Railway Recruitment Board

Notations:
1. Options shown in green color and with ✓ icon are correct.
2. Options shown in red color and with ✗ icon are incorrect.

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Junior Engineer
Section Id: 8
Section Number: 1
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Sub-Section Number: 1
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Question Shuffling Allowed: Yes

Question Number: 1  Question Id: 1501  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33
For an ideal gas the value of joule thomson coefficient is

1. Zero
2. 0.5
3. Unity
4. Infinite

Options:
1. ✓ 1
2. * 2
3. * 3
4. * 4

Question Number : 2  Question Id : 1502  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Perpetual motion machine of second kind violates the

1. First law of thermodynamics
2. Kelvin-plank statement
3. Clausius statement
4. Third law of thermodynamics

Options:
1. * 1
2. ✓ 2
3. * 3
4. * 4

Question Number : 3  Question Id : 1503  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The ratio of thermal conductivity to electrical conductivity is equal to

1. Prandtl number
2. Schmidt number
3. Lorentz number
4. Lewis number

Options:
1. * 1
2. * 2
3. ✓ 3
4. * 4

Question Number : 4  Question Id : 1504  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The effectiveness of a fin will be maximum in an environment with

1. Free convection
2. Forced convection
3. Radiation
4. Convection and radiation

Options:
1. ✔ 1
2. ✗ 2
3. ✗ 3
4. ✗ 4

With increasing temperature of intake air, IC engine efficiency

1. Decreases
2. Increases
3. Remains same
4. Depends on other factors

Options:
1. ✔ 1
2. ✗ 2
3. ✗ 3
4. ✗ 4

Thermal efficiency of CI engine is higher than that of SI engine due to

1. Fuel used
2. Higher compression ratio
3. Constant pressure heat addition
4. Lower compression ratio

Options:
1. ✗ 1
2. ✔ 2
3. ✗ 3
4. ✗ 4
The float in the carburettor of a petrol engine controls

1. Flow rate of air
2. Flow rate of fuel
3. Flow rate of air-fuel mixture
4. Level of the petrol in the float chamber

Options:
1. ✗ 1
2. ✗ 2
3. ✗ 3
4. ✔ 4

Angle between the face and flank of the single point cutting tool is known as

1. Rake angle
2. Clearance angle
3. Lip angle
4. Point angle

Options:
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✔ 4

Which of the following is a cutting tool material

1. High speed steel
2. Mild steel
3. Cast iron
4. Galvanized steel

Options:
1. ✔ 1
2. ✗ 2
3. ✗ 3
4. ✗ 4
In milling machine, the cutting tool is held in position by

1. Chuck
2. Spindle
3. Arbor
4. Tool holder

Options:
1. 1
2. 2
3. ✓ 3
4. 4

Collapsible tooth paste tubes are manufactured by

1. Direct extrusion
2. Piercing
3. Impact extrusion
4. Indirect extrusion

Options:
1. 1
2. 2
3. ✓ 3
4. 4

Sprue in casting refers to

1. Gate
2. Runner
3. Riser
4. Vertical passage

Options:
1. 1
Question Number : 13  Question Id : 1513  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

In arc welding, arc is created between the electrode and work by

1. Flow of current
2. Voltage
3. Material characteristics
4. Contact resistance

Options :
1. 1
2. 2
3. 3
4. 4

Question Number : 14  Question Id : 1514  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Preheating of work piece is essential in welding

1. High speed steel
2. Stainless steel
3. Cast iron
4. Aluminium

Options :
1. 1
2. 2
3. 3
4. 4

Question Number : 15  Question Id : 1515  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

An ideal voltage source should have

1. large value of emf
2. small value of emf
3. zero source resistance
4. infinite source resistance

Options :
Question Number : 16  Question Id : 1516  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Which bulb operates on lowest power

1. Night bulb
2. Neon bulb
3. GLS bulb
4. Torch bulb

Options :
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✓ 4

Question Number : 17  Question Id : 1517  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Electrode is not consumed in the case of

1. TIG welding
2. MIG welding
3. Gas welding
4. Resistance welding

Options :
1. ✓ 1
2. ✗ 2
3. ✗ 3
4. ✗ 4

Question Number : 18  Question Id : 1518  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
DC generator are installed near the load centres to reduce
1. iron losses
2. line losses
3. sparking
4. corona losses

Options :
1. ✗ 1
2. ✓ 2
3. ✗ 3
4. ✗ 4

Question Number : 19  Question Id : 1519  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

In a DC motor, constant torque is produced due to
1. rotor laminations
2. end plates
3. pole shoes
4. commutator

Options :
1. ✗ 1
2. ✗ 2
3. ✗ 3
4. ✓ 4

Question Number : 20  Question Id : 1520  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Which of the following is not a part of transformer
1. Conservator
2. Bucholz Relay
3. Exciter
4. Breather

Options :
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✗ 4
An induction motor is

1. self starting with zero torque
2. self starting with high torque
3. self starting with low torque
4. non self starting

Options:

1. ✔ 1
2. ✔ 2
3. ✔ 3
4. ✔ 4

Question Number : 22  Question Id : 1522  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The term "cogging" is associated with

1. three phase transformer
2. compound generators
3. DC series motor
4. Induction motors

Options:

1. ✔ 1
2. ✔ 2
3. ✔ 3
4. ✔ 4

Question Number : 23  Question Id : 1523  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The speed of universal motor is generally reduced by using

