

Agniveervayu Male 22-Sep-2026

Application Number	
Hall Ticket No	
Candidate's Name	
Entry (Post Name)	Agniveervayu
Stream Applied	Science Subjects
Date of Exam	22/09/2026
Exam Time	12:00 PM - 1:00 PM
Test Center Name	Dronacharya Degree College Kurukshetra

Section : Physics

Q.1 Given the equation $E = mgh + k$, where E is energy, m is mass, g is acceleration due to gravity, h is height, and k is a constant, what should be the dimensions of k for dimensional consistency?

- Ans
- ✗ 1. k must have the same dimension as length
 - ✗ 2. k must have the same dimension as acceleration
 - ✗ 3. k must have the same dimension as mass
 - ✓ 4. k must have the same dimension as energy

Question ID : 4410092392962
Option 1 ID : 4410099411596
Option 2 ID : 4410099411598
Option 3 ID : 4410099411597
Option 4 ID : 4410099411599
Status : Answered
Chosen Option : 4

Q.2 When the velocity of fluid exceeds the critical speed, what change occurs in its flow pattern?

- Ans
- ✗ 1. Flow stops completely
 - ✗ 2. Flow remains smooth and uniform
 - ✗ 3. Flow reverses direction
 - ✓ 4. Flow becomes irregular and unpredictable

Question ID : 4410092393019
Option 1 ID : 4410099411825
Option 2 ID : 4410099411827
Option 3 ID : 4410099411826
Option 4 ID : 4410099411824
Status : Answered
Chosen Option : 3



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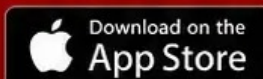


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Q.3 A car moves at a constant speed on a banked circular road where friction is negligible. Which factor determines the optimum speed required to navigate the curve without sliding?

- Ans
- ☒ 1. Width of the road
 - ☒ 2. Mass of the car
 - ☒ 3. Angle of banking of the road
 - ☒ 4. Surface area of the car tyres

Question ID : 4410092392980
 Option 1 ID : 4410099411669
 Option 2 ID : 4410099411670
 Option 3 ID : 4410099411668
 Option 4 ID : 4410099411671
 Status : Answered
 Chosen Option : 3

Q.4 When p-type and n-type semiconductors are joined, which charge carriers initially diffuse across the junction?

- Ans
- ☒ 1. Majority charge carriers
 - ☒ 2. Fixed impurity ions
 - ☒ 3. Protons and neutrons
 - ☒ 4. Minority charge carriers only

Question ID : 4410092393156
 Option 1 ID : 4410099412373
 Option 2 ID : 4410099412375
 Option 3 ID : 4410099412372
 Option 4 ID : 4410099412374
 Status : Answered
 Chosen Option : 1

Q.5 Which of the following is true about beta decay?

- Ans
- ☒ 1. It involves the emission of only an electron
 - ☒ 2. It may involve the emission of an electron or a positron
 - ☒ 3. It involves the emission of gamma radiation
 - ☒ 4. It involves the emission of only a positron

Question ID : 4410092393148
 Option 1 ID : 4410099412340
 Option 2 ID : 4410099412342
 Option 3 ID : 4410099412343
 Option 4 ID : 4410099412341
 Status : Answered
 Chosen Option : 2

Q.6 Marconi's work differed significantly in practical application from the laboratory experiments of Hertz and Bose because Marconi _____.

- Ans
- ☒ 1. Produced only visible light
 - ☒ 2. Demonstrated electrostatic induction only
 - ☒ 3. Demonstrated that electromagnetic waves require a material medium
 - ☒ 4. Transmitted electromagnetic waves over distances of many kilometres

Question ID : 4410092393127

Option 1 ID : 4410099412258

Option 2 ID : 4410099412256

Option 3 ID : 4410099412259

Option 4 ID : 4410099412257

Status : Answered

Chosen Option : 3

Q.7 If a uniform disc and a uniform ring both have equal mass and radius, which has a greater moment of inertia about the central axis and why?

- Ans
- ☒ 1. The ring, because all mass is at maximum distance from the axis
 - ☒ 2. The disc, because its volume is greater than the ring
 - ☒ 3. The disc, because its mass is more evenly distributed
 - ☒ 4. Both have equal moment of inertia since mass and radius are equal

Question ID : 4410092392993

Option 1 ID : 4410099411721

Option 2 ID : 4410099411723

Option 3 ID : 4410099411722

Option 4 ID : 4410099411720

Status : Answered

Chosen Option : 1

Q.8 In a series LCR circuit, the impedance is $13\ \Omega$ and the resistance is $5\ \Omega$. Since the circuit behaves inductively, which of the following represents the net reactance of the circuit?

- Ans
- ☒ 1. $8\ \Omega$
 - ☒ 2. $18\ \Omega$
 - ☒ 3. $10\ \Omega$
 - ☒ 4. $12\ \Omega$

Question ID : 4410092393108

Option 1 ID : 4410099412180

Option 2 ID : 4410099412183

Option 3 ID : 4410099412181

Option 4 ID : 4410099412182

Status : Answered

Chosen Option : 4

Q.9 A parallel-plate capacitor has capacitance 16 pF. If its plate separation is reduced by 20%, the new capacitance is approximately _____.

- Ans
- ☒ 1. 10 pF
 - ☒ 2. 20 pF
 - ☒ 3. 32 pF
 - ☒ 4. 24 pF

Question ID : 4410092393069
 Option 1 ID : 4410099412024
 Option 2 ID : 4410099412025
 Option 3 ID : 4410099412027
 Option 4 ID : 4410099412026
 Status : Answered
 Chosen Option : 2

Q.10 A spring with a force constant of 100 N/m is compressed such that its potential energy becomes 0.08 J. What is the compression distance?

