ Cm
- ☐ Watt

## Question No.72

4.00

Bookmark ☐

Which of the following parameters does not characterize the thermodynamic state of matter?

- ☐ pressure
- ☐ temperature
- ☐ volume
- ☐ work

## Question No.73

4.00

Bookmark ☐

How many atoms per unit cell are in fcc structure?

- ☐ 6
- ☐ 2
- ☐ 4
- ☐ 1

## Question No.74

4.00

Bookmark ☐

The gas produced when calcium carbide reacts with water is,

- ☐ Methane
- ☐ Acetylene
- ☐ Butane
- ☐ Ethylene

## Question No.75

4.00

Bookmark ☐

The earth radiates in the infra-red region of the spectrum. The wavelength of the maximum intensity of the spectrum is correctly given by

- ☐ Rayleigh Jeans law
- ☐ Planck's law of radiation
- ☐ Stefan's law of radiation
- ☐ Wien's law

## Question No.76

4.00

Bookmark ☐

**Statement:** The Secretary of the housing society have requested society members to use water economically to help society to save on water tax.

**Assumptions:**

I. Majority of the members of the society are likely to follow the request.

II. It is desirable to reduce expenditure wherever possible.

- ☐ If only assumption I is implicit
- ☐ If both I and II are implicit
- ☐ If neither I nor II is implicit
- ☐ If only assumption II is implicit

## Question No.77

4.00

Bookmark ☐

The point at which the tangent to the curve  $y = \sqrt{4x - 3} - 1$  has its slope  $\frac{2}{3}$  is

- ☐ (2,3)
- ☐ (3,2)
- ☐ (3,1)
- ☐ (1,3)

## Question No.78

4.00

Bookmark ☐

A force  $F = (5\mathbf{i} + 4\mathbf{j})$  N acts on an object as it moves in the x direction from the origin to  $x = 2$  m. Here the  $\mathbf{i}$  and  $\mathbf{j}$  denote the unit vectors in the x and y direction. The work done by the object is

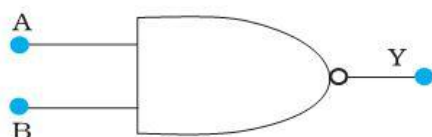
- ☐ 10 N.m
- ☐ 20 N.m
- ☐ 18 N.m
- ☐ 4 N.m

## Question No.79

4.00

Bookmark ☐

The symbol below stands for which logic gate?



- ☐ AND
- ☐ NOT
- ☐ OR

☐ NAND

## Question No.80

4.00

Bookmark ☐

The size of 3d metals across the periodic table, from left to right side,

- ☐ Increases
- ☐ Remains constant
- ☐ First increases then decreases
- ☐ Decreases

## Question No.81

4.00

Bookmark ☐

The number of non-zero integral solutions of the equation  $|1 - i|^x = 2^x$  is

- ☐ one
- ☐ infinite
- ☐ finitely many
- ☐ zero

## Question No.82

4.00

Bookmark ☐

Which one of the following is NOT a constituent of nucleic acid?

- ☐ Uracil
- ☐ Ribose sugar
- ☐ Guanidine
- ☐ Phosphoric acid

## Question No.83

4.00

Bookmark ☐

Select the best description of read-only memory (ROM)

- ☐ volatile, used to store information that changes during system operation
- ☐ nonvolatile, used to store information that changes during system operation
- ☐ nonvolatile, used to store information that does not change during system operation
- ☐ volatile, used to store information that does not change during system operation

## Question No.84

4.00

Bookmark ☐

Gadolinium's ( $Z = 64$ ) correct electronic configuration is,

- ☐  $[\text{Xe}]4f^95s^1$
- ☐  $[\text{Xe}]4f^85d^16s^1$
- ☐  $[\text{Xe}]4f^75d^16s^2$
- ☐  $[\text{Xe}]4f^85d^2$

## Question No.85

4.00

Bookmark ☐

The solution of  $\tan^{-1}(2x) + \tan^{-1}(3x) = \frac{\pi}{4}$  is

- ☐ -1
- ☐ -1/2
- ☐ 1/6
- ☐ 0

## Question No.86

4.00

Bookmark ☐

The locus of a point which is equidistant from the three lines determined by the sides of a triangle is

- ☐ incentre
- ☐ none of these
- ☐ circumcentre
- ☐ ortho centre

**Question No.87**

4.00

Bookmark ☐

Which one of the following is NOT a correct statement?