1. gear trains
2. V- belts
3. brakes
4. chains

Options:

1. ✔ 1
2. ✔ 2
Question Number : 24  Question Id : 1524  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

A thermal protection switch can protect against

1. short circuit
2. temperature
3. over load
4. Variable load

Options :
1. **1**
2. **2**
3. ✓ 3
4. ✓ 4

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Question Number : 25  Question Id : 1525  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

In a bipolar transistor which current is largest

1. collector current
2. base current
3. emitter current
4. base or emitter current

Options :
1. **1**
2. **2**
3. ✓ 3
4. ✓ 4

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Question Number : 26  Question Id : 1526  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The word enhancement mode is associated with

1. tunnel diode
2. MOSFET
3. photodiode
4. varactor diode
Options:
1. ✗ 1
2. ✔ 2
3. ✗ 3
4. ✗ 4

Question Number: 27  Question Id: 1527  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33

Which of the following has highest resistivity?

1. Mica
2. Paraffin
3. Air
4. Mineral oil

Options:
1. ✗ 1
2. ✔ 2
3. ✔ 3
4. ✗ 4

Question Number: 28  Question Id: 1528  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33

Power diodes are generally

1. silicon diodes
2. germanium diodes
3. carbon diodes
4. carbon or germanium diodes

Options:
1. ✔ 1
2. ✗ 2
3. ✗ 3
4. ✗ 4

Question Number: 29  Question Id: 1529  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33
The depletion layer width of Junction
1. decreases with light doping
2. is independent of applied voltage
3. increases under reverse bias
4. increases with heavy doping

Options :
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✗ 4

Question Number : 30  Question Id : 1530  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

For mercury arc rectifiers, the anode is usually made up of
1. aluminium
2. graphite
3. tungsten
4. copper

Options :
1. ✗ 1
2. ✓ 2
3. ✗ 3
4. ✗ 4

Question Number : 31  Question Id : 1531  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

For effective modulation, the degree of modulation should
1. small
2. never exceed 100%
3. be large
4. always more than 100%

Options :
1. ✗ 1
2. ✓ 2
3. ✗ 3
4. ✗ 4
Which of them radiates emission?

1. LED
2. LCD
3. Both LCD and LED
4. Neither LCD nor LED

Options:
1. ✔️ 1  
2. ✗ 2  
3. ✗ 3  
4. ✗ 4

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Binary 101010 is equivalent to decimal number

1. 24
2. 42
3. 64
4. 44

Options:
1. ✗ 1  
2. ✔️ 2  
3. ✗ 3  
4. ✗ 4

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The number of valence electrons in donor impurity are

1. 1
2. 3
3. 5
4. 7

Options:
Question Number : 35  Question Id : 1535  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

A prismatic beam has uniform
1. Depth
2. Width
3. Strength
4. Cross-section

Options :
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✔ 4

Question Number : 36  Question Id : 1536  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

A well graded soil has a coefficient of curvature between
1. 10 to 12
2. 7 to 9
3. 4 to 6
4. 1 to 3

Options :
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✔ 4

Question Number : 37  Question Id : 1537  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
How is the deflection in RC beams controlled as per IS:456?

1. By using large aspect ratio
2. By using small modular ratio
3. By controlling span/depth ratio
4. By moderating water-cement ratio

Options :
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✗ 4

A steel beam supporting loads from the floor slab as well as from wall is termed as

1. Stringer beam
2. Lintel beam
3. Spandrel beam
4. Header beam

Options :
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✗ 4

The dimensions of dynamic viscosity $\mu$ are

1. $ML^{-1}T^{-2}$
2. $ML^{-1}T^{-1}$
3. $MLT^{-2}$
4. $M^0L^0T^0$

Options :
1. ✗ 1
2. ✔ 2
3. ✗ 3
4. ✗ 4
The representative fraction 1/2500 means that the scale 1 cm is equal to
1. 0.25 m
2. 2.5 m
3. 25 m
4. 2.5 km

Options:
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✗ 4

Question Number : 41  Question Id : 1541  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
CPM is the
1. time oriented technique
2. event oriented technique
3. activity oriented technique
4. target oriented technique

Options:
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✗ 4

Question Number : 42  Question Id : 1542  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Which of the following cement has maximum percentage of C3S
1. Ordinary portland cement
2. Low heat cement
3. Sulphate resisting cement
4. Rapid hardening cement

Options:
1. ✗ 1
2. ✗ 2
3. ✗ 3
4. ✓ 4
Consistency as applied to cohesive soils is an indicator of its
1. Density
2. Moisture content
3. Shear strength
4. Porosity

Options :
1. * 1
2. * 2
3. ✓ 3
4. * 4

The needle of a magnetic compass is generally supported on a
1. Bush bearing
2. Ball bearing
3. Needle bearing
4. Jewel bearing

Options :
1. * 1
2. * 2
3. * 3
4. ✓ 4

Stainless steel resist corrosion due to
1. Carbon
2. Manganese
3. Chromium
4. Sulphur

Options :
1. * 1
Question Number : 46  Question Id : 1546  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
A barometer is used to measure
1. Very low pressure
2. Very High pressure
3. Pressure difference between two points
4. Atmospheric pressure

Options :
1.  ●  1
2.  ●  2
3.  ●  3
4.  ●  4

Question Number : 47  Question Id : 1547  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The household energy meter is
a. indicating instrument
b. recording instrument
c. integrating instrument
d. visible instrument

Options :
1.  ●  a.
2.  ●  b.
3.  ●  c.
4.  ●  d.