- Ans
- ☒ 1. 0.04 m
 - ☒ 2. 0.0016 m
 - ☒ 3. 0.16 m
 - ☒ 4. 0.40 m

Question ID : 4410092392987
 Option 1 ID : 4410099411696
 Option 2 ID : 4410099411697
 Option 3 ID : 4410099411699
 Option 4 ID : 4410099411698
 Status : Answered
 Chosen Option : 1

Q.11 A glass capillary is dipped in water and mercury separately. Which observation is most accurate about the meniscus formed due to surface tension?

- Ans
- ☒ 1. Both form concave meniscus
 - ☒ 2. Water forms a convex meniscus, mercury forms a concave meniscus
 - ☒ 3. Both form convex meniscus
 - ☒ 4. Water forms a concave meniscus, mercury forms a convex meniscus

Question ID : 4410092393013
 Option 1 ID : 4410099411800
 Option 2 ID : 4410099411802
 Option 3 ID : 4410099411803
 Option 4 ID : 4410099411801
 Status : Answered
 Chosen Option : 2

Q.12 Two concave mirrors M_1 and M_2 have radii of curvature 20 cm and 60 cm, respectively. If their focal lengths are denoted by f_1 and f_2 , respectively, which relation between their focal lengths is correct?

- Ans
- ☒ 1. $f_1 = 3f_2$
 - ☒ 2. $f_2 = 3f_1$
 - ☒ 3. $f_1 = 4f_2$
 - ☒ 4. $f_1 + f_2 = 20$ cm

Question ID : 4410092393130

Option 1 ID : 4410099412268

Option 2 ID : 4410099412269

Option 3 ID : 4410099412270

Option 4 ID : 4410099412271

Status : Answered

Chosen Option : 2

Q.13 A point charge $+2 \mu\text{C}$ is placed at the origin. Points A and B are located at distances of 20 cm and 50 cm, respectively, from the charge. If V_A and V_B denote the electric potentials at points A and B, respectively, then $V_A - V_B$ is _____.

- Ans
- ☒ 1. $3.6 \times 10^4 \text{ V}$
 - ☒ 2. $2.7 \times 10^4 \text{ V}$
 - ☒ 3. $6.0 \times 10^4 \text{ V}$
 - ☒ 4. $5.4 \times 10^4 \text{ V}$

Question ID : 4410092393063

Option 1 ID : 4410099412001

Option 2 ID : 4410099412000

Option 3 ID : 4410099412003

Option 4 ID : 4410099412002

Status : Answered

Chosen Option : 4

Q.14 If a gas is compressed in a cylinder and its temperature rises, which statement best explains the energy transformation according to the first law of thermodynamics?

- Ans
- ☒ 1. Heat loss decreases internal energy
 - ☒ 2. Work done on gas increases internal energy
 - ☒ 3. No change in internal energy
 - ☒ 4. Gas compresses and cools

Question ID : 4410092393034

Option 1 ID : 4410099411885

Option 2 ID : 4410099411884

Option 3 ID : 4410099411887

Option 4 ID : 4410099411886

Status : Answered

Chosen Option : 2

Q.15 In a Faraday's law experiment, a coil with more turns produces a larger galvanometer deflection even though the magnet is moved in the same way. What does this observation indicate?

- Ans
- ☒ 1. Increasing the number of turns increases the induced emf for the same rate of change of magnetic flux per turn
 - ☐ 2. Increasing the number of turns prevents magnetic flux from passing through the coil
 - ☐ 3. The induced emf depends only on the speed of motion of the magnet
 - ☐ 4. Increasing the number of turns increases the strength of the magnet

Question ID : 4410092393115

Option 1 ID : 4410099412208

Option 2 ID : 4410099412209

Option 3 ID : 4410099412211

Option 4 ID : 4410099412210

Status : Answered

Chosen Option : 1

Q.16 Two wires are made of the same material and have equal electrical resistance. If the length of wire B is four times that of wire A, how should their cross-sectional areas compare?

- Ans
- ☐ 1. Wire B has the same area as wire A
 - ☒ 2. Wire B has four times the area of wire A
 - ☐ 3. Wire B has one-fourth the area of wire A
 - ☐ 4. Wire B has twice the area of wire A

Question ID : 4410092393075

Option 1 ID : 4410099412049

Option 2 ID : 4410099412051

Option 3 ID : 4410099412048

Option 4 ID : 4410099412050

Status : Answered

Chosen Option : 3

Q.17 By definition, a thermodynamic process is considered reversible if which of the following criteria is met?

- Ans
- ☒ 1. Both the system and its surroundings can be returned to their initial states with zero net change to the universe.
 - ☐ 2. Only the system returns to its original state, while the surroundings experience a permanent change.
 - ☐ 3. The process eliminates the system entirely by converting all matter into work.
 - ☐ 4. The system undergoes an expansion that results in a net increase in global entropy.

Question ID : 4410092393029

Option 1 ID : 4410099411864

Option 2 ID : 4410099411865

Option 3 ID : 4410099411867

Option 4 ID : 4410099411866

Status : Answered

Chosen Option : 1

Q.18 A polar satellite is used for Earth mapping and completes multiple orbits per day. If its orbital period is 96 minutes, how many orbits does it complete in 24 hours?

- Ans
- ☒ 1. 10
 - ☒ 2. 14
 - ☒ 3. 18
 - ☒ 4. 15

Question ID : 4410092393001
Option 1 ID : 4410099411752
Option 2 ID : 4410099411754
Option 3 ID : 4410099411753
Option 4 ID : 4410099411755
Status : Answered
Chosen Option : 4

Q.19 A student sees nearby objects clearly but distant objects appear blurred. If the far point is 2 m, which lens will correct the defect?

- Ans
- ☒ 1. Concave lens of -0.5 D
 - ☒ 2. Convex lens of $+0.5\text{ D}$
 - ☒ 3. Concave lens of -2 D
 - ☒ 4. Convex lens of $+2\text{ D}$

Question ID : 4410092393142
Option 1 ID : 4410099412317
Option 2 ID : 4410099412316
Option 3 ID : 4410099412319
Option 4 ID : 4410099412318
Status : Answered
Chosen Option : 2

Q.20 A runner covers half the distance at 12 km/h and the other half at 18 km/h. What is the average speed for the entire distance?

