

Test Date : 02 Jul 2023

Test Slot : Slot 2

Subject : (Exam No. - 3) B. Tech. - M.Tech. Computer Science and Engineering (Cyber Security)

Sl. No.1
QBID:11140001

Seismic (earthquake) waves can be either P-waves or S-waves.
Choose the correct wave type: Can they be refracted?

1. Longitudinal : Yes
2. Transverse : No
3. Longitudinal : No
4. Transverse : Yes

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2401]
2[Option ID=2402]
3[Option ID=2403]
4[Option ID=2404]

Sl. No.2
QBID:11140002

Sound wave passing through the air, the changing volume and pressure of air is

1. Isothermal
2. Isobaric
3. Adiabaticc
4. Isochoric

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2405]
2[Option ID=2406]
3[Option ID=2407]
4[Option ID=2408]

Sl. No.3
QBID:11140003

The frequency of the sound wave is 200 Hz and its wavelength is 2m.
What is the speed of the sound wave?

1. 80 m/s
2. 100 m/s
3. 200 m/s
4. 400 m/s

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2409]
2[Option ID=2410]
3[Option ID=2411]
4[Option ID=2412]

Sl. No.4
QBID:11140004

The absolute permittivity formula is _____.

1. $\epsilon_0 = D + E$
2. $\epsilon_0 = D/E$
3. $\epsilon_0 = E/D$
4. $\epsilon_0 = D - E$

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2413]
2[Option ID=2414]
3[Option ID=2415]
4[Option ID=2416]

Sl. No.5
QBID:11140005

The formula of the second law of electrostatics is _____.

1. $F \propto Q_1 + Q_2 / d^2$
2. $F = Q_1 + Q_2$
3. $F = K \times Q_1 \times Q_2 / d^2$
4. 1 & 3 are correct

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2417]
2[Option ID=2418]
3[Option ID=2419]
4[Option ID=2420]

Sl. No.6
QBID:11140006

The unit of relative permittivity is _____.

1. none is correct.
2. F^2/m
3. F/m^2
4. F/m

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2421]
2[Option ID=2422]
3[Option ID=2423]
4[Option ID=2424]

Sl. No.7
QBID:11140007

Two copper conductors are equal length. The cross-sectional area of one conductor is four times that of the other. If the conductor having smaller cross-sectional area has a resistance of 40 ohms the resistance of another conductor will be

1. 160 ohms
2. 80 ohms
3. 20 ohms
4. 10 ohms

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2425]
2[Option ID=2426]
3[Option ID=2427]
4[Option ID=2428]

Sl. No.8
QBID:11140008

In an electric kettle water boils for 10 minutes. It is required to boil the boiler in 15 minutes, using same supply mains.

1. Length of heating element should be decreased
2. Length of heating element should be increased
3. Length of heating element has no effect on heating if water
4. None of the above

- (1) 1
(2) 2

(3) 3

(4) 4

1[Option ID=2429]

2[Option ID=2430]

3[Option ID=2431]

4[Option ID=2432]

Sl. No.9

QBID:11140009

Which type of a physical quantity is electric current?

1. Scalar quantity
2. Vector quantity
3. Bipolar quantity
4. Thermodynamic quantity.

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2433]

2[Option ID=2434]

3[Option ID=2435]

4[Option ID=2436]

Sl. No.10

QBID:11140010

The induced emf is maximum if the conductor cuts the magnetic field at

1. 0 degree
2. 90 degree
3. 45 degree
4. 180 degree

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2437]

2[Option ID=2438]

3[Option ID=2439]

4[Option ID=2440]

Sl. No.11

QBID:11140011

What increases the resistance of wire at higher frequencies

1. Skin Effect
2. Temperature
3. Voltage
4. Insulation

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2441]
2[Option ID=2442]
3[Option ID=2443]
4[Option ID=2444]

Sl. No.12
QBID:11140012

A transformer has 4,000 turns on its primary coil and 150 turns on its secondary coil. The input voltage is 10,000 V. What is the output voltage?