Question Number : 48  Question Id : 1548  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Magnetic flux density has the dimensions
a. $\text{MT}^{-2}$
b. $\text{M}^{-1}\text{I}^2\text{T}^{-2}$
c. $\text{ML}^{-3}\text{T}^{-2}$
d. $\text{MT}^{-1}\text{T}^{-3}$

Options :
1.  ●  a.
2.  ●  b.
3.  ●  c.
4. **d.**

**Question Number : 49  Question Id : 1549  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

**Assertion (A):** De Sauty's bridge is suitable only for pure capacitor.

**Reason (R):** Capacitors are mostly perfect.

a. Both A and R are true and R is correct explanation of A
b. Both A and R are true but R is not correct explanation of A
c. A is true R is false
d. A is false R is true

**Options :**
1. **a.**
2. **b.**
3. **c.**
4. **d.**

**Question Number : 50  Question Id : 1550  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

A voltmeter using thermocouples measures

a. RMS value
b. Peak value
c. Average value
d. Peak to peak value

**Options :**
1. **a.**
2. **b.**
3. **c.**
4. **d.**

**Question Number : 51  Question Id : 1551  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

To increase Q factor of a coil, the wire should be

a. Thin
b. Thick
c. Long
d. long and thin

**Options :**
1. **a.**
2. **b.**
3. **c.**
4. **d.**

**Question Number : 52  Question Id : 1552  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33


The undesirable taste and odours caused by dissolved gases may be removed by

(a) chemical treatment
(b) aeration
(c) disinfection
(d) reverse osmosis

Options:
1. ✔ (a)
2. ✔ (b)
3. ✔ (c)
4. ✔ (d)

Question Number : 53  Question Id : 1553  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The biochemical oxygen demand of treated water should be

(a) nil
(b) less than 30 mg/l
(c) less than 150 mg/l
(d) always more than 9 mg/l

Options:
1. ✔ (a)
2. ✔ (b)
3. ✔ (c)
4. ✔ (d)

Question Number : 54  Question Id : 1554  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The function of sluice valve provided in pipe line is

(a) to reduce the chances of pollution reaching into the pipe
(b) to reduce the pressure on pipes
(c) to regulate the flow of water through the pipes
(d) to allow the air to enter the pipe

Options:
1. ✔ (a)
2. ✔ (b)
3. ✔ (c)
4. ✔ (d)

Question Number : 55  Question Id : 1555  Question Type : MCQ  Option Shuffling : No
The source of lead in urban atmosphere is

a. bursting of cracker in festive season
b. road traffic
c. construction works
d. small scale industries

Question Number : 56  Question Id : 1556  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The noise level decreases with distance following

(a) inverse square law
(b) power law
(c) directly proportional to intensity square
(d) inversely proportional to intensity

Question Number : 57  Question Id : 1557  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The major pollutant that may cause damage to prestigious monument Taj Mahal is

(a) RSPM along with humidity
(b) NOx with HC+Ozone
(c) SOx with humidity
(d) Organic vapours released from Mathura refinery

Question Number : 58  Question Id : 1558  Question Type : MCQ  Option Shuffling : No
Microphone is a(an) ________________

(A) Input device (B) Output device
(C) Storage device (D) Both input and output device

Which of the following is a volatile memory?

(A) Cache memory (B) Hard Disk
(C) DVD (D) CD

Dynamic RAM (DRAM) is slower than Static RAM (SRAM) because ________________

(A) DRAM uses flip-flops (B) DRAM is costlier
(C) DRAM requires refreshing (D) DRAM is cheaper

UTF-16 is a(an) ________________

(A) 8-bit fixed-width encoding (B) 8-bit variable-width encoding
(C) 16-bit variable-width encoding (D) 16-bit fixed-width encoding
4. ** (D)

Question Number : 62  Question Id : 1562  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The hexadecimal representation of (407)8 is ________________

(A) (107)16  
(B) (701)16  
(C) (017)16  
(D) (710)16

Options :
1. ✓ [A] 
2. ✗ [B] 
3. ✗ [C] 
4. ✗ [D]

Question Number : 63  Question Id : 1563  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Considering X and Y as binary variables, the Boolean expression Y + XY is equivalent to

(A) X  
(B) 1  
(C) 0  
(D) Y

Options :
1. ✗ [A] 
2. ✓ [B] 
3. ✗ [C] 
4. ✓ [D]

Question Number : 64  Question Id : 1564  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The 2's compliment of the binary number (11110000)2 is

(A) (00001111)2  
(B) (11110000)2  
(C) (00010000)2  
(D) (10101010)2

Options :
1. ✗ [A] 
2. ✓ [B] 
3. ✓ [C] 
4. ✗ [D]

Question Number : 65  Question Id : 1565  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Which of the following category of viruses does not replicate themselves?

(A) Worms  
(B) Trojan horses  
(C) Boot sector viruses  
(D) Macro viruses

Options :
1. **[A]**
2. ✓ [B]
3. **[C]**
4. **[D]**

Question Number : 66  Question Id : 1566  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
In class ‘B’ IP addresses, number of network ID bits used to identify the class is _______

(A) 0           (B) 1
(C) 2           (D) 3

Options :
1. **[A]**
2. ✓ [B]
3. **[C]**
4. **[D]**

Question Number : 67  Question Id : 1567  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Which of the following categories of networks has largest geographic area?