- Ans
- ☒ 1. 18 km/h
 - ☒ 2. 12 km/h
 - ☒ 3. 14.4 km/h
 - ☒ 4. 15 km/h

Question ID : 4410092392970
Option 1 ID : 4410099411631
Option 2 ID : 4410099411630
Option 3 ID : 4410099411628
Option 4 ID : 4410099411629
Status : Answered
Chosen Option : 3

Q.21 For a monatomic ideal gas, if the root-mean-square speed of molecules is v_{rms} and the temperature is T , which formula correctly expresses v_{rms} in terms of gas constant R , molar mass M , and temperature T ?

Ans

- ✓ 1. $\sqrt{\frac{3RT}{M}}$
- ✗ 2. $\sqrt{\frac{8RT}{\pi M}}$
- ✗ 3. $\sqrt{\frac{RT}{M}}$
- ✗ 4. $\sqrt{\frac{2RT}{M}}$

Question ID : 4410092393045

Option 1 ID : 4410099411928

Option 2 ID : 4410099411931

Option 3 ID : 4410099411930

Option 4 ID : 4410099411929

Status : Answered

Chosen Option : 1

Q.22 Two long parallel wires carry currents in the same direction. A student gradually increases the distance between them while keeping the currents constant. The force between the wires _____.

Ans

- ✗ 1. Remains constant
- ✓ 2. Decreases inversely with distance
- ✗ 3. Increases linearly with distance
- ✗ 4. Decreases inversely with the square of distance

Question ID : 4410092393098

Option 1 ID : 4410099412141

Option 2 ID : 4410099412142

Option 3 ID : 4410099412140

Option 4 ID : 4410099412143

Status : Answered

Chosen Option : 2

Q.23 When a ferromagnetic substance is heated above its Curie temperature, it behaves approximately as ____.

- Ans
- ☒ 1. Superconducting
 - ☒ 2. Non-magnetic under all conditions
 - ☒ 3. Diamagnetic
 - ☒ 4. Paramagnetic

Question ID : 4410092393090
 Option 1 ID : 4410099412110
 Option 2 ID : 4410099412111
 Option 3 ID : 4410099412108
 Option 4 ID : 4410099412109
 Status : Answered
 Chosen Option : 3

Q.24 A single closed loop consists of a 24 V battery and a 6 Ω resistor. According to Kirchhoff's loop rule, the magnitude of current flowing through the circuit is ____.

- Ans
- ☒ 1. 4 A
 - ☒ 2. 3 A
 - ☒ 3. 6 A
 - ☒ 4. 2 A

Question ID : 4410092393082
 Option 1 ID : 4410099412078
 Option 2 ID : 4410099412077
 Option 3 ID : 4410099412079
 Option 4 ID : 4410099412076
 Status : Answered
 Chosen Option : 1

Q.25 The equation of a progressive wave is given by: $y = 0.05 \sin(5\pi x - 100\pi t)$; where y and x are in meters and t is in seconds. What will be the displacement of the particle at a position of 0.2 m at the instant $t = 0.005$ s.

- Ans
- ☒ 1. 0.025 meters
 - ☒ 2. -0.05 meters
 - ☒ 3. 0.05 meters
 - ☒ 4. -0.025 meters

Question ID : 4410092393050
 Option 1 ID : 4410099411951
 Option 2 ID : 4410099411948
 Option 3 ID : 4410099411950
 Option 4 ID : 4410099411949
 Status : Answered
 Chosen Option : 3

Q.1 Which function below is most likely to have a second order derivative that is constant everywhere?

- Ans ☒ 1. $f(x) = 2x^2 + 3x + 1$
☒ 2. $f(x) = \sin(x) + x$
☒ 3. $f(x) = e^x$
☒ 4. $f(x) = x^3 + 2x$

Question ID : 4410092386795

Option 1 ID : 4410099387578

Option 2 ID : 4410099387579

Option 3 ID : 4410099387577

Option 4 ID : 4410099387576

Status : Answered

Chosen Option : 1

Q.2 Let $A = [-1, 1]$ and $B = \mathbb{R}$, the set of all real numbers. Define a relation G from A to B as $G = \{(x, y) : x = |y|\}$. What is the domain of G ?

- Ans ☒ 1. $\mathbb{R}$
☒ 2. A
☒ 3. $[0, 1]$
☒ 4. $[0, \infty)$

Question ID : 4410092386688

Option 1 ID : 4410099387152

Option 2 ID : 4410099387153

Option 3 ID : 4410099387154

Option 4 ID : 4410099387155

Status : Answered

Chosen Option : 2

Q.3 When integrating $\int x \ln(x) dx$ using by-parts, which assignment of 'u' and 'dv' will simplify the process?

- Ans ☒ 1. $u = \ln(x), dv = dx$
☒ 2. $u = x^2, dv = \ln(x) dx$
☒ 3. $u = x, dv = \ln(x) dx$
☒ 4. $u = \ln(x), dv = x dx$

Question ID : 4410092386862

Option 1 ID : 4410099387845

Option 2 ID : 4410099387844

Option 3 ID : 4410099387846

Option 4 ID : 4410099387847

Status : Answered

Chosen Option : 4

Q.4 The point Q is equidistant from (2, 3, 8), (6, 11, 4), and (10, 7, 12). Which of the following is a valid coordinate for Q?

- Ans
- ☒ 1. (8, 9, 10)
 - ☒ 2. (6, 7, 8)
 - ☒ 3. (7, 8, 9)
 - ☒ 4. (5, 6, 7)

Question ID : 4410092386769
Option 1 ID : 4410099387476
Option 2 ID : 4410099387478
Option 3 ID : 4410099387479
Option 4 ID : 4410099387477
Status : Answered
Chosen Option : 2

Q.5 A fair die is rolled. Person H reports that the outcome is an odd number. If the probability that H tells the truth is p, which of the following theorems should be used to determine the probability that the actual outcome was an odd number?