1. 1600 V
2. 547 V
3. 375 V
4. 850 V

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2445]
2[Option ID=2446]
3[Option ID=2447]
4[Option ID=2448]

Sl. No.13
QBID:11140013

A circular coil with a cross-sectional area of 4 cm^2 has 10 turns. It is placed at the centre of a long solenoid that has 15 turns/cm and a cross-sectional area of 10 cm^2 . The axis of the coil coincides with the axis of the solenoid. What is their mutual inductance?

1. $7.54 \mu\text{H}$
2. $8.54 \mu\text{H}$
3. $9.54 \mu\text{H}$
4. $10.54 \mu\text{H}$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2449]
2[Option ID=2450]
3[Option ID=2451]
4[Option ID=2452]

Sl. No.14
QBID:11140014

In a series resonant RLC circuit, the voltage across $100\ \Omega$ resistor is 40 V . The resonant frequency ω is 250 rad/s . If the value of C is $4\ \mu\text{F}$, then the voltage across L is

1. 600 V
2. 4000 V
3. 400V
4. 1 V

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2453]
2[Option ID=2454]
3[Option ID=2455]
4[Option ID=2456]

Sl. No.15
QBID:11140015

The direction of $\vec{E} \times \vec{B}$ in an electromagnetic wave is:

1. same as that of $\vec{E}$
2. same as that of $\vec{B}$
3. same as the direction of propagation of electromagnetic wave.
4. None of these.

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2457]
2[Option ID=2458]
3[Option ID=2459]
4[Option ID=2460]

Sl. No.16
QBID:11140016

A 54 mW laser beam has a cross sectional area of 5.0 mm^2 . The magnitude of maximum electric field in this electromagnetic wave is given by:

(given permittivity of space $\epsilon_0 = 9 \times 10^{-12}\text{ SI units}$,

Speed of light $c = 3 \times 10^8\text{ m/s}$)

1. 7.45 kV/m
2. 2.82 kV/m
3. 4.55 kV/m
4. 76.45 kV/m

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2461]

2[Option ID=2462]
3[Option ID=2463]
4[Option ID=2464]

Sl. No.17
QBID:11140017

Flux is a _____ field, and its density is a _____ field.

1. Scalar, Vector
2. Vector, Scalar
3. Vector, Vector
4. Scalar, Scalar

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2465]
2[Option ID=2466]
3[Option ID=2467]
4[Option ID=2468]

Sl. No.18
QBID:11140018

Find the magnification of the convex lens, if an object is placed at 30 cm from a convex lens, having a focal length of 15 cm.

1. +2
2. -0.5
3. -1
4. +1

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2469]
2[Option ID=2470]
3[Option ID=2471]
4[Option ID=2472]

Sl. No.19
QBID:11140019

The refractive index of the glass is 1.62. the sine of critical angle at glass/ air interface for total internal reflection is:

1. 0.25
2. 0.39
3. 0.62
4. 0.75

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2473]
2[Option ID=2474]
3[Option ID=2475]
4[Option ID=2476]

Sl. No.20
QBID:11140020

Image formed by a plane mirror is always:

1. Real and Erect
2. Virtual and Erect
3. Real and Inverted
4. Virtual and Inverted

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2477]
2[Option ID=2478]
3[Option ID=2479]
4[Option ID=2480]

Sl. No.21
QBID:11140021

Which of the following is the correct relationship between temperature (T) and mobility (u) of electrons in electronic circuits?

1. $u \propto T^{-3/2}$
2. $u \propto T^{-1/2}$
3. $u \propto T$
4. $u \propto T^{-1}$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2481]
2[Option ID=2482]
3[Option ID=2483]
4[Option ID=2484]

Sl. No.22
QBID:11140022

Which of the following is correct about semiconductors in electronic devices?

1. Elemental semiconductors have direct band gap.
2. Compound semiconductors have an indirect band gap.
3. Extrinsic semiconductors are injected with impurities.
4. Doping is done in Intrinsic semiconductors.

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2485]
2[Option ID=2486]
3[Option ID=2487]
4[Option ID=2488]

Sl. No.23
QBID:11140023

In which region does BJT act as the OFF switch in electronic circuits?

