

Railway Recruitment Board

Notations :

- Options shown in **green** color and with  icon are correct.
- Options shown in **red** color and with  icon are incorrect.

Question Paper Name:	Senior Section Engineer 1st Sep Shift 1 Actual
Subject Name:	Senior Section Engineer
Creation Date:	2015-08-31 13:03:58.0
Cut Off:	0
Duration:	120
Number of Questions:	150
Total Marks:	150.0

Senior Section Engineer	
Group Number :	1
Group Id :	34
Group Maximum Duration :	0
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	150.0

Senior Section Engineer	
Section Id :	34
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	150
Number of Questions to be attempted:	150
Section Marks:	150.0

Sub-Section Number:	1
Sub-Section Id:	34
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 5851 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Zeroth law of thermodynamics is the basis of

- a. Pressure measurement b. Temperature measurement c. Density measurement
- d. Viscosity measurement

Options :

- 1. ✘ a
- 2. ✔ b
- 3. ✘ c
- 4. ✘ d

Question Number : 2 Question Id : 5852 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A process in which no heat crosses the boundary of the system is called

- a. Ideal process b. Adiabatic process c. Isothermal process d. Isobaric process

Options :

- 1. ✘ a
- 2. ✔ b
- 3. ✘ c
- 4. ✘ d

Question Number : 3 Question Id : 5853 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following fluid flow conditions has high heat transfer coefficient

- a. Free convection in air b. Forced convection in air
c. Free convection in water d. Condensation of steam

Options :

- 1. ✘ a
- 2. ✘ b
- 3. ✘ c
- 4. ✔ d

Question Number : 4 Question Id : 5854 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The value solar constant is

- a. 1353 kW/m^2 b. 1353 W/m^2 c. 1353 J/m^2 d. 135 kJ/m^2

Options :

- 1. ✘ a
- 2. ✔ b
- 3. ✘ c
- 4. ✘ d

Question Number : 5 Question Id : 5855 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Indicated mean effective pressure may be defined as

- a. $(\text{Area of indicator diagram}) / (\text{Length of indicator diagram})$
- b. $(\text{Length of indicator diagram}) / (\text{Area of indicator diagram})$
- c. $(\text{Area of indicator diagram}) \times (\text{Length of indicator diagram})$
- d. $(\text{Length of indicator diagram})^2$

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 6 Question Id : 5856 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Equivalence ratio may be defined as

- a. $(\text{Actual fuel-air ratio}) / (\text{Stoichiometric fuel-air ratio})$
- b. $(\text{Stoichiometric fuel-air ratio}) / (\text{Actual fuel-air ratio})$
- c. $(\text{Mass flow ratio of fuel}) / (\text{Mass flow ratio of air})$
- d. $(\text{Mass flow ratio of air}) / (\text{Mass flow ratio of fuel})$

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 7 Question Id : 5857 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Petrol and diesel engines of automobile are

- a. Rotary engine
- b. Reciprocating engine
- c. External combustion engine
- d. Carnot heat engine

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 8 Question Id : 5858 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Hot working is done

- a. Above the melting point temperature of metal
- b. Above the recrystallization temperature of metal
- c. Below the recrystallization temperature of metal
- d. Below 0°C

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 9 Question Id : 5859 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The allowance that is provided to compensate for the contraction of metal during its solidification is known as

- a. Machining allowance
- b. Shrinkage allowance
- c. Taper allowance
- d. camber allowance

Options :

1. ✘ a
2. ✔ b
3. ✘ c
4. ✘ d

Question Number : 10 Question Id : 5860 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Bed of lathe machine is made up of cast iron because it has

- | | |
|----------------------------------|-----------------------------|
| a. Good shock absorbing property | b. Good electrical property |
| c. Good surface finish | d. Very low density |

Options :

1. ✔ a
2. ✘ b
3. ✘ c
4. ✘ d

Question Number : 11 Question Id : 5861 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The machine on which the job reciprocates and the tool remains stationary is known as

- | | | | |
|-----------|-----------|-------------|------------|
| a. Planer | b. Shaper | c. Drilling | d. Milling |
|-----------|-----------|-------------|------------|

Options :

1. ✔ a
2. ✘ b
3. ✘ c
4. ✘ d

Question Number : 12 Question Id : 5862 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The operation in which the tool is rotating in the opposite direction to the direction feed is known as

- | | | | |
|-----------------|-------------|---------------|-----------|
| a. Down milling | b. Drilling | c. Up-milling | d. Boring |
|-----------------|-------------|---------------|-----------|

Options :

1. ✘ a
2. ✘ b
3. ✔ c
4. ✘ d

Question Number : 13 Question Id : 5863 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The joint which is used to join two member aligned in the same plane is known as

- a. Lap joint b. T-joint c. Butt joint d. Edge joint

Options :

1. ✗ a
2. ✗ b
3. ✓ c
4. ✗ d

Question Number : 14 Question Id : 5864 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Spot welding falls under the category of

- a. Fusion welding b. Brazing c. Soldering d. Resistance welding

Options :

1. ✗ a
2. ✗ b
3. ✗ c
4. ✓ d

Question Number : 15 Question Id : 5865 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The “Superposition theorem” is essentially based on the concept of

- a. Duality
b. Linearity
c. Reciprocity
d. Non linearity

Options :

1. ✗ a
2. ✓ b
3. ✗ c
4. ✗ d

Question Number : 16 Question Id : 5866 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following generating stations has the minimum running cost?

- a. hydro-electric station
- b. nuclear power station
- c. thermal power station.
- d. diesel power plant

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 17 Question Id : 5867 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which of the following motors has a high starting torque?

- a. AC series motor
- b. DC series motor
- c. Induction motor
- d. Synchronous motor

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 18 Question Id : 5868 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

A step-up transformer increases

- a. Voltage
- b. Current
- c. Frequency
- d. Power

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 19 Question Id : 5869 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The magnetic field inside the solenoid

- a. Zero
- b. Uniform
- c. Increases with distance from axis
- d. Decreases with distances from axis

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 20 Question Id : 5870 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Cells are connected in parallel in order to

- a. increase the voltage available
- b. reduce cost of wiring
- c. increase the current available
- d. Reduce the time required to fully charge them after use.