- Ans
- ☒ 1. Bayes' theorem for probability
 - ☒ 2. Only total probability theorem
 - ☒ 3. Only multiplication theorem of probability
 - ☒ 4. Binomial theorem for probability

Question ID : 4410092386873
Option 1 ID : 4410099387888
Option 2 ID : 4410099387890
Option 3 ID : 4410099387889
Option 4 ID : 4410099387891
Status : Answered
Chosen Option : 2

Q.6 What is the coefficient of x^3y^3 in the expansion of $(x + 2y)^6$?

- Ans
- ☒ 1. 80
 - ☒ 2. 120
 - ☒ 3. 320
 - ☒ 4. 160

Question ID : 4410092386733
Option 1 ID : 4410099387333
Option 2 ID : 4410099387334
Option 3 ID : 4410099387335
Option 4 ID : 4410099387332
Status : Answered
Chosen Option : 4

Q.7 Which scenario would guarantee that $f(x)$ is continuous at $x = 5$?

- Ans
- ✓ 1. $f(5)$ is defined and $\lim_{x \rightarrow 5} f(x) = f(5)$
 - ✗ 2. $f(5)$ is defined and $\lim_{x \rightarrow 5} f(x)$ exists
 - ✗ 3. $f(5)$ is defined
 - ✗ 4. $\lim_{x \rightarrow 5} f(x)$ exists only

Question ID : 4410092386801

Option 1 ID : 4410099387603

Option 2 ID : 4410099387602

Option 3 ID : 4410099387600

Option 4 ID : 4410099387601

Status : Answered

Chosen Option : 1

Q.8 Given $w = 1 - 2i$ and $z = 3 + i$, what is the value of z/w in standard form?

- Ans
- ✓ 1. $\frac{1}{5} + i\frac{7}{5}$
 - ✗ 2. $\frac{7}{5} - i\frac{1}{5}$
 - ✗ 3. $\frac{1}{5} - i\frac{7}{5}$
 - ✗ 4. $\frac{7}{5} + i\frac{1}{5}$

Question ID : 4410092386736

Option 1 ID : 4410099387344

Option 2 ID : 4410099387346

Option 3 ID : 4410099387345

Option 4 ID : 4410099387347

Status : Answered

Chosen Option : 2

Q.9 The region enclosed between $y = e^x$ and $y = x^2$, for $0 \leq x \leq 1$, has area represented by which integral?

Ans

☒ 1. $2\pi \int_0^1 x(e^x - x^2)dx$

☒ 2. $\pi \int_0^1 (e^x + x^2)^2 dx$

☒ 3. $\int_0^1 (e^x - x^2)dx$.

☒ 4. $\pi \int_0^1 (e^{2x} - x^4)dx$.

Question ID : 4410092386841

Option 1 ID : 4410099387762

Option 2 ID : 4410099387763

Option 3 ID : 4410099387760

Option 4 ID : 4410099387761

Status : Not Answered

Chosen Option : --

Q.10 If $f(x) = x^2$ and $g(x) = x^3$, what is the derivative with respect to x

Ans

☒ 1. $6x^4$

☒ 2. $5x^3$

☒ 3. $5x^5$

☒ 4. $5x^4$

Question ID : 4410092386817

Option 1 ID : 4410099387666

Option 2 ID : 4410099387667

Option 3 ID : 4410099387665

Option 4 ID : 4410099387664

Status : Answered

Chosen Option : 4

Q.11 In an arithmetic progression, if the fifth term is 24 and the first term is 8, what is the sum of the first five terms?

- Ans
- ☒ 1. 64
 - ☒ 2. 60
 - ☒ 3. 100
 - ☒ 4. 80

Question ID : 4410092386720

Option 1 ID : 4410099387283

Option 2 ID : 4410099387280

Option 3 ID : 4410099387282

Option 4 ID : 4410099387281

Status : Answered

Chosen Option : 4

Q.12 Given a function $f(x)$ with $\lim_{x \rightarrow 4^-} f(x) = 8$ and $\lim_{x \rightarrow 4^+} f(x) = 12$, which of the following best describes the limit of $f(x)$ as x approaches 4?

- Ans
- ☒ 1. The limit does not exist at $x = 4$
 - ☒ 2. The limit is 8
 - ☒ 3. The limit is 10
 - ☒ 4. The limit is 12

Question ID : 4410092386825

Option 1 ID : 4410099387699

Option 2 ID : 4410099387696

Option 3 ID : 4410099387698

Option 4 ID : 4410099387697

Status : Answered

Chosen Option : 1

Q.13 If $A = \begin{bmatrix} 1 & 2 & 0 \\ 0 & 1 & 2 \\ 2 & 0 & 1 \end{bmatrix}$, which entry occupies the (2,1) position (second row and first column) in $\text{adj}(A)$?

- Ans
- ☒ 1. 4
 - ☒ 2. -1
 - ☒ 3. -4
 - ☒ 4. 1

Question ID : 4410092386746

Option 1 ID : 4410099387385

Option 2 ID : 4410099387386

Option 3 ID : 4410099387387

Option 4 ID : 4410099387384

Status : Answered

Chosen Option : 1

Q.14 Given the first order differential equation $\frac{dy}{dx} = y + \sin x$, what is the best strategy to solve for $y(x)$?

- Ans
- ☒ 1. Separate variables and integrate
 - ☒ 2. Apply substitution for $\sin(x)$
 - ☒ 3. Integrate both sides directly
 - ☒ 4. Multiply by an integrating factor to solve

Question ID : 4410092386839
Option 1 ID : 4410099387755
Option 2 ID : 4410099387754
Option 3 ID : 4410099387752
Option 4 ID : 4410099387753
Status : Answered
Chosen Option : 4

Q.15 In how many ways can 5 books be selected from a shelf containing 9 different books if two specified books must either both be selected or both be excluded?