1. Cut-off
2. Saturation
3. Active
4. Reverse saturation

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2489]

2[Option ID=2490]

3[Option ID=2491]

4[Option ID=2492]

Sl. No.24

QBID:11140024

On which principal optical fiber works?

1. Scattering of light
2. Total internal reflection
3. Total internal absorption
4. Optical rotation

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2493]

2[Option ID=2494]

3[Option ID=2495]

4[Option ID=2496]

Sl. No.25

QBID:11140025

In digital transmission modulation technique that requires minimum bandwidth is?

1. DPCM
2. PAM
3. PCM
4. Delta Modulation

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2497]

2[Option ID=2498]

3[Option ID=2499]

4[Option ID=2500]

Sl. No.26

QBID:11140026

In microwave receiver which microwave component provides isolation between antenna and local oscillator but provides connection between antenna and mixer.

1. Magic TEE
2. Duplexer
3. E Plane TEE
4. H plane TEE

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2501]
2[Option ID=2502]
3[Option ID=2503]
4[Option ID=2504]

Sl. No.27
QBID:11140027

On which of the following frequencies does a Wi-Fi network works:

1. 5 MHz
2. 5 GHz
3. 5 KHz
4. 5 THz

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2505]
2[Option ID=2506]
3[Option ID=2507]
4[Option ID=2508]

Sl. No.28
QBID:11140028

The macro-nutrients provided by inorganic fertilizers are

1. carbon, iron and boron
2. magnesium, manganese and sulphur
3. magnesium, zinc and iron
4. nitrogen, phosphorus and potassium

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2509]
2[Option ID=2510]
3[Option ID=2511]
4[Option ID=2512]

Sl. No.29
QBID:11140029

The addition of a neutron to the nucleus of an atom

1. increases the atomic mass of the atom
2. decreases the atomic mass of the atom
3. increases the charge on the nucleus
4. decreases the charge on the nucleus

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2513]

2[Option ID=2514]

3[Option ID=2515]

4[Option ID=2516]

Sl. No.30

QBID:11140030

Which among the following is a metalloid?

1. Tin
2. Silver
3. Iodine
4. Arsenic

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2517]

2[Option ID=2518]

3[Option ID=2519]

4[Option ID=2520]

Sl. No.31

QBID:11140031

Age of fossil may be found out by determining the ratio of two isotopes of carbon. The isotopes are

1. C-12andC-13
2. C-13andC-14
3. C-12andC-14
4. C-12 and carbon black

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2521]

2[Option ID=2522]

3[Option ID=2523]

4[Option ID=2524]

Sl. No.32

QBID:11140032

The freezing point of water at 760 mm pressure is ____.

1. 0 K
2. 273 K
3. 273⁰C
4. -273⁰C

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2525]

2[Option ID=2526]

3[Option ID=2527]

4[Option ID=2528]

Sl. No.33

QBID:11140033

Which of the following weighs the most?

1. One g-atom of nitrogen
2. One mole of water
3. One mole of sodium
4. One molecule of H₂SO₄

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2529]

2[Option ID=2530]

3[Option ID=2531]

4[Option ID=2532]

Sl. No.34

QBID:11140034

0.224 L of H₂ gas at S.T.P. is equivalent to

1. 1 mol
2. 1 g
3. 6.02 X 10²² molecules
4. 0.01 mol

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2533]

2[Option ID=2534]

3[Option ID=2535]

4[Option ID=2536]

Sl. No.35

QBID:11140035

The correct configuration of $_{29}\text{Cu}$ is

1. $[\text{Ar}] 4s^1$
2. $[\text{Ar}] 4s^2$
3. $[\text{Ar}] 3d^{10} 4s^1$
4. $[\text{Ar}] 3d^9 4s^2$

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2537]

2[Option ID=2538]

3[Option ID=2539]

4[Option ID=2540]

Sl. No.36

QBID:11140036

The monomer of PVC is

1. ethylene
2. tetrafluoroethylene
3. chloroethene
4. none of the above

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2541]

2[Option ID=2542]

3[Option ID=2543]

4[Option ID=2544]

Sl. No.37

QBID:11140037

Which of the following is the hypnotic drug?