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 21 Question Id : 5871 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The power factor of a purely resistive circuit is

- a. Zero
- b. Lagging
- c. Unity
- d. Leading

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 22 Question Id : 5872 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Superposition theorem can be applicable only to circuits having _____ elements

- a. Non- linear
- b. Passive
- c. Resistive
- d. Linear bilateral

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 23 Question Id : 5873 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The efficiency of a transformer is maximum when

- a. It runs at half full load.
- b. It runs at full load.
- c. Its Cu loss equals iron loss.
- d. It runs overload.

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 24 Question Id : 5874 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The armature of D.C. generator is laminated to

- a. reduce the bulk
- b. provide the bulk
- c. insulate the core
- d. reduce eddy current loss

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 25 Question Id : 5875 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What is 1's complement number of a signed decimal number? The range of signed decimal numbers that can be represented by 5-bits?

- a. -31 to +31
- b. -15 to +15
- c. -16 to +15
- d. -32 to +31

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 26 Question Id : 5876 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The maximum efficiency of a full wave rectifier is _____.

- a. 100%
- b. 91.1%
- c. 81.2%
- d. 80%

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 27 Question Id : 5877 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

An N-type semiconductor as a whole is:

- a. Positively charged
- b. Positively or negatively charged depending on doping
- c. Negatively charged
- d. Electrically neutral

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 28 Question Id : 5878 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following will serve as a donor impurity in silicon?

- a. Boron
- b. Indium
- c. Germanium
- d. Antimony

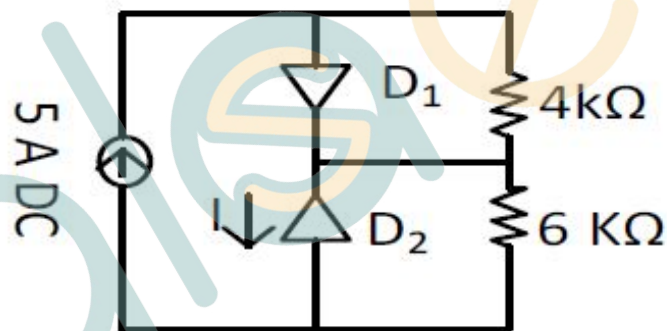
Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 29 Question Id : 5879 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Assume that D_1 and D_2 in figure are ideal diodes. The value of current- I is



- a. 0.58 mA
- b. 0.5 mA
- c. 0 mA
- d. 0.633 mA

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 30 Question Id : 5880 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The JFET is a_____.

- a. Current controlled current source
- b. Current controlled voltage source
- c. Voltage controlled current source
- d. Voltage controlled voltage source

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 31 Question Id : 5881 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

_____ configuration has the highest voltage gain.

- a. Common emitter
- b. Common collector
- c. Common base
- d. Both b and c

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 32 Question Id : 5882 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Signal to noise ratio is highest in:

- a. PWM
- b. PPM
- c. PAM
- d. PPM and PWM

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 33 Question Id : 5883 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The series element of a band stop filter is

- a. Capacitive
- b. Inductive
- c. Series combination of inductance and capacitance
- d. Parallel combination of inductance and capacitance

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 34 Question Id : 5884 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A 400 W carrier is amplitude modulated and has a side-band power of 50 W. The depth of modulation is

- a. 1
- b. 0.45
- c. 0.50
- d. 0.55

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 35 Question Id : 5885 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following oxide is in the LOWEST % in ordinary portland cement?

- a. Iron oxide
- b. Magnesium oxide
- c. Soda+Potash
- d. Aluminium oxide

Options :

- 1. ✗ a
- 2. ✗ b

3. ✓ c

4. ✗ d

Question Number : 36 Question Id : 5886 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

According to IS 456, the approximate estimated flexural strength (MPa) of concrete of grade M50 ($f_{ck} = 50$ MPa) would be

a. 4.9

b. 5.5

c. 2.5

d. 6.5

Options :

1. ✓ a

2. ✗ b

3. ✗ c

4. ✗ d

Question Number : 37 Question Id : 5887 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A contour line joins all the points having

a. Equal elevation

b. Zero elevation

c. Similar reference points

d. Equal vertical angles

Options :

1. ✓ a

2. ✗ b

3. ✗ c

4. ✗ d

Question Number : 38 Question Id : 5888 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A column is a structural member designed primarily to take which of the following type of load

- a. Torsional
- b. Tensile
- c. Compressive
- d. Shear

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 39 Question Id : 5889 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The minimum yield stress for a Fe415 is

- a. 415 MPa
- b. 395 MPa
- c. 500 MPa
- d. 550 MPa

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 40 Question Id : 5890 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The minimum time before striking the form for columns as per IS 456 is

- a. 14-day
- b. 7-day
- c. 3-day
- d. 16-24 h

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 41 Question Id : 5891 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

For a soil, the water content where further loss of moisture will not result in any more volume reduction is called as

- a. Liquid limit
- b. Shrinkage limit
- c. Natural moisture content
- b. Plastic limit

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 42 Question Id : 5892 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The degree of compaction for sand is usually defined in terms of

- a. Relative density
- b. Standard Proctor test
- c. Modified Proctor test
- d. Nuclear density meter

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 43 Question Id : 5893 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Normally, when ordinary Portland cement hydrates,

- a. Heat is absorbed
- b. Heat evolves
- c. Heat neither evolves nor is absorbed
- d. Cement paste cools down below atmospheric temperature

Options :

1. ✘ a
2. ✔ b
3. ✘ c
4. ✘ d

Question Number : 44 Question Id : 5894 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A fluid flow in which the density of the fluid changes significantly during flowing is called as

- a. Incompressible
- b. Uniform
- c. Compressible
- d. Non-linear

Options :

1. ✘ a
2. ✘ b
3. ✔ c
4. ✘ d

Question Number : 45 Question Id : 5895 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A clay has unconfined compressive strength of 240 kN/sq.m in undisturbed state. The clay was then remolded and the unconfined compressive strength was found to be 60 kN/sq.m. The sensitivity of this clay is