- Ans
- ☒ 1. 42
 - ☒ 2. 74
 - ☒ 3. 56
 - ☒ 4. 68

Question ID : 4410092386712
Option 1 ID : 4410099387251
Option 2 ID : 4410099387249
Option 3 ID : 4410099387248
Option 4 ID : 4410099387250
Status : Answered
Chosen Option : 3

Q.16 If the angle between the lines $y = x$ and $y = kx$ is 60 degrees, which of the following is a possible value of k ?

Ans

✗ 1. $\frac{\sqrt{3} + 2}{\sqrt{3} - 2}$

✓ 2. $\frac{1 + \sqrt{3}}{1 - \sqrt{3}}$

✗ 3. $\frac{\sqrt{3} - 1}{\sqrt{3} + 1}$

✗ 4. $\frac{2 - \sqrt{3}}{2 + \sqrt{3}}$

Question ID : 4410092386776

Option 1 ID : 4410099387507

Option 2 ID : 4410099387504

Option 3 ID : 4410099387506

Option 4 ID : 4410099387505

Status : Not Answered

Chosen Option : --

Q.17 The number of solutions to the equation $\sin(x) + \cos(2x) = 0$ in $[0, 2\pi]$ is ____.

Ans

✗ 1. 1

✗ 2. 4

✓ 3. 3

✗ 4. 2

Question ID : 4410092386706

Option 1 ID : 4410099387224

Option 2 ID : 4410099387227

Option 3 ID : 4410099387225

Option 4 ID : 4410099387226

Status : Answered

Chosen Option : 3

Q.18 Which of the following trigonometric identities is true for every real value of x ?

- Ans
- ☒ 1. $\sin(90^\circ - x) = \cos(180^\circ - x)$
 - ☒ 2. $\sin(180^\circ + x) = \cos(90^\circ + x)$
 - ☒ 3. $\sin(180^\circ - x) = \cos(90^\circ + x)$
 - ☒ 4. $\sin(180^\circ + x) = \cos(90^\circ - x)$

Question ID : 4410092386697

Option 1 ID : 4410099387191

Option 2 ID : 4410099387189

Option 3 ID : 4410099387190

Option 4 ID : 4410099387188

Status : Answered

Chosen Option : 2

Q.19 Given triangle JKL with vertices J(-1, 4), K(3, -2), L(5, 6), calculate the area using determinants.

- Ans
- ☒ 1. 26 square units
 - ☒ 2. 14 square units
 - ☒ 3. 22 square units
 - ☒ 4. 18 square units

Question ID : 4410092386755

Option 1 ID : 4410099387420

Option 2 ID : 4410099387421

Option 3 ID : 4410099387423

Option 4 ID : 4410099387422

Status : Answered

Chosen Option : 3

Q.20 Which condition must be true for the Fundamental Theorem of Calculus to apply directly to the evaluation of a definite integral from a to b of $f(x) dx$?

- Ans
- ☒ 1. $f(x)$ must be differentiable everywhere
 - ☒ 2. $f(x)$ must be positive on $[a, b]$
 - ☒ 3. $f(x)$ must be continuous on $[a, b]$
 - ☒ 4. $f(x)$ must be periodic on $[a, b]$

Question ID : 4410092386851

Option 1 ID : 4410099387802

Option 2 ID : 4410099387803

Option 3 ID : 4410099387800

Option 4 ID : 4410099387801

Status : Answered

Chosen Option : 1

Q.21 If two non-zero vectors a and b have a dot product of zero, what does this imply about their relative orientation?

- Ans
- ☒ 1. They point in opposite directions.
 - ☒ 2. They are perpendicular to each other.
 - ☒ 3. They are parallel to each other.
 - ☒ 4. They have equal magnitudes.

Question ID : 4410092386867
Option 1 ID : 4410099387866
Option 2 ID : 4410099387865
Option 3 ID : 4410099387864
Option 4 ID : 4410099387867
Status : Answered
Chosen Option : 2

Q.22 If the range of the data set 1, 3, 7, 11, 13, x is 17, what is the value of x if $x > 0$?

- Ans
- ☒ 1. 18
 - ☒ 2. 17
 - ☒ 3. 4
 - ☒ 4. 30

Question ID : 4410092386883
Option 1 ID : 4410099387929
Option 2 ID : 4410099387930
Option 3 ID : 4410099387928
Option 4 ID : 4410099387931
Status : Answered
Chosen Option : 1

Q.23 Which of the following equations represents a circle centered at the origin and passing through the point $(-1, 2)$?

- Ans
- ☒ 1. $x^2 + y^2 = 16$
 - ☒ 2. $x^2 + y^2 = 5$
 - ☒ 3. $x^2 + y^2 = 9$
 - ☒ 4. $x^2 + y^2 = 25$

Question ID : 4410092386786
Option 1 ID : 4410099387547
Option 2 ID : 4410099387544
Option 3 ID : 4410099387546
Option 4 ID : 4410099387545
Status : Answered
Chosen Option : 2

Q.24 Given a function $g(x)$ such that $g''(x) < 0$ for all $x \in (2, 7)$, with

- Ans
- ☐ 1. $g(x)$ has globle (absolute) minimum at $x = 5$
 - ☐ 2. $g(x)$ has a local minimum at $x=5$
 - ☐ 3. $g(x)$ has globle (absolute) maximum at $x = 5$
 - ☒ 4. $g(x)$ has a local maximum at $x=5$

Question ID : 4410092386809
Option 1 ID : 4410099387633
Option 2 ID : 4410099387635
Option 3 ID : 4410099387634
Option 4 ID : 4410099387632
Status : Answered
Chosen Option : 3

Q.25 Which of the following identities is true for a 3×3 matrix A ?