1. Luminal
2. Salol
3. Catechol
4. Phenol

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2545]

2[Option ID=2546]

3[Option ID=2547]

4[Option ID=2548]

Sl. No.38

QBID:11140038

In the modern periodic table, the period indicates the value of

1. atomic number
2. atomic mass
3. principal quantum number
4. azimuthal quantum number

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2549]

2[Option ID=2550]

3[Option ID=2551]

4[Option ID=2552]

Sl. No.39

QBID:11140039

Which of the following properties generally decreases along a period?

1. ionization energy
2. atomic radii
3. electron affinity
4. metallic character

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2553]

2[Option ID=2554]

3[Option ID=2555]

4[Option ID=2556]

Sl. No.40

QBID:11140040

Which of the following molecule does not have π bond in it?

1. CO
2. CO₂
3. H₂O₂
4. SO₂

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2557]

2[Option ID=2558]

3[Option ID=2559]

4[Option ID=2560]

Sl. No.41

QBID:11140041

Which of the species exhibit diamagnetic behaviour?

1. O_2
2. NO
3. O_2^{2-}
4. O_2^+

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2561]

2[Option ID=2562]

3[Option ID=2563]

4[Option ID=2564]

Sl. No.42

QBID:11140042

The enthalpy of formation of gaseous N_2O and NO at 298K are 82 and 90 kJ mol^{-1} . The enthalpy of reaction $N_2O(g) + \frac{1}{2}O_2 \rightarrow 2NO(g)$ is

1. -8kJ
2. 98kJ
3. -74kJ
4. +8kJ

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2565]

2[Option ID=2566]

3[Option ID=2567]

4[Option ID=2568]

Sl. No.43

QBID:11140043

In a chemical reaction equilibrium is established when

1. opposing reaction ceases
2. concentrations of reactants and products are equal
3. velocity of the opposing reactions is same as that of forward reaction
4. forward reaction ceases

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2569]

2[Option ID=2570]

3[Option ID=2571]

4[Option ID=2572]

Sl. No.44

QBID:11140044

The value of ΔG° for a reaction, having $K=1$, would be

1. $-RT$
2. -1
3. 0
4. $+RT$

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2573]

2[Option ID=2574]

3[Option ID=2575]

4[Option ID=2576]

Sl. No.45

QBID:11140045

What is the conjugate base of OH^- ?

1. O^{2-}
2. O^-
3. H_2O
4. O_2

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2577]

2[Option ID=2578]

3[Option ID=2579]

4[Option ID=2580]

Sl. No.46

QBID:11140046

The oxidation number of Cl in Cl_2O_7

1. $+7$
2. $+5$
3. $+3$
4. -7

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2581]

2[Option ID=2582]

3[Option ID=2583]

4[Option ID=2584]

Sl. No.47

QBID:11140047

The oxidation number of Mn is maximum in

1. MnO_2
2. K_2MnO_4
3. Mn_3O_4
4. KMnO_4

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2585]

2[Option ID=2586]

3[Option ID=2587]

4[Option ID=2588]

Sl. No.48

QBID:11140048

Which of the following is not an electrophile ?

1. Cl^+
2. Na^+
3. H^+
4. BF_3

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2589]

2[Option ID=2590]

3[Option ID=2591]

4[Option ID=2592]

Sl. No.49

QBID:11140049

Which of the carbocation have the least stability?

1. methyl
2. ethyl
3. tert-butyl
4. isopropyl

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2593]

2[Option ID=2594]

3[Option ID=2595]

4[Option ID=2596]

Sl. No.50

QBID:11140050

The general formula $C_nH_{2n}O_2$ could be for open chain

1. dialdehydes
2. diketones
3. carboxylic acids
4. diols

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2597]

2[Option ID=2598]

3[Option ID=2599]

4[Option ID=2600]

Sl. No.51

QBID:11140051

Orbital interaction between the sigma bonds of a substituted group and the neighbouring π -orbital is known as

1. hyperconjugation
2. inductive effect
3. steric effect
4. electric quadruple interactions

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2601]

2[Option ID=2602]

3[Option ID=2603]

4[Option ID=2604]