- a. 0.25
- b. 3.00
- c. 0.33
- d. 4.00

Options :

1. ✘ a
2. ✘ b
3. ✘ c
4. ✔ d

Question Number : 46 Question Id : 5896 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The property, which characterizes the resistance which a fluid offers to applied shear force is called as

- a. Relative density
- b. Elasticity
- c. Fluidity
- d. Viscosity

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 47 Question Id : 5897 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A first order instrument is characterised by

- a. Time constant only
- b. Static sensitivity and time constant
- c. Static sensitivity only
- d. Damping coefficient and static sensitivity

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 48 Question Id : 5898 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Decibel scale is useful while measuring voltage covering

- a. Wide frequency ratio
- b. Wide voltage ratio
- c. Narrow frequency range
- d. Narrow voltage range

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 49 Question Id : 5899 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Pair of active transducer is

- a. Thermistor and solar cell
- b. Thermocouple and thermistor
- c. Thermocouple and solar cell
- d. Solar cell and LVDT

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 50 Question Id : 5900 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which one of the following materials used in fabrication of swapping resistance of PMMC instruments?

- a. Copper
- b. Aluminium
- c. Manganin
- d. Tungsten

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 51 Question Id : 5901 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Integrating principle in the digital measurement is the conversion of

- a. Voltage to time
- b. Voltage to frequency
- c. Voltage to current
- d. Current to voltage

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c

4. ✖ d

Question Number : 52 Question Id : 5902 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The chemoautotrophs use heat energy in the absence of sunlight to convert dissolved hydrogen sulphide and carbon dioxide into

- a. organic compounds
- b. inorganic compounds
- c. inorganic & organic compounds
- d. toxic compounds

Options :

1. ✔ a

2. ✖ b

3. ✖ c

4. ✖ d

Question Number : 53 Question Id : 5903 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The organisms infecting or transmitting the diseases to human beings are called

- a. microorganisms
- b. pathogens
- c. common bacteria
- d. epidemic viruses

Options :

1. ✖ a

2. ✔ b

3. ✖ c

4. ✖ d

Question Number : 54 Question Id : 5904 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The working principle of turbidimeter is based on

- a. reflection of light
- b. refraction of light
- c. scattering of light
- d. adsorption of light

Options :

1. ✖ a

2. ✖ b

3. ✓ c

4. ✗ d

Question Number : 55 Question Id : 5905 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The major source of carcinogenic hydrocarbon, benzo (α) pyrene present in urban atmosphere is

- a. construction activities
- b. road traffic
- c. bursting of crackers
- d. domestic burning

Options :

1. ✗ a

2. ✓ b

3. ✗ c

4. ✗ d

Question Number : 56 Question Id : 5906 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The prescribed permissible noise level, L_{eq} for commercial area at day time is

- a. 75 dBA
- b. 50 dBA
- c. 55 dBA
- d. 65 dBA

Options :

1. ✗ a

2. ✗ b

3. ✗ c

4. ✓ d

Question Number : 57 Question Id : 5907 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The global warming is caused by green house gases, which are

- a. CO , N_2O , CH_4 and CFC
- b. CO_2 , NO_2 , CH_4 and H_2O
- c. CO_2 , N_2O , CH_4 and H_2O
- d. CO_2 , NO_2 , CH_4 and CFC

Options :

1. ✗ a

2. ✘ b

3. ✔ c

4. ✘ d

Question Number : 58 Question Id : 5908 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which of the following is an integral component of CPU?

a. Hard Disk

b. RAM

c. NIC

d. Registers

Options :

1. ✘ a

2. ✘ b

3. ✘ c

4. ✔ d

Question Number : 59 Question Id : 5909 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which of the following is not an operating system?

a. iOS

b. Android

c. Mac OSX

d. Hadoop

Options :

1. ✘ a

2. ✘ b

3. ✘ c

4. ✔ d

Question Number : 60 Question Id : 5910 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Considering 2's complement representation for negative numbers, -128 will be stored into an 8-bit memory space as

a. 11111111

b. 10000000

c. 11111110

d. 10000001

Options :

1. ✘ a

2. ✔ b

3. ✘ c

4. ✘ d

Question Number : 61 Question Id : 5911 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Considering X and Y as binary variables, the equivalent Boolean expression for $(X + Y)'$ is

- a. $X'.Y$ b. $X.Y'$
- c. $X'.Y'$ d. $X' + Y'$

Options :

1. ✗ a
2. ✗ b
3. ✓ c
4. ✗ d

Question Number : 62 Question Id : 5912 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

'Java' is a _____

- a. Low-level programming language b. High-level programming language
- c. Assembly language d. Machine language

Options :

1. ✗ a
2. ✓ b
3. ✗ c
4. ✗ d

Question Number : 63 Question Id : 5913 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following statements about Machine language is correct?

- a. Machine language is machine dependent
- b. Machine language is machine independent
- c. Machine language is easier than high-level language to write programs
- d. Machine language programs require assembler

Options :

1. ✓ a
2. ✗ b

3. ✖ c

4. ✖ d

Question Number : 64 Question Id : 5914 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

HTTP stands for

a. Hyper Text Transmission Protocol

b. Hyper Text Transfer Program

c. Hyper Text Transfer Protocol

d. Hyper Text Transmission Program

Options :

1. ✖ a

2. ✖ b

3. ✔ c

4. ✖ d

Question Number : 65 Question Id : 5915 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A Virus can not _____

a. Steal hard disk space

b. Steal CPU time

c. Log keystrokes

d. Increase/decrease the word length of CPU

Options :

1. ✖ a

2. ✖ b

3. ✖ c

4. ✔ d

Question Number : 66 Question Id : 5916 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following is not a valid category of Read Only Memory (ROM)?

a. PROM

b. EPROM

c. EEPROM

d. EEEPROM

Options :

1. ✖ a

2. ✖ b

3. ✖ c

4. ✔ d

Question Number : 67 Question Id : 5917 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The 16's compliment of the hexadecimal number $(A10)_{16}$ is