(A) WAN          (B) PAN
(C) LAN          (D) MAN

Options :
1. ✓ [A]
2. **[B]**
3. **[C]**
4. **[D]**

Question Number : 68  Question Id : 1568  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The front view and top view of a line both lie above the XY line. The line is located in:
(a) First Quadrant, (b) Second Quadrant, (c) Third Quadrant, (d) fourth Quadrant.

Options :
1. **[a]**
2. ✓ [b]
3. **[c]**
4. **[d]**

Question Number : 69  Question Id : 1569  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
If the nominal diameter of a bolt is “D”, then the width of the hexagonal nut across flat surfaces is empirically given as:

(a) D, (b) $1.5 \times D$, (c) $1.5 \times D + 3\, mm$, (d) $1.5 \times D + 5\, mm$.

Options:
1. ** (a)
2. ** (b)
3. ✓ (c)
4. ** (d)

A vernier scale is good enough to read in *******after decimal.

(a) One digit, (b) Two digits, (c) Three digits, (d) Four digits.

Options:
1. ** (a)
2. ✓ (b)
3. ** (c)
4. ** (d)

A sectioning plane cuts a cone such that it is inclined to cone axis at an angle other than 90° and it cuts all its generators. The section so cut is.

(a) Rectangular Hyperbola, (b) A Parabola, (c) A Hyperbola, (d) An ellipse.

Options:
1. ** (a)
2. ** (b)
3. ** (c)
4. ✓ (d)

An isometric projection is:

(a) 2D view, (b) 3D view, (c) $2\frac{1}{2}$D view, (d) perspective view.

Options:
1. ✓ (a)
2. ** (b)
3. ** (c)
4. **(d)**

**Question Number : 73  Question Id : 1573  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

Which of the following is a unit of momentum?

(a) N m
(b) kg m s\(^{-1}\)
(c) kg m s\(^{-2}\)
(d) kg m m\(^{-2}\)

**Options :**
1. **(a)**
2. **✓ (b)**
3. **(c)**
4. **(d)**

**Question Number : 74  Question Id : 1574  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

A ball is thrown vertically upward with a velocity of 19.6 m/s. The maximum height it attains is

\[ (g = 9.8 \text{ m/s}^2) \]

(a) 4.9 m
(b) 9.8 m
(c) 19.6 m
(d) 39.2 m

**Options :**
1. **(a)**
2. **✓ (b)**
3. **✓ (c)**
4. **✓ (d)**

**Question Number : 75  Question Id : 1575  Question Type : MCQ  Option Shuffling : No**
Correct : 1.0  Wrong : 0.33

A 10 kg box is placed at a height \( h \) above the ground. The potential energy of the box is 980 J. The value of \( h \) is \( (g = 9.8 \text{ m/s}^2) \)

(a) 10 m
(b) 20 m
(c) 98 m
(d) 49 m

**Options :**
A source produces sound waves under water. Waves travel through water and some of it is transmitted into air. Which of the following statements about the frequency $f$ and wavelength $\lambda$ is correct as sound passes from water to air?

(a) $f$ and $\lambda$ remain unchanged
(b) $f$ increases but $\lambda$ decreases
(c) $f$ remains unchanged but $\lambda$ increases
(d) $f$ remains unchanged but $\lambda$ decreases.

Options:
1. ⬤ (a)
2. ❌ (b)
3. ⬤ (c)
4. ⬤ (d)

A light ray from air enters and passes through a glass slab. Which of the following statements is true about its speed after it emerges from the block?

(a) Speed is same as that before it entered glass slab
(b) Speed is same as that in glass slab
(c) Speed is less than when in glass slab
(d) Speed is less than before it entered glass slab.

Options:
1. ⬤ (a)
2. ⬤ (b)
3. ⬤ (c)
4. ⬤ (d)
Two resistors A and B are connected in parallel across a 3.0 V battery. The current through B is found to be 0.25 A. When the two resistors are connected in series to the same battery, the voltage across resistor A is found to be 1.0 V. Resistances of A and B are, respectively

(a) 6 Ω, 12 Ω
(b) 9 Ω, 12 Ω
(c) 3 Ω, 6 Ω
(d) 12 Ω, 24 Ω

Which among the following is a displacement reaction?

a) CaCO3 ----> CaO + CO2
b) 2H2 + O2 ----> 2H2O
c) Pb + CuCl2 ----> PbCl2 + Cu
d) C2H4 + H2 ----> C2H6

What is the mass of a molecule of nitrogen?

a) 14 u
b) 28 u
c) 14 / 6.023 × 10^23
d) 28 / 6.023 × 10^23
A metal forms an amphoteric oxide on reaction with oxygen. The metal is

a) Al  b) Na  c) Cu  d) Fe

Options:
1. ✓ a)
2. ✗ b)
3. ✗ c)
4. ✗ d)

A hydrocarbon contains one carbon-carbon single bond, one carbon-carbon double bond and one carbon-carbon triple bond. What is its molecular formula?

a) C4H4  b) C4H6  c) C4H8  d) C4H10

Options:
1. ✓ a)
2. ✗ b)
3. ✗ c)
4. ✗ d)