Sl. No.52

QBID:11140052

2-Hexyne gives trans-2-hexene on treatment with

1. Li/NH_3
2. $Pd/BaSO_4$
3. $LiAlH_4$
4. Pt/H_2

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2605]

2[Option ID=2606]

3[Option ID=2607]

4[Option ID=2608]

Sl. No.53

QBID:11140053

The reaction of high molecularity are rare because

1. many body collisions have a low probability
2. many body collisions are not favoured energetically
3. activation energy of many body collisions is very large
4. very high concentration is required for such reactions

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2609]

2[Option ID=2610]

3[Option ID=2611]

4[Option ID=2612]

Sl. No.54

QBID:11140054

The total number of subsets of a finite set A has 56 more elements than the total number of subsets of another finite set B. What is the number of elements in the set A?

1. 5

2. 6

3. 7

4. 8

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2613]

2[Option ID=2614]

3[Option ID=2615]

4[Option ID=2616]

Sl. No.55

QBID:11140055

If $X = \{4^n - 3n - 1 : n \in \mathbb{N}\}$ and $Y = \{9(n - 1) : n \in \mathbb{N}\}$, where $\mathbb{N}$ is the set of natural numbers, then $X \cup Y$ is equal to

1. $\mathbb{N}$

2. $Y - X$

3. X

4. Y

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2617]

2[Option ID=2618]

3[Option ID=2619]

4[Option ID=2620]

Sl. No.56
QBID:11140056

In a class of 60 students, if 25 students play cricket, 20 students play tennis and 10 students play both games, then the number of students who play neither is

1. 45
2. 0
3. 25
4. 35

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2621]
2[Option ID=2622]
3[Option ID=2623]
4[Option ID=2624]

Sl. No.57
QBID:11140057

The number of students who take both the subjects Mathematics and Chemistry is 30. This represents 10% of the enrolment in Mathematics and 12% of the enrolment in Chemistry. How many students take at least one of these two subjects?

1. 520
2. 490
3. 480
4. 560

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2625]
2[Option ID=2626]
3[Option ID=2627]
4[Option ID=2628]

Sl. No.58
QBID:11140058

If $2x = 3 + 5i$, then the value of $2x^3 + 2x^2 - 7x + 72$ is

1. 4
2. -4
3. 8
4. -8

- (1) 1
(2) 2
(3) 3

(4) 4

1[Option ID=2629]
2[Option ID=2630]
3[Option ID=2631]
4[Option ID=2632]

Sl. No.59
QBID:11140059

If $x = \frac{1}{2} \left(\sqrt{7} + \frac{1}{\sqrt{7}} \right)$, then $\frac{\sqrt{x^2 - 1}}{x - \sqrt{x^2 - 1}}$ is equal to

1. 1
2. 2
3. 3
4. 4

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2633]
2[Option ID=2634]
3[Option ID=2635]
4[Option ID=2636]

Sl. No.60
QBID:11140060

In a triangle, the lengths of two larger sides are 10 cm and 9 cm. If the angles of the triangle are in AP, then the length of the third side is

1. $\sqrt{5} - \sqrt{6}$
2. $\sqrt{5} + \sqrt{6}$
3. $\sqrt{5} \pm \sqrt{6}$
4. $5 - \sqrt{6}$

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2637]
2[Option ID=2638]
3[Option ID=2639]
4[Option ID=2640]

Sl. No.61
QBID:11140061

If the sum of first 75 terms of an AP is 2625, then the 38th term of an AP is

1. 35
2. 37
3. 38
4. 39

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2641]
2[Option ID=2642]
3[Option ID=2643]
4[Option ID=2644]

Sl. No.62
QBID:11140062

The third term of a geometric progression is 4. The product of the first five terms is

1. 4^3
2. 4^5
3. 4^4
4. none of these

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2645]
2[Option ID=2646]
3[Option ID=2647]
4[Option ID=2648]

Sl. No.63
QBID:11140063

The number of positive integers which can be formed by using any number of digits from 0, 1, 2, 3, 4, 5 but using each digit not more than once in each number, is

1. 1200
2. 1500
3. 1600
4. 1630

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2649]
2[Option ID=2650]
3[Option ID=2651]
4[Option ID=2652]