- ☐  $\text{SiO}_2$  has pp-pp bonds allowing it to form network solid
- ☐  $\text{SiO}_2$  and  $\text{CO}_2$  are weak acids
- ☐  $\text{CO}_2$  is a linear molecule
- ☐  $\text{CO}_2$  has pp-pp bonds between C and O atoms

**Question No.88**

4.00

Bookmark ☐

Which one of the following statements is NOT correct?

- ☐ Graphite has higher electrical conductivity than diamond.
- ☐ Graphite has higher thermal conductivity than diamond
- ☐ Graphite has  $\text{sp}^3$  hybridization, while diamond has  $\text{sp}^2$
- ☐ Graphite has higher C-C bond order than diamond

**Question No.89**

4.00

Bookmark ☐

The feasible region of a LPP is always

- ☐ an annular region
- ☐ a bounded region but not convex
- ☐ a convex region
- ☐ a bounded region

**Question No.90**

4.00

Bookmark ☐

The number of magnetic field lines passing normally through an unit area is known as

- ☐ magnetic energy
- ☐ magnetic flux
- ☐ magnetic flux density
- ☐ magnetic lines of force

**Question No.91**

4.00

Bookmark ☐

Raja has enough money to buy 75 machines worth Rs.200 each. How many machines can he buy if he gets a discount of Rs.50 on each machine?

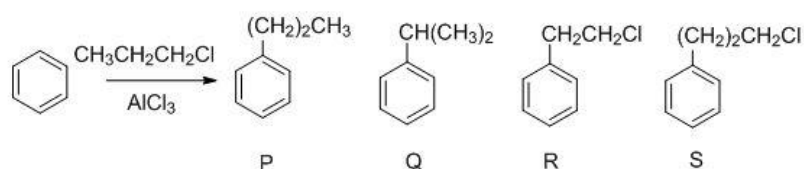
- ☐ 180
- ☐ 100
- ☐ 200
- ☐ 150

**Question No.92**

4.00

Bookmark ☐

The correct product of the following reaction is,



- ☐ R
- ☐ Q
- ☐ P
- ☐ S

**Question No.93**

4.00

**Bookmark** ☐

Which of the following is not used as a moderator in a nuclear reactor?

- ☐ C
- ☐ Al
- ☐ H<sub>2</sub>O
- ☐ D<sub>2</sub>O

**Question No.94**

4.00

**Bookmark** ☐

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

- ☐ 3/4
- ☐ 1/6
- ☐ 1/3
- ☐ 1/9

**Question No.95**

4.00

**Bookmark** ☐

When a ray of light is refracted by a medium, the refracted ray does not have the same wavelength as the incident ray. This means that ... ☐

- ☐ The frequency of the light has increased but the velocity of the light remains a constant ☐
- ☐ The frequency of the light remains constant but the velocity of the light has decreased
- ☐ The frequency of the light remains constant but the velocity of the light has increased ☐
- ☐ The frequency of the light has decreased but the velocity of the light remains a constant ☐

**Question No.96**

4.00

**Bookmark** ☐

Based on the given information, answer the following question. 1. Six friends P,Q,R,S,T and U are members of a club and play different games of Football, Cricket, Tennis, Basketball, Badminton and Volleyball 2. T who is taller than P and S plays Tennis. 3. The tallest among them plays Basketball. 4. The Shortest among them plays volleyball. 5. Q and S neither play Volleyball nor Basketball. 6. R plays Volleyball 7. T is between Q who plays Football and P in order of height Who will be at the third place if they are arranged in the descending order of their height?

- ☐ T
- ☐ P
- ☐ Q
- ☐ S

**Question No.97**

4.00

**Bookmark** ☐

The coordination geometry of the metal in the complex Ni(CO)<sub>4</sub> is,

- ☐ Tetrahedral
- ☐ Trigonal bipyramidal
- ☐ Trigonal pyramidal
- ☐ Square planar

**Question No.98**

4.00

**Bookmark** ☐

A magnetic material that is slightly repelled by a magnetic field is known as

- ☐ Ferromagnetic material



- ☐ Nonmagnetic material
- ☐ Diamagnetic material
- ☐ Paramagnetic material

**Question No.99**

4.00

**Bookmark** ☐

Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next?

- ☐ 14
- ☐ 10
- ☐ 20
- ☐ 13

**Question No.100**

4.00

**Bookmark** ☐

Find the odd one out?

- ☐ Twigs : Nest
- ☐ Wood : Tree
- ☐ Gold : Ornaments
- ☐ Picture : Album

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