- Ans
- ☐ 1. $|\text{adj } A| = |A|^4$
 - ☐ 2. $|\text{adj } A| = |A|$
 - ☐ 3. $|\text{adj } A| = |A|^3$
 - ☒ 4. $|\text{adj } A| = |A|^2$

Question ID : 4410092386744
Option 1 ID : 4410099387379
Option 2 ID : 4410099387376
Option 3 ID : 4410099387378
Option 4 ID : 4410099387377
Status : Answered
Chosen Option : 4

Section : English

Q.1 Change the given sentence from reported speech to direct speech and choose the correct option.

The officer asked why I had arrived late.

- Ans
- ☐ 1. The officer asked, "Why I arrived late?"
 - ☐ 2. The officer asked, "Have you arrived late?"
 - ☐ 3. The officer asked, "Why will you arrive late?"
 - ☒ 4. The officer asked, "Why did you arrive late?"

Question ID : 4410091681089
Option 1 ID : 4410096631734
Option 2 ID : 4410096631737
Option 3 ID : 4410096631735
Option 4 ID : 4410096631736
Status : Answered
Chosen Option : 1

Q.2 Which of the following is the verb formed from the adjective 'weak'?

- Ans
- ☒ 1. weakish
 - ☒ 2. weaken
 - ☒ 3. weakly
 - ☒ 4. weakness

Question ID : 4410092241318
Option 1 ID : 4410098818200
Option 2 ID : 4410098818203
Option 3 ID : 4410098818202
Option 4 ID : 4410098818201
Status : Answered
Chosen Option : 4

Q.3 Identify the part of the sentence that has an error.
The quality of the products (P) / depend on (Q) / careful inspection (R) / at every stage. (S)

- Ans
- ☒ 1. S
 - ☒ 2. Q
 - ☒ 3. P
 - ☒ 4. R

Question ID : 4410092244273
Option 1 ID : 4410098829479
Option 2 ID : 4410098829477
Option 3 ID : 4410098829476
Option 4 ID : 4410098829478
Status : Answered
Chosen Option : 2

Q.4 Choose the part of the sentence that contains an adverb error.
She checked (a) / every part of the report (b) / thorough (c) / before submitting it. (d)

- Ans
- ☒ 1. She checked (a)
 - ☒ 2. every part of the report (b)
 - ☒ 3. before submitting it (d)
 - ☒ 4. thorough (c)

Question ID : 4410092241459
Option 1 ID : 4410098818764
Option 2 ID : 4410098818765
Option 3 ID : 4410098818767
Option 4 ID : 4410098818766
Status : Answered
Chosen Option : 4

Q.5 Choose the option that best corrects the underlined part of the given sentence.

This task is not as easier as it looks.

- Ans
- ☒ 1. easiest
 - ☒ 2. most easiest
 - ☒ 3. more easy
 - ☒ 4. easy

Question ID : 4410091407008
Option 1 ID : 4410095557128
Option 2 ID : 4410095557129
Option 3 ID : 4410095557126
Option 4 ID : 4410095557127
Status : Answered
Chosen Option : 4

Q.6 Choose the correct preposition to complete the given sentence.

The wall clock is hanging ____ the air conditioner.

- Ans
- ☒ 1. on
 - ☒ 2. in
 - ☒ 3. below
 - ☒ 4. towards

Question ID : 4410091355747
Option 1 ID : 4410095355229
Option 2 ID : 4410095355232
Option 3 ID : 4410095355230
Option 4 ID : 4410095355231
Status : Answered
Chosen Option : 3

Q.7 Identify the segment of the given sentence that has a grammatical error.

I visited the place last week, but I have not enjoy it as much as I had expected.

- Ans
- ☒ 1. I visited the place
 - ☒ 2. have not enjoy it
 - ☒ 3. as much as I had expected
 - ☒ 4. last week, but I

Question ID : 4410091315886
Option 1 ID : 4410095195139
Option 2 ID : 4410095195141
Option 3 ID : 4410095195142
Option 4 ID : 4410095195140
Status : Answered
Chosen Option : 2

Q.8 Which word correctly completes the sentence:
She decided to ____ the invitation to the ceremony.

- Ans
- ☐ 1. excerpt
 - ☐ 2. except
 - ☐ 3. access
 - ☒ 4. accept

Question ID : 4410092241921
Option 1 ID : 4410098820549
Option 2 ID : 4410098820550
Option 3 ID : 4410098820551
Option 4 ID : 4410098820548
Status : Answered
Chosen Option : 4

Q.9 Read the given sentence and choose the word that is opposite in meaning to the highlighted word.

The company's new policy proved **beneficial** to its employees.

- Ans
- ☐ 1. Profitable
 - ☐ 2. Helpful
 - ☐ 3. Advantageous
 - ☒ 4. Harmful

Question ID : 4410092240651
Option 1 ID : 4410098815533
Option 2 ID : 4410098815532
Option 3 ID : 4410098815535
Option 4 ID : 4410098815534
Status : Answered
Chosen Option : 4

Q.10 Fill in the blank with the most appropriate choice.

You can have tea ____ coffee, but not both.

- Ans
- ☐ 1. but
 - ☒ 2. or
 - ☐ 3. so
 - ☐ 4. and

Question ID : 4410092241453
Option 1 ID : 4410098818742
Option 2 ID : 4410098818743
Option 3 ID : 4410098818741
Option 4 ID : 4410098818740
Status : Answered
Chosen Option : 2

Q.11 Select the correct spelling of the underlined word in the given sentence.

The coach warned the players to control their agression during the match.

- Ans
- ☒ 1. Agresion
 - ☒ 2. Aggression
 - ☒ 3. Aggresion
 - ☒ 4. Aggreton

Question ID : 4410091512410
Option 1 ID : 4410095973720
Option 2 ID : 4410095973718
Option 3 ID : 4410095973719
Option 4 ID : 4410095973721
Status : Answered
Chosen Option : 2

Q.12 Choose the word that is closest in meaning to the underlined word.
The young researchers were eager to test their new ideas in the laboratory.