Sl. No.64
QBID:11140064

Ten different letters of the alphabet are given. Words with five letters are formed from these given letters. Then the number of words that have at least one letter repeated are

1. 69760
2. 30240
3. 99748
4. none of these

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2653]
2[Option ID=2654]
3[Option ID=2655]
4[Option ID=2656]

Sl. No.65
QBID:11140065

The sum of the coefficients in the expansion of $(5x - 4y)^n$, where n is a positive integer is

1. 0
2. n
3. 1
4. -1

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2657]
2[Option ID=2658]
3[Option ID=2659]
4[Option ID=2660]

Sl. No.66
QBID:11140066

If 21st and 22nd terms in the expansion of $(1 + \chi)^{44}$ are equal, then χ is equal to

1. $8/7$
2. $21/22$
3. $7/8$
4. $23/24$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2661]
2[Option ID=2662]
3[Option ID=2663]
4[Option ID=2664]

Sl. No.67
QBID:11140067

If the coefficient of χ^8 in $(a\chi^2 + 1/b\chi)^{13}$ is equal to the coefficient of χ^{-8} in $(a\chi - 1/b\chi^2)^{13}$, then a and b will satisfy the relation

1. $ab+1=0$
2. $ab=1$
3. $a=1-b$
4. $a+b=-1$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2665]
2[Option ID=2666]
3[Option ID=2667]
4[Option ID=2668]

Sl. No.68
QBID:11140068

The value of $2\cot^2(\pi/6) + 4\tan^2(\pi/6) - 3\operatorname{cosec} \pi/6$ is

1. 2
2. 4
3. $4/3$
4. $3/4$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2669]
2[Option ID=2670]
3[Option ID=2671]
4[Option ID=2672]

Sl. No.69
QBID:11140069

The solution of $\tan^{-1} 2\theta + \tan^{-1} 3\theta = \pi/4$ is

1. $1/\sqrt{3}$
2. $1/3$
3. $1/6$
4. $1/\sqrt{6}$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2673]
2[Option ID=2674]
3[Option ID=2675]
4[Option ID=2676]

Sl. No.70
QBID:11140070

If α and β are the roots of the equations $6\chi^2 - 5\chi + 1 = 0$, then the value of $\tan^{-1} \alpha + \tan^{-1} \beta$ is

1. 0
2. $\pi/4$
3. 1
4. $\pi/2$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2677]
2[Option ID=2678]
3[Option ID=2679]
4[Option ID=2680]

Sl. No.71
QBID:11140071

The equation $\sin^{-1} \chi - \cos^{-1} \chi = \cos^{-1} (\sqrt{3}/2)$ has

1. No solution
2. unique solution
3. Infinite number of solutions
4. none of these

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2681]
2[Option ID=2682]
3[Option ID=2683]
4[Option ID=2684]

Sl. No.72
QBID:11140072

In a $\triangle ABC$, a, b, c are the sides of the triangle opposite to the angles A, B, C , respectively. Then, the value of $a^3 \sin (B - C) + b^3 (C - A) + c^3 (A - B)$ is

1. 0
2. 1
3. 3
4. 2

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2685]
2[Option ID=2686]

3[Option ID=2687]
4[Option ID=2688]

Sl. No.73
QBID:11140073

If the angles of a triangle are in the ratio 1 : 1 : 4, then the ratio of the perimeter of the triangle to its largest side is

1. $\sqrt{2} + 2 : \sqrt{3}$
2. $3 : 2$
3. $\sqrt{3} + 2 : \sqrt{2}$
4. $\sqrt{3} + 2 : \sqrt{3}$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2689]
2[Option ID=2690]
3[Option ID=2691]
4[Option ID=2692]

Sl. No.74
QBID:11140074

Angles A, B, C of a $\triangle ABC$ are in AP and $b : c = \sqrt{3} : \sqrt{2}$, then $\angle A$ is given by

1. 45°
2. 60°
3. 75°
4. 90°

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2693]
2[Option ID=2694]
3[Option ID=2695]
4[Option ID=2696]