Which of the following are correct for the reaction

\[ \text{H}_2\text{SO}_4 + 2\text{NaOH} \rightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O} \]

It is

i) an endothermic reaction  ii) an exothermic reaction

iii) a neutralization reaction  iv) a combination reaction

a) (i) & (iii)  b) (ii) & (iii)

c) (ii) & (iv)  d) (iii) & (iv)

Options:
1. ✗ a)
2. ✓ b)
3. ✗ c)
4. ** d)

Question Number : 84  Question Id : 1584  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The electronic configuration of an element is 2,7. In which group of the modern periodic table is this element placed?

a) 7  b) 9

c) 15  d) 1

Options :
1. ✔ a)
2. ⬗ b)
3. ⬗ c)
4. ⬗ d)

For the above question, User had specified 'ignore' during keys upload.

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Question Number : 85  Question Id : 1585  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The hormone secreted by the human ovary is

a) FSH

b) LH

c) Estrogen

d) Testosterone

Options :
1. ✔ a)
2. ⬗ b)
3. ✔ c)
4. ⬗ d)

---

Question Number : 86  Question Id : 1586  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Colour blindness is due to a defective gene on

a) X chromosome

b) Y chromosome

c) First pair of Autosomes

d) Last pair of Autosomes

Options :
1. ✔ a)
Question Number : 87  Question Id : 1587  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Mushrooms and Yeast are

a) Lower Plants

b) Seedless plants

c) Fungi

d) Microorganisms

Options :
1. □ a)
2. □ b)
3. ✔ c)
4. □ d)

Question Number : 88  Question Id : 1588  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The end product of Photosynthesis is a

a) Carbohydrate

b) Protein

c) Lipid

d) Steroid

Options :
1. ✔ a)
2. □ b)
3. □ c)
4. □ d)

Question Number : 89  Question Id : 1589  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
When fertilizers as nutrients flow from fields into an adjacent pond, algae bloom and cover the surface but fish in the pond die because

a) algae use up all the Oxygen
b) algae die and decompose and poison the pond
c) fish do not get any nutrients
d) fish do not get any sunlight

Options:
1. ✔ a)
2. ✗ b)
3. ✗ c)
4. ✗ d)

Select the correct statement

a) Lizards lay eggs but crocodiles give birth to babies
b) Birds lay eggs but bats give birth to babies
c) Both bats and birds lay eggs
d) Tortoises and crocodiles give birth to babies

Options:
1. ✗ a)
2. ✔ b)
3. ✗ c)
4. ✗ d)

The HCF and LCM of 24 and 36 are respectively

a. 12, 36
b. 24, 72
c. 12, 72
d. 36, 72

Options:
1. ✗ a.
2. ✗ b.
3. ✔ c.
4. ✗ d.
The least number which when divided by 15 and 18 leaving remainder 5 in each case is
a. 84  
b. 96  
c. 264  
d. 276

Options:
1. ** a.
2. ✓ b.
3. * c.
4. * d.

If \( a:b = 5:6 \) and \( a+b = 220 \), then \( a \) is equal to
a. 100  
b. 120  
c. 130  
d. 140

Options:
1. ✓ a.
2. * b.
3. * c.
4. * d.

If \( 4:x, 2x, 32 \) are in proportion, then \( x \) is equal to
a. \( 8\sqrt{2} \)  
b. 8  
c. 16  
d. \( 16\sqrt{2} \)

Options:
1. * a.
2. ✓ b.
3. * c.
4. * d.
If 15% of a number is 9, then number is
a. 30
b. 45
c. 60
d. 75

Options:
1. **a.**
2. **b.**
3. ✓ c.
4. **d.**

Question Number : 96  Question Id : 1596  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The simple interest on ₹ 300 for 3.5 years, at 6% per annum is
a. ₹ 45
b. ₹ 50
c. ₹ 53
d. ₹ 63
Options:
1. **a.**
2. **b.**
3. ✓ c.
4. **d.**

Question Number : 97  Question Id : 1597  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Compound interest on ₹ 1000 for 3 years compound annually at 10% per annum is
a. ₹ 331
b. ₹ 300
c. ₹ 1300
d. ₹ 1331
Options:
1. ✓ a.
2. **b.**
3. **c.**
4. **d.**

Question Number : 98  Question Id : 1598  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The cost price of an article is ₹ 260. If it is sold at profit of 10%, then selling price is
a. ₹ 234
b. ₹ 286
c. ₹ 334
d. ₹ 386

Options :
1. ★ a.
2. ✔ b.
3. ★ c.
4. ★ d.

Question Number : 99  Question Id : 1599  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

The selling price of an article is ₹ 648. If it was sold at a profit of 8%, the cost price of the article was
a. ₹ 500
b. ₹ 550
c. ₹ 600
d. ₹ 630

Options :
1. ★ a.
2. ★ b.
3. ✔ c.
4. ★ d.

Question Number : 100  Question Id : 1600  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

A shopkeeper mixes 30 kg of wheat which cost him ₹ 16/kg with 20 kg of wheat which cost him ₹ 18/kg. He sells the mixture at ₹ 20/kg. His gain is
a. ₹ 260
b. ₹ 220
c. ₹ 180
d. ₹ 160

Options :
1. ★ a.
2. ★ b.
3. ★ c.
4. ✔ d.