- Ans
- ☒ 1. prepared
 - ☒ 2. qualified
 - ☒ 3. excited
 - ☒ 4. unsure

Question ID : 4410092241892
Option 1 ID : 4410098820435
Option 2 ID : 4410098820434
Option 3 ID : 4410098820433
Option 4 ID : 4410098820432
Status : Answered
Chosen Option : 3

Q.13 Choose the proverb that describes the given set of words:
Solve a problem before it becomes serious.

- Ans
- ☒ 1. Slow and steady wins the race
 - ☒ 2. Better safe than sorry
 - ☒ 3. Two heads are better than one
 - ☒ 4. Actions speak louder than words

Question ID : 4410092241912
Option 1 ID : 4410098820515
Option 2 ID : 4410098820512
Option 3 ID : 4410098820514
Option 4 ID : 4410098820513
Status : Answered
Chosen Option : 2

Q.14 Read the sentences below. The first sentence is fixed. Arrange A, B, C and D in the correct order.
Rahul wanted to learn cycling.
A. He practiced every day.
B. Soon, he could ride well.
C. At first, he fell many times.
D. He did not give up.

Ans ☒ 1. DABC
☒ 2. ACDB
☒ 3. BACD
☒ 4. ADBC

Question ID : 4410092241916
Option 1 ID : 4410098820530
Option 2 ID : 4410098820528
Option 3 ID : 4410098820529
Option 4 ID : 4410098820531
Status : Answered
Chosen Option : 2

Q.15 Choose the option that correctly replaces the underlined part of the sentence.

The committee has chose a new coordinator for the research project.

Ans ☒ 1. choses
☒ 2. choosing
☒ 3. choose
☒ 4. chosen

Question ID : 4410092241312
Option 1 ID : 4410098818179
Option 2 ID : 4410098818178
Option 3 ID : 4410098818176
Option 4 ID : 4410098818177
Status : Answered
Chosen Option : 4

Q.16 Select the correct active form of the following sentence.
My wallet has been stolen by someone.

- Ans ☒ 1. Someone has stolen my wallet.
- ☐ 2. Someone stole my wallet.
- ☐ 3. Someone was stealing my wallet.
- ☐ 4. Someone had stolen my wallet.

Question ID : 441009994928
Option 1 ID : 4410093931747
Option 2 ID : 4410093931746
Option 3 ID : 4410093931749
Option 4 ID : 4410093931748
Status : Answered
Chosen Option : 1

Comprehension:
Read the passage and answer the questions that follow.

Sports are often seen only as games people play for fun or competition, but they teach something much more important—discipline. When students take part in sports, they must follow rules, listen to the coach, and practise regularly. These habits help them become organised and focused. Students also learn that improvement takes time. They understand that success does not come instantly but through steady efforts. This helps them build patience and self-control. Sports routines, such as coming on time for practice, training every day, and following team plans, strengthen discipline further. Players realise that talent alone cannot help them win; they must also work hard and stay committed. Even failures, losses, and tiredness teach valuable lessons. Students learn to accept setbacks calmly and continue trying. This helps them become emotionally strong. Sports also teach responsibility. If a player is careless, it affects the whole team, not just one person. Knowing this makes students more reliable. These habits help them in school and later in their careers. Thus, sports become a natural way for students to learn discipline through real experiences.

SubQuestion No : 17

Q.17 What do sports mainly teach apart from fun and competition?

- Ans ☒ 1. Discipline and regular habits
- ☐ 2. How to become famous
- ☐ 3. Ways to avoid failure
- ☐ 4. How to win every match

Question ID : 4410091689089
Option 1 ID : 4410096662803
Option 2 ID : 4410096662804
Option 3 ID : 4410096662805
Option 4 ID : 4410096662802
Status : Answered
Chosen Option : 1

Comprehension:

Read the passage and answer the questions that follow.

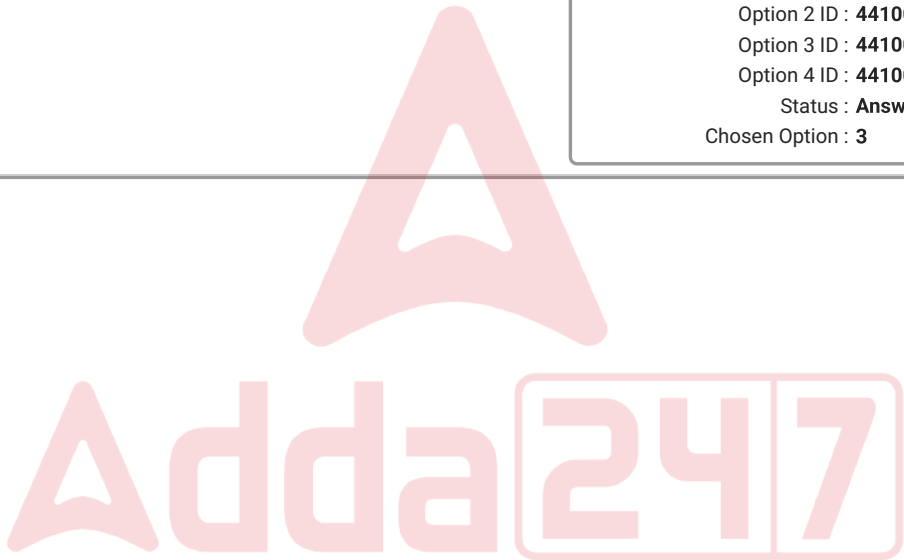
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SubQuestion No : 18

Q.18 Why do students become emotionally strong through sports?

- Ans
- ☒ 1. Because they compete with friends
 - ☒ 2. Because sports are easy
 - ☒ 3. Because they learn to handle failures and tiredness
 - ☒ 4. Because they always win

Question ID : 4410091689090
Option 1 ID : 4410096662807
Option 2 ID : 4410096662809
Option 3 ID : 4410096662808
Option 4 ID : 4410096662806
Status : Answered
Chosen Option : 3



Comprehension:

Read the passage and answer the questions that follow.