- a. $(5F0)_{16}$ b. $(5E0)_{16}$
c. $(5EF)_{16}$ d. $(6F0)_{16}$

Options :

1. ✓ a
2. ✗ b
3. ✗ c
4. ✗ d

Question Number : 68 Question Id : 5918 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A room of 2744 m^3 volume is shown by a cube of 7 cm side. The R.F. of the scale is

- a. $1/392$ b. $1/3920$ c. $1/20$ d. $1/200$

Options :

1. ✗ a
2. ✗ b
3. ✗ c
4. ✓ d

Question Number : 69 Question Id : 5919 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The curve traced out by a point lying on the circumference of the circle which rolls on a straight line is known as

- a. hypocycloid b. epicycloids c. circle d. cycloid

Options :

1. ✗ a
2. ✗ b
3. ✗ c
4. ✓ d

Question Number : 70 Question Id : 5920 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If the true and apparent inclinations of a line with H.P. are equal, the line is

- a. Parallel to vertical plane
- b. Parallel to horizontal plane
- c. Parallel to profile plane
- d. Inclined to both reference planes

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 71 Question Id : 5921 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If a thin 60° set square is kept perpendicular to both the horizontal and vertical planes, its true shape is seen in

- a. horizontal plane
- b. auxiliary inclined plane
- c. profile plane
- d. vertical plane

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 72 Question Id : 5922 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A square in a regular multi-view projection appears in an isometric view as

- a. parallelogram
- b. rhombus
- c. box
- d. square

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 73 Question Id : 5923 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Mohan hits a cricket ball which hits the glass of a window of a nearby building. The ball does not break the glass. It reverses its direction and falls on the ground. Which of the following statements is correct?

- The force exerted by the ball on the glass is less than the force exerted by the glass on the ball
- The force exerted by the ball on the glass is more than the force exerted by the glass on the ball
- The force exerted by the ball on the glass is equal to the force exerted by the glass on the ball
- The force exerted by the ball on the glass may be less or more than the force exerted by the glass on the ball, depending upon the toughness of the glass.

Options :

- ☐ a
- ☐ b
- ☒ c
- ☐ d

Question Number : 74 Question Id : 5924 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Let g be the acceleration due to gravity at the surface of earth (radius R). Then the acceleration due to gravity $g(h)$ at a height h above the surface of the earth is given by

- $g(h) = g (1 - h/R)$
- $g(h) = g (1 - 2h/R)$
- $g(h) = g (1 + h/R)$
- $g(h) = g (1 + 2h/R)$

Options :

- ☐ a
- ☒ b
- ☐ c
- ☐ d

Question Number : 75 Question Id : 5925 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The work done by a variable force of the form $F = kx$ is equal to

- kx^2
- kx
- $2kx^2$
- equal to the area under the F versus x curve.

Options :

- ☐ a
- ☐ b

3. ✖ c

4. ✔ d

Question Number : 76 Question Id : 5926 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

An object in simple harmonic motion is at its maximum displacement. Which of the following quantities is at a maximum?

- a. acceleration
- b. velocity
- c. frequency
- d. kinetic energy.

Options :

1. ✔ a

2. ✖ b

3. ✖ c

4. ✖ d

Question Number : 77 Question Id : 5927 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

In case of total internal reflection occurring at a glass-air interface,

- a. light from air strikes the glass with an incident angle less than the critical angle
- b. light from air strikes the glass with an incident angle more than the critical angle
- c. no light is reflected
- d. no light is refracted.

Options :

1. ✖ a

2. ✖ b

3. ✖ c

4. ✔ d

Question Number : 78 Question Id : 5928 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The quantity, electromotive force (emf), is dimensionally equivalent to

- a. coulomb/ohm
- b. joule/coulomb
- c. joule x metre
- d. joule x coulomb.

Options :

1. ✖ a

2. ✓ b

3. ✗ c

4. ✗ d

Question Number : 79 Question Id : 5929 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

The solubility product (K_{sp}) of silver iodate in water at 20°C is $4 \times 10^{-8} \text{ mol}^2 \text{ L}^{-2}$. What is the concentration of silver ions, Ag^+ (aq) in a solution of silver iodate in water at 20°C ?

a. $2 \times 10^{-8} \text{ mol L}^{-1}$ b. $4 \times 10^{-8} \text{ mol L}^{-1}$ c. $2 \times 10^{-4} \text{ mol L}^{-1}$ d. $16 \times 10^{-16} \text{ mol L}^{-1}$

Options :

1. ✗ a

2. ✗ b

3. ✓ c

4. ✗ d

Question Number : 80 Question Id : 5930 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following pair of compounds will react together under suitable conditions to form 1-ethoxypropane as the major product?

a. $\text{C}_2\text{H}_5\text{ONa} + \text{CH}_3\text{CH}(\text{I})\text{CH}_3$ b. $\text{C}_2\text{H}_5\text{COONa} + \text{C}_2\text{H}_5\text{OH}$ c. $\text{CH}_3\text{COCl} + \text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ d. $\text{C}_2\text{H}_5\text{ONa} + \text{CH}_3\text{CH}_2\text{CH}_2\text{I}$

Options :

1. ✗ a

2. ✗ b

3. ✗ c

4. ✓ d

Question Number : 81 Question Id : 5931 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which one of the following compounds includes a transition element with zero oxidation state?

a. $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$ b. $[\text{Ni}(\text{CO})_4]$ c. $[\text{Cu}(\text{H}_2\text{O})_6]^{2+} \text{SO}_4^{2-}$ d. $[\text{Fe}(\text{H}_2\text{O})_6]\text{SO}_4$

Options :

1. ✗ a

2. ✓ b

3. ✗ c

4. ✗ d

Correct : 1.0 Wrong : 0.33

If 0.005 moles each of the following substances are separately dissolved in 100 grams of water, the solution of which substance will have the highest boiling point?

- a. Magnesium chloride b. Aluminium chloride
- c. Sodium chloride d. Glucose

Options :

1. ✖ a
2. ✔ b
3. ✖ c
4. ✖ d

Question Number : 83 Question Id : 5933 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which of the following represents nucleophilic addition reaction?