Question Number : 101  Question Id : 1601  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Two vessels A and B, spirit and water are in the ratio 7:2 and 7:4 respectively. The ratio in which these are mixed which contains spirit and water in the ratio 2:1 is

a. 3:11  
b. 11:3  
c. 2:7  
d. 7:2

Options:
1. ✔ a.  
2. ✗ b.  
3. ✗ c.  
4. ✗ d.

Question Number: 102  Question Id: 1602  Question Type: MCQ  Option Shuffling: No  
Correct: 1.0  Wrong: 0.33

A person cycles at the speed of 36 km/h. The time taken by him in seconds, to cover a distance of 1500 m is

a. 160  
b. 150  
c. 120  
d. 90

Options:
1. ✗ a.  
2. ✔ b.  
3. ✗ c.  
4. ✗ d.

Question Number: 103  Question Id: 1603  Question Type: MCQ  Option Shuffling: No  
Correct: 1.0  Wrong: 0.33

A train is moving at a speed of 72 km/h. In 5 seconds it will cover a distance of

a. 60m  
b. 80m  
c. 100m  
d. 120m

Options:
1. ✗ a.  
2. ✗ b.  
3. ✔ c.  
4. ✗ d.

Question Number: 104  Question Id: 1604  Question Type: MCQ  Option Shuffling: No
A can do a piece of work in 30 days and B can do same work in 20 days. If they work together, in how many days they can complete the same work?

a. 10  
b. 12  
c. 15  
d. 16

Options:
1. ✗ a.  
2. ✓ b.  
3. ✗ c.  
4. ✗ d.

P and Q can do a piece work in 15 days, Q and R in 12 days and R and P in 20 days. The number of days required for R to complete the same work is

a. 60  
b. 50  
c. 30  
d. 20

Options:
1. ✗ a.  
2. ✗ b.  
3. ✓ c.  
4. ✗ d.

The average of first 5 odd prime numbers is

a. 5.4  
b. 5.8  
c. 6.8  
d. 7.8

Options:
1. ✗ a.  
2. ✗ b.  
3. ✗ c.  
4. ✓ d.
The average of 18 observations is 30 and average of 22 observations is 40. The average of all combined observation is
a. 35.5
b. 35
c. 36
d. 36.5

Options:
1. ✓ a.
2. * b.
3. * c.
4. * d.

Question Number : 108  Question Id : 1608  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The sum of first 20 terms of the AP
5, 9, 13, 17,..., is
a. 850
b. 840
c. 820
d. 860

Options:
1. * a.
2. * b.
3. * c.
4. ✓ d.

Question Number : 109  Question Id : 1609  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The sum of infinite GP 5, 1, 1/5, 1/5², ..., is
a. \(\frac{25}{4}\)
b. \(\frac{28}{5}\)
c. \(\frac{29}{4}\)
d. \(\frac{29}{5}\)

Options:
1. ✓ a.
2. * b.
3. * c.
4. * d.

Question Number : 110  Question Id : 1610  Question Type : MCQ  Option Shuffling : No
A vertical pole is tied with a string of length 20m on the ground. If string makes an angle of $60^0$ with the ground, the length of pole is

a. 10 m  
b. $10\sqrt{3}$m  
c. $\frac{10\sqrt{3}}{3}$ m  
d. 20 m

The angle of elevation of top of a tower, 30m high, from two points on opposite side of the tower are respectively $60^0$ and $45^0$. If the point and tower are in same line, the distance between two points is

a. $40\sqrt{3}$m  
b. $10(3+\sqrt{3})$m  
c. $20(\sqrt{3} - 1)$m  
d. $20(3 - \sqrt{3})$m

If $(x+1)$ is a factor of $x^4-2ax^3+x^2-4$, then $a$ is equal to

a. -1  
b. 2  
c. 1  
d. -2

Options:
2.  a.  
3.  ✔️ c.  
4.  ❌ d.

Question Number : 113  Question Id : 1613  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33

One of the factor of \((5x-7y)^3 - (3y-4x)^3\) is  

a.  \((x-10y)\)  
b.  \((x-4y)\)  
c.  \((9x+4y)\)  
d.  \((9x-10y)\)

Options :  
1.  ✔️ a.  
2.  ❌ b.  
3.  ✔️ c.  
4.  ✔️ d.

Question Number : 114  Question Id : 1614  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33

The value of \(k\) for which \(3x^2-2x+3k=0\) has equal roots is  

a.  \(\frac{1}{9}\)  
b.  9  
c.  \(\frac{1}{18}\)  
d.  18

Options :  
1.  ✔️ a.  
2.  ✔️ b.  
3.  ✔️ c.  
4.  ❌ d.

Question Number : 115  Question Id : 1615  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33

The sum of squares of the roots of the equations \(x^2-5x-6=0\) is  

a.  26  
b.  30  
c.  35  
d.  37

Options :  
1.  ✔️ a.  
2.  ✔️ b.
3. d.
4. c.