Sl. No.75
QBID:11140075

If in a $\triangle ABC$, $a \tan A + b \tan B = (a + b) \tan (A + B)/2$, then

1. $A = B = C$
2. $C = A$
3. $A = B$
4. $B = C$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2697]
2[Option ID=2698]
3[Option ID=2699]
4[Option ID=2700]

Sl. No.76
QBID:11140076

$a^3 \cos (B - C) + b^3 \cos (C - A) + c^3 \cos (A - B)$ is equal to

1. $3abc$
2. $3(a + b + c)$
3. $abc(a + b + c)$
4. 0

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2701]
2[Option ID=2702]
3[Option ID=2703]
4[Option ID=2704]

Sl. No.77
QBID:11140077

The base BC of a $\triangle ABC$ is 6 cm and $\angle B = 115^\circ$, $\angle C = 25^\circ$, then its altitude is

1. 1.2 cm
2. 6 cm
3. 1.5 cm
4. 3 cm

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2705]
2[Option ID=2706]
3[Option ID=2707]
4[Option ID=2708]

Sl. No.78
QBID:11140078

The points of discontinuity of $\tan x$ are

1. $n\pi, n \in \mathbb{I}$
2. $2n\pi, n \in \mathbb{I}$
3. $(2n+1)\pi/2, n \in \mathbb{I}$
4. None of these

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2709]
2[Option ID=2710]
3[Option ID=2711]
4[Option ID=2712]

Sl. No.79
QBID:11140079

The function $f(x) = x - |x - x^2|$ is

1. continuous at $x = 1$
2. discontinuous at $x = 1$
3. not defined at $x = 1$
4. None of these

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2713]
2[Option ID=2714]
3[Option ID=2715]
4[Option ID=2716]

Sl. No.80
QBID:11140080

The function $f(x) = |x - 1|$ is

1. continuous everywhere
2. continuous everywhere, except at $x = 1$
3. differentiable everywhere
4. differentiable nowhere

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2717]
2[Option ID=2718]
3[Option ID=2719]
4[Option ID=2720]

Sl. No.81
QBID:11140081

If 'CARING' is coded as 'EDVGKC', and 'SHARES' is coded as 'UKEPBO', then how will 'CASKET' be coded as in the same code?

1. EDXIBP
2. EDWIAP
3. EDWPAI
4. EDWIBP

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2721]
2[Option ID=2722]
3[Option ID=2723]
4[Option ID=2724]

Sl. No.82
QBID:11140082

Three of the following four are a like in a certain way and hence form a group. Which is the one that does not belong to the group?

1. Mouth organ
2. Electric Guitar
3. Keyboard
4. Sonata

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2725]
2[Option ID=2726]
3[Option ID=2727]
4[Option ID=2728]

Sl. No.83
QBID:11140083

Three of the following four are a like in a certain way and hence form a group. Which is the one that does not belong to the group?

1. $2 - 4$
2. $4 - 8$
3. $6 - 18$
4. $8 - 32$

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2729]
2[Option ID=2730]
3[Option ID=2731]
4[Option ID=2732]

Sl. No.84
QBID:11140084

Point P is 11 km towards east of point Q. A man starts from point Q and travels 9 km towards west. He then takes a left turn and travels 4 km. he finally takes a left turn and travels 20 km before stopping. How far and towards which direction must he travel in order to reach point P?

1. 11 km towards south
2. 4 km towards north
3. 24 km towards south
4. 9 km towards north

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2733]
2[Option ID=2734]
3[Option ID=2735]
4[Option ID=2736]

Sl. No.85
QBID:11140085

A travel towards east, B travels towards North. C and D travel in opposite directions. D travels towards right of A. Which of the following is definitely true?

1. B and C travel in opposite directions.
2. C travels towards West
3. D travels towards North
4. B and C travel in the same direction

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2737]
2[Option ID=2738]
3[Option ID=2739]
4[Option ID=2740]

Sl. No.86
QBID:11140086

Four number have been given out of which three are alike in some manner, while one is different. Choose the odd one.