- a. $\text{CH}_3\text{CHO} + \text{NH}_2\text{NH}_2 \longrightarrow \text{CH}_3\text{CH}=\text{NNH}_2 + \text{H}_2\text{O}$
- b. $\text{CH}_3\text{CH}=\text{CHCH}_3 + \text{HBr} \longrightarrow \text{CH}_3\text{CH}_2-\text{CH}(\text{Br})\text{CH}_3$
- c. $\text{C}_6\text{H}_5\text{CHO} + \text{NaHSO}_3 \longrightarrow \text{C}_6\text{H}_5\text{CH}(\text{OH})\text{Na}$
- d. $\text{CH}_3\text{CHO} + 3\text{I}_2 \longrightarrow \text{CHI}_3$

Options :

1. ☒ a
2. ☐ b
3. ☐ c
4. ☐ d

Question Number : 84 Question Id : 5934 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

In which of the following, nitrogen has an oxidation number -1?

- a. NH_2OH
c. HNO_2

Options :

1. ✓ a
2. ✗ b
3. ✗ c

4. ✖ d

Question Number : 85 Question Id : 5935 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A particular gas is present in air in a small quantity but if it accumulates in air, it causes global warming and climate change. Which gas is it?

- a. Nitrogen b. Oxygen c. Carbon-di-oxide d. Helium

Options :

1. ✖ a

2. ✖ b

3. ✔ c

4. ✖ d

Question Number : 86 Question Id : 5936 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A teacher was explaining the need for scientific names of all living beings. She mentioned four such names. Which one is for the humans?

- a. Mangifera indica
b. Homo sapiens sapiens
c. Musca domestica
d. Panthera tigris

Options :

1. ✖ a

2. ✔ b

3. ✖ c

4. ✖ d

Question Number : 87 Question Id : 5937 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Excretion means removal of

- a. all kinds of waste from the body
b. nitrogenous waste from the body
c. urine from the body
d. extra water from the body

Options :

1. ✖ a

2. ✔ b

3. ✖ c

4. ✖ d

Question Number : 88 Question Id : 5938 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

When we say Pitcher plant is an 'insectivorous plant' we mean it derives nutrition from

- a. animals with 3 pairs of legs
- b. animals with 4 pairs of legs
- c. animals with few legs
- d. animals with no legs

Options :

- 1. ✔ a
- 2. ✖ b
- 3. ✖ c
- 4. ✖ d

Question Number : 89 Question Id : 5939 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Who gave the theory of natural selection to explain organic evolution?

- a. Herbert Spencer
- b. Albert Einstein
- c. Charles Darwin
- d. Jagadish Chandra Bose

Options :

- 1. ✖ a
- 2. ✖ b
- 3. ✔ c
- 4. ✖ d

Question Number : 90 Question Id : 5940 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Soya Bean and Peas have lots of Protein. The enzymes digesting them are called

- a. Amylases
- b. Lipases
- c. Lactase
- d. Proteases

Options :

- 1. ✖ a
- 2. ✖ b
- 3. ✖ c
- 4. ✔ d

Question Number : 91 Question Id : 5941 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If $a = 2^{129} \times 3^{81} \times 5^{128}$, $b = 2^{127} \times 3^{81} \times 5^{128}$

$c = 2^{126} \times 3^{82} \times 5^{128}$ and $d = 2^{125} \times 3^{82} \times 5^{129}$

then HCF of a, b, c and d is

- a. $2^{125} \times 3^{81} \times 5^{129}$
- b. $2^{125} \times 3^{81} \times 5^{128}$
- c. $2^{125} \times 3^{82} \times 5^{128}$
- d. $2^{129} \times 3^{82} \times 5^{129}$

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 92 Question Id : 5942 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Let x be a least number which when divided by 21, 33, 35 and 55 leaves in each case a remainder 3, but is exactly divisible by 67. The sum of digits of x is

- a. 8
- b. 10
- c. 12
- d. 15

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 93 Question Id : 5943 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Entry fee to an exhibition was Rs.80. Later, this was reduced by 25% which increased the sale by 20%. The percentage increased in the number of visitors is

- a. 30
- b. 40
- c. 60
- d. 80

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 94 Question Id : 5944 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

If $a:b=8:15$, $b:c=5:8$ and $c:d =4:5$, then $b:d$ is

- a. 1:2
- b. 1:3
- c. 4:15
- d. 5:8

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 95 Question Id : 5945 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

A person gave $\frac{1}{5}$ part of his income to his son and 40 % part of his income to his daughter. He lent out the remaining money in three trusts A, B and C in the ratio of 5:3:2. If the difference between the amount got by son and daughter is Rs. 50,000, how much amount did he invest in trust B?

- a. Rs.20000
- b. Rs 30000
- c. Rs 40000
- d. Rs 50000

Options :

- 1. ✗ a

2. ✓ b

3. ✗ c

4. ✗ d

Question Number : 96 Question Id : 5946 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Two alloys A and B contain zinc and copper in the ratio 5:6 and 7:8 respectively. If equal quantities of alloys are melted to form a third alloys C, then the ratio of copper and zinc in C will be

a. 76:89

b. 89:76

c. 48:35

d. 35:48

Options :

1. ✗ a

2. ✓ b

3. ✗ c

4. ✗ d

Question Number : 97 Question Id : 5947 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A vessel is full of alcohol. From this 8 liters of alcohol was taken out and vessel was filled up with equal quantity of water. This process was repeated one more time . If now the solution in the vessel contains 64.8 liters of alcohol, then capacity (in liters) of the vessel is

a. 120

b. 100

c. 90

d. 80

Options :

1. ✗ a

2. ✗ b

3. ✗ c

4. ✓ d

Question Number : 98 Question Id : 5948 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A man buys a TV by making cash down payment of Rs.4945 and agrees to pay two more yearly installments of equivalent amounts at the end of first year and second year. If the rate of interest is $7\frac{1}{2}\%$ per annum, compounded annually, the cash value of the TV (in Rs.) is nearest to

- a. 12840
- b. 13804
- c. 13824
- d. 14835

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 99 Question Id : 5949 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A sum of Rs.5000 amounts to Rs 8640 at compound interest in a certain times, then the same sum amounts to what in one-third of the time?