Question Number: 116  Question Id: 1616  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33

Which one of the following animals was not represented on seals and terracota art of the Harappan culture

1. Cow
2. Elephant
3. Rhinoceros
4. Tiger

Options:
1. ✔
2. ★
3. ★
4. ★

Question Number: 117  Question Id: 1617  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33

A "Forgotten Empire", written by the renowned historian Robert Sewell is about which of the following Empires

1. Mauryan Empire
2. Kushan Empire
3. Vijaynagar Empire
4. Mughal Empire

Options:
1. ★
2. ★
3. ✔
4. ★

Question Number: 118  Question Id: 1618  Question Type: MCQ  Option Shuffling: No
Correct: 1.0  Wrong: 0.33
During whose Viceroyship did the High Court came into existence at the three presidential cities of Calcutta, Madras and Bombay

1. Warren Hastings
2. Lord Cornwallis
3. John Lawrence
4. Lord Dalhousie

The Eastern and Western Ghats meet at the

1. Cardamom Hills
2. Annamalai Hills
3. Nilgiri Hills
4. Palani Hills
Match List 1 with List 2 and select the correct answer from the codes given below in the list
List 1(State)  
A. Zoji La Pass  
B. Bara Lacha Pass  
C. Jelep La Pass  
D. Niti Pass  
List 2(Emblem)  
1. Sikkim  
2. Uttarakhand  
3. Himachal Pradesh  

1. A-4  
2. B-1  
3. C-2  
4. D-3

2. A-2  
3. B-3  
4. C-4  
5. D-1

3. A-4  
4. B-3  
5. C-1  
6. D-2

4. A-2  
5. B-1  
6. C-4  
7. D-3

Options :
1. ✗ 1  
2. ✗ 2  
3. ✓ 3  
4. ✗ 4

Question Number : 121  Question Id : 1621  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33

The Karakoram highway connects which of the following pair of countries

1. India-Nepal  
2. India-China  
3. India-Pakistan  
4. China-Pakistan

Options :
1. ✗ 1  
2. ✗ 2  
3. ✗ 3  
4. ✓ 4

Question Number : 122  Question Id : 1622  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33

On raising the temperature of the medium, velocity of light

1. increases  
2. decreases  
3. remains the same  
4. suddenly decreases
Which of the following is a paramagnetic

1. nickel
2. cobalt
3. chromium
4. copper

If the length of a simple pendulum increases by 4%, then its time period will be

1. increased by 3%
2. increased by 4%
3. increased by 2%
4. increased by 8%
The Indian legislature was made bi-cameral for the first time by
1. Indian Council Act 1892
2. Indian Council Act 1909
3. The Government of India Act 1919
4. The Government of India Act 1935

Options:
1. ✗ 1
2. ✗ 2
3. ✓ 3
4. ✗ 4

Recommendations to the president of India on the specific Union state fiscal relations are made by the-
1. Finance Minister
2. Reserve Bank of India
3. Planning Commission
4. Finance Commission

Options:
1. ✗ 1
2. ✗ 2
3. ✗ 3
4. ✓ 4

Who had estimated National income in India first
1. Dadabhai Naoroji
2. R.C Dutt
3. M.G Ranade
4. W. Hunter

Options:
1. ✓ 1
Match the Dams and the States in which they are situated

List-1(Dam)                      List-2(State)
1. Tungabhadra                  1. Kerala
2. Lower bhawani                2. Andhra Pradesh
3. Idukki                       3. Tamil Nadu
4. Nagarjuna Sagar              4. Karnataka

1.    A-3       B-2       C- 4       D- 1
2.    A- 2       B- 4       C-3       D- 1
3.    A- 4       B-3       C-1       D-2
4.    A-1       B-4       C- 2       D- 3

Options:
1.   * 1
2.   * 2
3.   ✔ 3
4.   * 4

Which one of the following was the Chairman of the Committee on Pricing and Taxation of Petroleum Products?

1. Raja J. Chelliah
2. C. Rangrajan
3. Y.V. Reddy
4. Abid Hussain

Options:
1.   * 1
2.   ✔ 2
3.   * 3
4.   * 4
The first Commonwealth Games were held in the year 1930 at
1. London (UK)
2. Sydney (Australia)
3. Hamilton (Canada)
4. Auckland (New Zealand)

Options:
1. ✗ 1
2. ✗ 2
3. ✔ 3
4. ✗ 4

Which of the following is currently matched
1. Nehru trophy - Table tennis
2. Holkar trophy - Bridge
3. Ruia trophy - Kabaddi
4. B.C. Roy Trophy - Lawn Tennis

Options:
1. ✗ 1
2. ✔ 2
3. ✗ 3
4. ✗ 4

The disease Athlete foot is caused by
1. Bacteria
2. Fungi
3. Protozoa
4. Nematod

Options:
1. Sunhemp
2. Jute
3. Hemp
4. Cotton

Options:
1. 1
2. 2
3. 3
4. 4

Question Number : 134  Question Id : 1634  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Plant which grow in saline soil are
1. Xerophytes
2. Hydrophytes
3. Halophytes
4. Succulents

Options:
1. 1
2. 2
3. 3
4. 4

Question Number : 135  Question Id : 1635  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
What are the type of bonds present in CuSO₄. 5H₂O

1. Electrovalent and covalent
2. Electrovalent and co-ordinate
3. Electrovalent, covalent, co-ordinate and hydrogen bond
4. Covalent and co-ordinate covalent

Options :
1. ✖ 1
2. ✖ 2
3. ✔ 3
4. ✖ 4

Question Number : 136  Question Id : 1636  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33

Match List-I with List-II and select the correct answer using the codes given the Lists

List-I
A. Blue vitriol
B. Epsom salt
C. Baking soda
D. Caustic soda

List-II
1. Sodium bicarbonate
2. Sodium hydroxide
3. Magnesium sulphate
4. Copper sulphate

(a)  A- 3  B- 4  C- 2  D- 1
(b)  A- 4  B- 3  C- 2  D- 1
(c)  A- 3  B- 4  C- 1  D- 2
(d)  A- 4  B- 3  C- 1  D- 2

Options :
1. ✖ (a)
2. ✖ (b)
3. ✔ (c)
4. ✖ (d)

Question Number : 137  Question Id : 1637  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Which one of the following is not an essential micronutrient for plants?