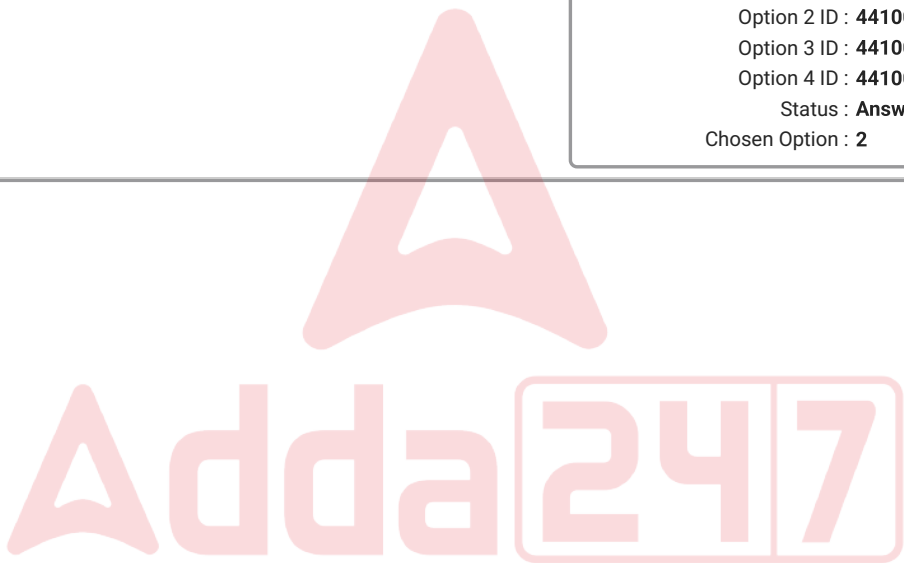
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SubQuestion No : 19

Q.19 The word “setbacks” in the passage means:

- Ans
- ☒ 1. Quick victories
 - ☒ 2. Delays or difficulties
 - ☒ 3. Celebrations
 - ☒ 4. Team meetings

Question ID : 4410091689091
Option 1 ID : 4410096662812
Option 2 ID : 4410096662810
Option 3 ID : 4410096662811
Option 4 ID : 4410096662813
Status : Answered
Chosen Option : 2



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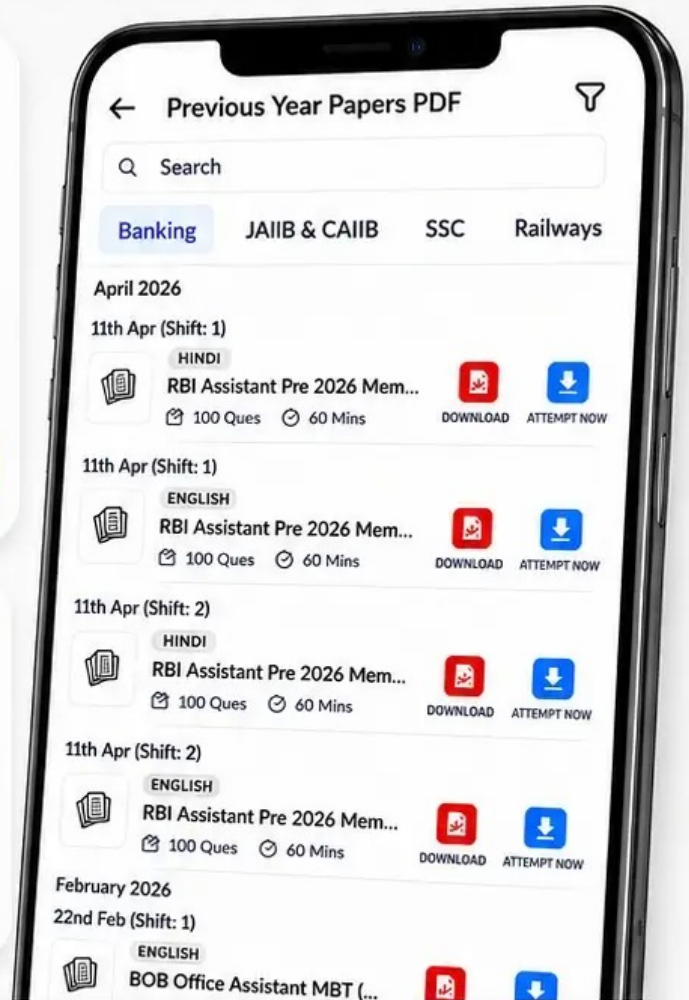
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Comprehension:

Read the passage and answer the questions that follow.

Sports are often seen only as games people play for fun or competition, but they teach something much more important—discipline. When students take part in sports, they must follow rules, listen to the coach, and practise regularly. These habits help them become organised and focused. Students also learn that improvement takes time. They understand that success does not come instantly but through steady efforts. This helps them build patience and self-control. Sports routines, such as coming on time for practice, training every day, and following team plans, strengthen discipline further. Players realise that talent alone cannot help them win; they must also work hard and stay committed. Even failures, losses, and tiredness teach valuable lessons. Students learn to accept setbacks calmly and continue trying. This helps them become emotionally strong. Sports also teach responsibility. If a player is careless, it affects the whole team, not just one person. Knowing this makes students more reliable. These habits help them in school and later in their careers. Thus, sports become a natural way for students to learn discipline through real experiences.

SubQuestion No : 20

Q.20 Which of the following is true according to the passage?

- Ans
- ☒ 1. Only winners learn important lessons from sports.
 - ☒ 2. Sports do not help in academic life.
 - ☒ 3. Discipline in sports develops naturally through practice.
 - ☒ 4. Talent alone is enough to succeed in sports.

Question ID : 4410091689092
Option 1 ID : 4410096662816
Option 2 ID : 4410096662817
Option 3 ID : 4410096662815
Option 4 ID : 4410096662814
Status : Answered
Chosen Option : 3