- a. Rs 5886
- b. Rs 6000
- c. Rs 6214
- d. Rs 7000

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 100 Question Id : 5950 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A man bought an article for Rs. 240 and sold it at a loss of $x\%$.Had he purchased it at 10% lesser cost price and sold it for Rs.42 more, then he would have had a gain of $\frac{1}{4}$ of the new cost price.

The value of x is

- a. 4
- b. 5
- c. 6
- d. 8

Options :

- 1. ✗ a

2. ☒ b

3. ☐ c

4. ☐ d

Question Number : 101 Question Id : 5951 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Surbhi makes a profit of 25% by selling a pen at a certain price. If she charges Rs 1 more on each pen, she would gain 40 % .The original cost price of one dozen pen is(in Rs.)

a. 60

b. 72

c. 80

d. 84

Options :

1. ☐ a

2. ☐ b

3. ☒ c

4. ☐ d

Question Number : 102 Question Id : 5952 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A person travels a certain distance on a bicycle with a certain speed. Had he moved 3 km/hour faster, he would have taken 40 minutes less. Had he moved 2 km/hour slower, he would have taken 40 minutes more. Slower speed of the person, in km/hour, is

a. 8

b. 10

c. 12

d. 15

Options :

1. ☐ a

2. ☒ b

3. ☐ c

4. ☐ d

Question Number : 103 Question Id : 5953 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A and B can walk around a circular path in 4 minutes and 9 minutes respectively. If they start from the same point in the same direction, after how much time will they meet again for first time?

- a. 4 minutes 12 seconds
- b. 4 minute 30 seconds
- c. 7 minute 12 seconds
- d. 36 minutes

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 104 Question Id : 5954 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A team of 100 workers is supposed to do a work in 40 days. After 35 days, 100 more workers were employed and the work was finished on. Time. How many days would have it been delayed if additional workers were not employed?

- a. 1
- b. 2
- c. 3
- d. 5

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 105 Question Id : 5955 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A, B and C can do a work in 6, 12 and 24 days respectively. They all begin together. A continues to work till it is finished, C leaves off 2 days and B one day before completion. In what time (in days) is the work finished?

- a. 2
- b. 4
- c. 6
- d. 8

Options :

- 1. ✗ a

2. ☒ b

3. ☐ c

4. ☐ d

Question Number : 106 Question Id : 5956 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Three different positive integers are chosen such that when each of the numbers is added to the average of the other two, the number 65, 69 and 76 are obtained. The average of the three original numbers is

- a. 70
- b. 43
- c. 38
- d. 35

Options :

1. ☐ a

2. ☐ b

3. ☐ c

4. ☒ d

Question Number : 107 Question Id : 5957 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If average of 7 consecutive number is 203, then the average of the smallest and second number is

- a. 203
- b. 201
- c. 202.5
- d. 203.5

Options :

1. ☐ a

2. ☐ b

3. ☒ c

4. ☐ d

Question Number : 108 Question Id : 5958 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Let α and β be the roots of $x^2 + kx + 8 = 0$, such that $\alpha - \beta = 2$, then the value of k are

- a. ± 3
- b. ± 6
- c. ± 4
- d. ± 8

Options :

1. ✖ a
2. ✔ b
3. ✖ c
4. ✖ d

Question Number : 109 Question Id : 5959 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If the equation $x^2 - 2x(1+3p) + 7(3+2p) = 0$ has equal root, then the sum of the values of p is

- a. $-3\frac{1}{9}$
- b. $-\frac{8}{9}$
- c. $\frac{8}{9}$
- d. $3\frac{1}{9}$

Options :

1. ✖ a
2. ✖ b
3. ✔ c
4. ✖ d

Question Number : 110 Question Id : 5960 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

One of the factors of $a^3(b-c) + b^3(c-a) + c^3(a-b)$ is

- a. $a + b$
- b. $a + b - c$
- c. $a - b + c$
- d. $a + b + c$

Options :

1. ✖ a
2. ✖ b
3. ✖ c
4. ✔ d

Question Number : 111 Question Id : 5961 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Factorization of $(a+b+c)^3 - a^3 - b^3 - c^3$ is

- a. $(a+b)(b+c)(c+a)$
- b. $2(a+b)(b+c)(c+a)$
- c. $3(a+b)(b+c)(c+a)$
- d. $3(a-b)(b-c)(c-a)$

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 112 Question Id : 5962 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

If the ratio of 7th term to 3rd term of an arithmetic progression is 2.4, then the ratio of the 13th term to the 4th term is

- a. 3:10
- b. 10:3
- c. 6:7
- d. 7:6

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 113 Question Id : 5963 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The sum to n terms of the series

$1+(1+2)+(1+2+3)+(1+2+3+4)+\dots$ is

- a. $\frac{n(n+1)}{2}$
- b. $\frac{n(n+2)}{4}$
- c. $\frac{n(n+1)(2n+1)}{6}$
- d. $\frac{n(n+1)(n+2)}{6}$

Options :

- 1. ✗ a

2. ✖ b

3. ✖ c

4. ✔ d

Question Number : 114 Question Id : 5964 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

If $\sin\theta + \cos\theta = \sqrt{3}$, then the value of $\frac{3}{4}(\tan\theta + \cot\theta)$ is

a. 1

b. $\frac{3}{4}$ c. $\frac{3}{2}$

d. 3

Options :

1. ✖ a

2. ✔ b

3. ✖ c

4. ✖ d

Question Number : 115 Question Id : 5965 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A ship is approaching a light house, 100m high above the sea-level. The angle of depression of the ship as observed from the top of the light house, changes from 30° to 45° . The distance, in m, travelled by the ship during the period of observation, in m, is

a. $100(\sqrt{3}+1)$ b. $100(\sqrt{3}-1)$ c. $100\sqrt{3}-1$ d. $100\sqrt{3}+1$

Options :

1. ✖ a

2. ✔ b

3. ✖ c

4. ✖ d

Question Number : 116 Question Id : 5966 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What are the most common themes in the drawing found in the stone age Bhimbetka caves ?