1. Boron
2. Zinc
3. Sodium
4. Copper

Options:
1. 
2. 
3. ✓
4. 

A renowned hindi poet who received the Sahitya Akademi award for his work 'Hawa mein hastakshar' passed away on April 1, 2015 is

1. Ajit Kumar
2. Kailash Vajpayi
3. Harishankar Parsai
4. Ravindra Kalia

Options:
1. 
2. ✓
3. 
4. 

The 99th constitution Amendment Act was in news recently. It is related to

1. National Judicial Appointments commission
2. Right to work
3. Reservation of women in police services
4. Police action in Naxal-prone areas.

Options:
1. ✓
2. 

Question Number : 140  Question Id : 1640  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
Who has been declared the best actor and the best actress at the 62nd national film awards announced on march 24, 2014 in new delhi?

1. Sanjari Vijay & kangana Ranaut
2. Sanjari Vijay & Baljinder kaur
3. Bobby simhaa & Kangana ranaut
4. Bobby simhaa & Baljinder kaur

Options :
1. ✓ 1
2. 2
3. 3
4. 4

Question Number : 141  Question Id : 1641  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
B is the brother of A, who is the father of D. C is the brother of D. D and E are sisters. How is B related to E?

1) Uncle  2) Brother  3) Father  4) Grandfather

Options :
1. ✓ 1)
2. 2)
3. 3)
4. 4)

Question Number : 142  Question Id : 1642  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
The first two numbers on the left of the sign ‘::’ are related in a certain way. The same relationship holds for the second pair of numbers on the right side of the sign ‘::’ of which one is missing. Find the missing one from the alternatives.

4623 : 2814 :: 6531 : ?

1) 3546  2) 4813  3) 3268  4) 3462

Options :
1. * 1)
2. 2)
3. * 3)
Question Number : 143  Question Id : 1643  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33 
‘Cat’ is related to ‘Kitten’ in the same way as ‘Lion’ is related to: 
1) Puppy  2) Cub  3) Lioness  4) Animal 
Options :
1. * 1) 
2. ✓ 2) 
3. * 3)  
4. * 4) 

Question Number : 144  Question Id : 1644  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33  
Six persons are sitting in a row. F is to the left of E and right of B. There are 2 persons between E and D and 1 person between A and E. If A is at one of the extremes, who is at the other extreme? 
1) E  2) C  3) B  4) D 
Options :
1. * 1) 
2. * 2) 
3. * 3) 
4. ✓ 4) 

Question Number : 145  Question Id : 1645  Question Type : MCQ  Option Shuffling : No  
Correct : 1.0  Wrong : 0.33  
Arrange the following words in a meaningful logical sequence and choose the appropriate number sequence from the alternatives. 
1) 6, 1, 3, 2, 4, 5 
2) 5, 2, 4, 3, 1, 6 
3) 6, 3, 1, 4, 2, 5 
4) 6, 3, 4, 1, 2, 5 
Options :
1. * 1) 
2. * 2) 
3. ✓ 3)  
4. * 4) 

Question Number : 146  Question Id : 1646  Question Type : MCQ  Option Shuffling : No
One term in the following number series is wrong. Find out the wrong term.
220, 108, 54, 24, 10, 3
1) 108  2) 54  3) 24  4) 10

Options:
1. ✗ 1)  
2. ✓ 2)  
3. ✗ 3)  
4. ✗ 4)

Question Number : 147  Question Id : 1647  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
If MOST is coded as 5926 and TRUE is coded as 6814, then SORE will be coded as:
1) 2948  2) 4892  3) 9248  4) 2984
Options:
1. ✗ 1)  
2. ✗ 2)  
3. ✗ 3)  
4. ✓ 4)

Question Number : 148  Question Id : 1648  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
If ‘HARMONY’ is coded as ‘YHANORM’, then ‘EXPLAIN’ would be coded as:
1) NEXIPAL  2) LPXENIA  3) NEXIAPL  4) NEIXAPL
Options:
1. ✗ 1)  
2. ✗ 2)  
3. ✓ 3)  
4. ✗ 4)

Question Number : 149  Question Id : 1649  Question Type : MCQ  Option Shuffling : No
Correct : 1.0  Wrong : 0.33
A boy walked Southwards, turned right and walked 3 km. Then he turned left and walked 1 km. If he is 5 km from his starting point, how far did he walk southwards initially?
1) 3 km  2) 1 km  3) 4 km  4) 2 km
Options:
1. ✓ 1)  
2. ✗ 2)  
3. ✗ 3)  
4. ✗ 4)
The numbers in the following figures follow a pattern. Which number would replace the question mark?

1) 27  
2) 29  
3) 31  
4) 48

Options:
1. ✗ 1)  
2. ✓ 2)  
3. ✗ 3)  
4. ✗ 4)