1. 91
2. 196
3. 169
4. 126

- (1) 1
(2) 2

(3) 3

(4) 4

1[Option ID=2741]

2[Option ID=2742]

3[Option ID=2743]

4[Option ID=2744]

Sl. No.87

QBID:11140087

Four words have been given out of which three are alike in some manner, while one is different. Choose the odd one.

1. Money

2. Lira

3. Rial

4. Dollar

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2745]

2[Option ID=2746]

3[Option ID=2747]

4[Option ID=2748]

Sl. No.88

QBID:11140088

_____ his principles, he has to be very careful.

1. with regard of

2. with regard on

3. with regard to

4. None of these

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2749]

2[Option ID=2750]

3[Option ID=2751]

4[Option ID=2752]

Sl. No.89

QBID:11140089

Sounding the same but spelt differently?

1. Symphonious

2. Homophonous

3. Synonyms

4. Saminymous

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2753]

2[Option ID=2754]

3[Option ID=2755]

4[Option ID=2756]

Sl. No.90

QBID:11140090

Iteration is most similar in meaning to

1. Looping
2. Starting
3. Ending
4. None of the above

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2757]

2[Option ID=2758]

3[Option ID=2759]

4[Option ID=2760]

Sl. No.91

QBID:11140091

Improve the bracketed part of the sentence.

The guide's (knowledge) of the history of the monument surprised me.

1. knowing
2. familiarity
3. know how
4. no improvement

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2761]

2[Option ID=2762]

3[Option ID=2763]

4[Option ID=2764]

Sl. No.92

QBID:11140092

Read each sentence to find out whether there is any error in any part

That Brutus, who was his trusted friend (a) had attacked on him (b) caused heartbreak to Julius Caesar(c). No error. (d)

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2765]

2[Option ID=2766]

3[Option ID=2767]

4[Option ID=2768]

Sl. No.93

QBID:11140093

Read each sentence to find out whether there is any error in any part

The boy's parents (a) pleaded with the Principal (b) that they were too poor to pay(c) his tuition fee. No error. (d)

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

(1) 1

(2) 2

(3) 3

(4) 4

1[Option ID=2769]

2[Option ID=2770]

3[Option ID=2771]

4[Option ID=2772]

Sl. No.94

QBID:11140094

Rearrange the parts of the sentence in correct order.

The question

P-are on the right path

Q-is whether we

R-to the goal

1. RPQ
2. QRP
3. QPR
4. PRQ

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2773]
2[Option ID=2774]
3[Option ID=2775]
4[Option ID=2776]

Sl. No.95
QBID:11140095

Which one of the following states of India records the highest Gender ratio?

1. Kerala
2. Karnataka
3. Maghalaya
4. Tamilnadu

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2777]
2[Option ID=2778]
3[Option ID=2779]
4[Option ID=2780]

Sl. No.96
QBID:11140096

What is the common currency of the European Union?

1. Rupee
2. Euro
3. Rouble
4. Franc

- (1) 1
(2) 2
(3) 3

(4) 4

1[Option ID=2781]
2[Option ID=2782]
3[Option ID=2783]
4[Option ID=2784]

Sl. No.97
QBID:11140097

Bhabha Atomic Research Centre is situated in:

1. Delhi
2. Mumbai
3. Chennai
4. Hyderabad

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2785]
2[Option ID=2786]
3[Option ID=2787]
4[Option ID=2788]

Sl. No.98
QBID:11140098

ATM stands for:

1. Automatic Teller Machine
2. Automated Teller Machine
3. Automatic Tally Machine
4. Automated Tally Mechanism

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2789]
2[Option ID=2790]
3[Option ID=2791]
4[Option ID=2792]

Sl. No.99
QBID:11140099

Where are the traces of Portuguese culture found in India?

1. Goa
2. Calicut
3. Cannanore
4. Cochin

(1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2793]
2[Option ID=2794]
3[Option ID=2795]
4[Option ID=2796]

Sl. No.100
QBID:11140100

The biggest planet of the solar system is:

1. Earth
2. Mars
3. Saturn
4. Jupiter

- (1) 1
(2) 2
(3) 3
(4) 4

1[Option ID=2797]
2[Option ID=2798]
3[Option ID=2799]
4[Option ID=2800]