- a. Cutting logs, making fire, cooking , farming
- b. Hunting scenes, women and men, making fire
- c. Celebrations, Hunting , weaving, making fire
- d. Making tools, farming, hunting , making iron

Options :

- 1. ✘ a
- 2. ✔ b
- 3. ✘ c
- 4. ✘ d

Question Number : 117 Question Id : 5967 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Why is the Gupta period is considered the Golden age of Ancient India ?

- a. Increase of population, the expansion of textile and iron industry.
- b. Growth of towns and more ports were constructed.
- c. Growth of guilds, towns , trade routes and advanced agriculture.
- d. More people travelled by road and ship.

Options :

- 1. ✘ a
- 2. ✘ b
- 3. ✔ c
- 4. ✘ d

Question Number : 118 Question Id : 5968 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which movement did both the Indian National Army , the Royal Indian Navy support?

- a. Non Cooperation
- b. Khilafat
- c. Home Rule Movement
- d. August Kranti

Options :

- 1. ✘ a
- 2. ✘ b
- 3. ✘ c
- 4. ✔ d

Question Number : 119 Question Id : 5969 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Where in the course of the river are Gorges, plunge pools, rapids , interlocking spurs found?

- a. Upper course
- b. Middle course
- c. Lower Middle course
- d. Lower course.

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 120 Question Id : 5970 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

'Usually before the onset of monsoons though the frequency of cyclones is low their intensity is high ? For which one of the following is this statement true

- a. Indian Ocean
- b. Bay of Bengal
- c. Arabian sea
- d. South China Sea

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 121 Question Id : 5971 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What new feature has been focussed on in the National Horticulture Mission 2005-2006?

- Production of vegetable, cultivation seed, integrated Nutrient management, integrated pest management and organic farming.
- Insurance for crops like coconut and cashew plantations in Kerala and Northeast for additional income to farmers.
- Provision drip irrigation, cold chains and allocating seed production incentives for farmers.
- Expansion of area under cultivation of fruits, spices, flowers, medicinal and aromatic plants, cashew and cocoa

Options :

- ☐ a
- ☐ b
- ☒ c
- ☐ d

Question Number : 122 Question Id : 5972 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which one is a part of the Directive Principle of State Policy?

- Right to equality before law
- Right to adult franchise
- Organisation of Trade Unions and workers rights
- Organisation of Village Panchayats

Options :

- ☐ a
- ☐ b
- ☐ c
- ☒ d

Question Number : 123 Question Id : 5973 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The implementation of which one of the following does not need any legislation?

- Fundamental Rights and Duties
- Directive Principles of State Policy.
- Promotion of community welfare
- Suggestion to States for citizen welfare.

Options :

- ☒ a

2. ✘ b

3. ✘ c

4. ✘ d

Question Number : 124 Question Id : 5974 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What is the difference between Economic growth and Economic Development?

- a. Economic growth is the increase in the prosperity of a region whereas economic development is a result of policy of the Government
- b. Economic growth leads to greater employment , economic development increases national income
- c. Economic growth is the Increase in production of goods and services over the previous year , economic development is the impact it has on income of an area.
- d. Economic growth is quantifiable whereas development can only be described or felt.

Options :

1. ✘ a

2. ✘ b

3. ✔ c

4. ✘ d

Question Number : 125 Question Id : 5975 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which measure is likely to make India the world's largest green energy producer by 2022?

- a. Making solar energy producers create systems to provide solar power to areas not covered by the grid
- b. Introducing roof top and grid connected solar production units on build, own, operate and transfer basis.
- c. Increase investment in solar panels, and batteries so that home owners can set up own power supply
- d. Give private companies rights to use roof tops and fields for generating private electricity for industry.

Options :

1. ✘ a

2. ✔ b

3. ✘ c

4. ✘ d

Question Number : 126 Question Id : 5976 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What is the advantage of E-commerce?

- a. Is Private, secure, and fast , and allows worldwide competition.,
- b. Encourages production based on natural resources.
- c. Permits international trade without too many regulations.
- d. Protects both the supplier and consumer.

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 127 Question Id : 5977 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

What are the three values cherished by the Commonwealth Games ?

- a. Get Set, Go, and Play .
- b. Faster, Higher, Stronger.
- c. Diversity Shines here.
- d. Humanity , Equality , Destiny.

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 128 Question Id : 5978 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

For participation in which international games event has the Men's Indian Hockey team qualified after the World Hockey League?

- a. Common wealth Games
- b. Olympics
- c. Asian Games
- d. Winter Olympics

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 129 Question Id : 5979 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which countries would benefit from the Kunming to Kolkata high speed rail corridor?

- a. Bangladesh, China, Myanmar , India.
- b. China, Myanmar, Bhutan , India.
- c. India , Vietnam, Myanmar , Bangladesh.
- d. Myanmar, China , Nepal and India.

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 130 Question Id : 5980 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What are the main features of the Smart city which has been proposed to meet the needs of the 843 million urban population India by the year 2050,?

- a. More roads, and high speed trains to connect the cities and towns
- b. Support to small towns to modernise and improve their civic amenities
- c. Eco Friendly, satellite cities , efficient quality of urban life.
- d. Improved garbage disposal and urban sanitation measures.

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 131 Question Id : 5981 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What is SAKAAR?

- a. Latest technology to track satellites from Earth
- b. An application to view the space images.
- c. An Application to find location of stars
- d. A device to receive data about space probes.

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c

4. ✖ d

Question Number : 132 Question Id : 5982 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Rainbows show that different colours have different wavelengths? Which one has the shortest wavelength?

- a. Violet
- b. Blue
- c. Red
- d. Orange

Options :

1. ✔ a

2. ✖ b

3. ✖ c

4. ✖ d

Question Number : 133 Question Id : 5983 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which law governs the movement of manmade satellites in space?

- a. Harley's law
- b. Newton's Laws of Motion
- c. Hubble's laws
- d. Kepler's laws

Options :

1. ✖ a

2. ✖ b

3. ✖ c

4. ✔ d

Question Number : 134 Question Id : 5984 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

In comparison to the measurement on the surface of the Earth , those on top of Mt. Everest demonstrate

- a. decrease in weight with mass remaining the same
- b. increase in the mass with weight remaining the same
- c. decrease in both mass and weight
- d. increase in both mass and weight

Options :

1. ✓ a
2. ✗ b
3. ✗ c
4. ✗ d

Question Number : 135 Question Id : 5985 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Which one of the following pairs of elements are components of all proteins?

- a. Potassium and Nitrogen
- b. Sodium and Oxygen
- c. Carbon and Hydrogen
- d. Iron and Carbon Dioxide

Options :

1. ✗ a
2. ✗ b
3. ✓ c
4. ✗ d

Question Number : 136 Question Id : 5986 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

What is Acid Rain is caused by?

- a. Emissions of sulphur dioxide
- b. Increase in dust particles
- c. Higher levels of Carbon monoxide
- d. More ozone in the lower atmosphere.

Options :

1. ✓ a
2. ✗ b
3. ✗ c
4. ✗ d

Question Number : 137 Question Id : 5987 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Gas	Composition before the Experiment	Composition after the Experiment
Oxygen	20.50%	16.50%
Nitrogen	78.50%	78.50%
Carbon dioxide	0.94%	4.04%
Water vapour	Average	More than before

The above data leads to the conclusion that the process carried out was one of:

- a. Condensation
- b. Carbon Assimilation
- c. Slow Combustion
- d. Evaporation

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 138 Question Id : 5988 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

What is the genome?

- a. Number of cells in a tissue of an organism.
- b. DNA molecules in the nucleus of the cell .
- c. Number of chromosomes in the cell's DNA.
- d. Complete set of nuclear DNA in an organism

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 139 Question Id : 5989 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Which component of the blood is our second defence mechanism against infections?

- a. White blood corpuscles
- b. Lymphocytes
- c. Platelets
- d. Red blood Corpuscles.

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 140 Question Id : 5990 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Why is Vitamin D also considered a hormone?

- a. It Absorbs sunlight and gives the skin the pigmentation it needs
- b. It Increases the absorption of oxygen in the blood
- c. It is produced from the kidney , helps maintain calcium levels in blood.
- d. It Makes the blood thinner and increases clotting time.

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✓ c
- 4. ✗ d

Question Number : 141 Question Id : 5991 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

A and B are sisters. C and D are brothers. B's son is D's brother. How is A related to C?

- a. Sister
- b. Aunt
- c. Nephew
- d. Mother

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 142 Question Id : 5992 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Three of the four number-pairs in the alternatives have numbers which hold the same relationship as the numbers in the number-pair given below. Find out the number-pair in which the two numbers do not hold the same relationship as the two numbers in the number-pair below.

56 : 7

- a. 6 : 2 b. 72 : 8 c. 42 : 6 d. 35 : 5

Options :

1. ✗ a
2. ✗ b
3. ✗ c
4. ✓ d

Question Number : 143 Question Id : 5993 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

'Cloth' is related to 'Fibre' in the same way as 'Book' is related to:

- a. Text b. Prints c. Paper d. Chapter

Options :

1. ✗ a
2. ✗ b
3. ✓ c
4. ✗ d

Question Number : 144 Question Id : 5994 Question Type : MCQ Option Shuffling : No

Correct : 1.0 Wrong : 0.33

Six persons are standing in a queue. D and F had one person between them. C was behind A. E was not in the front. F was between A and B.

Who are respectively at the front and at the back of the queue?

- a. DE b. AC c. DC d. BE

Options :

1. ✓ a
2. ✗ b
3. ✗ c
4. ✗ d

Question Number : 145 Question Id : 5995 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. Lake 2. Sea 3. Pond 4. Well 5. Bay 6. Ocean

- a. 6, 2, 5, 3, 1, 4
- b. 4, 3, 1, 5, 2, 6
- c. 1, 4, 3, 2, 5, 6
- d. 4, 3, 1, 2, 5, 6

Options :

- 1. ✗ a
- 2. ✓ b
- 3. ✗ c
- 4. ✗ d

Question Number : 146 Question Id : 5996 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

One term in the following number series is wrong. Find out the wrong term.

2, 6, 12, 20, 32, 42, 56

- a. 6 b. 12 c. 20 d. 32

Options :

- 1. ✗ a
- 2. ✗ b
- 3. ✗ c
- 4. ✓ d

Question Number : 147 Question Id : 5997 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

In a certain code, '375' means '*mangoes are sweet*'; '2934' means '*boys like sweet dishes*' and '827' means '*dishes are costly*'. Which digit means '*mangoes*' in that code?

- a. 5 b. 7 c. 3 d. 4

Options :

- 1. ✓ a
- 2. ✗ b
- 3. ✗ c
- 4. ✗ d

Question Number : 148 Question Id : 5998 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

In a certain language, 'POSTAL' is coded as 'OPTSLA', then in that language, 'SMOKER' would be coded as:

- a. MSKOER b. MKEROS c. MSKORE d. MSREKO

Options :

1. ✗ a
2. ✗ b
3. ✓ c
4. ✗ d

Question Number : 149 Question Id : 5999 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

Gopal walks 65 meters towards West and turns left and walks 25 meters and turns left again and walks 35 meters. He turns left once more and walks 45 meters. Finally, he turns right and walks 30 meters. How far is he from the starting point?

- a. 45 meters b. 10 meters c. 35 meters d. 20 meters

Options :

1. ✗ a
2. ✗ b
3. ✗ c
4. ✓ d

Question Number : 150 Question Id : 6000 Question Type : MCQ Option Shuffling : No
Correct : 1.0 Wrong : 0.33

The numbers in the matrix given below follow a certain trend row-wise and and/or column wise. Study the trend and choose the number which will replace the question mark?

4	9	7
11	25	16
15	?	19

- a. 36 b. 16 c. 42 d. 34

Options :

1. ✗ a
2. ✓ b
3. ✗ c
4. ✗ d