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## EdCIL - DDA JE (Civil &amp; Elect) Exam

Participant ID:	
Participant Name:	
Test Center Name:	
Test Date:	25/04/2018
Test Time:	12:30 PM - 2:30 PM
Subject:	JE E&M

## Section : Domain

Q.1 What is the reflection coefficient for a short circuit line?

- Ans ☒ 1. -1  
☒ 2. 0.5  
☒ 3. 1  
☒ 4. 0

Question ID : 9497309919

Status : Answered

Chosen Option : 1

Q.2 The drive motor used in a mixer-grinder is:

- Ans ☒ 1. a universal motor  
☒ 2. a synchronous motor  
☒ 3. an induction motor  
☒ 4. a DC motor

Question ID : 9497309946

Status : Answered

Chosen Option : 1

Q.3 A capacitor used for power factor correction in single phase circuit decreases:

- Ans ☒ 1. the line current and increases power factor  
☒ 2. both line current and power factor  
☒ 3. line current  
☒ 4. power factor

Question ID : 9497309938

Status : Answered

Chosen Option : 1

Q.4 In which type of fault, zero sequence currents do not exist?

- Ans ☒ 1. Line to Line  
☒ 2. Line-Line to Ground  
☒ 3. Line to Ground  
☒ 4. Line-Line-Line to Ground

Question ID : 9497309927

Status : Marked For Review

Chosen Option : 3

Q.5 What is the purpose of providing an iron core in a transformer?

- Ans ☒ 1. To reduce hysteresis loss  
☒ 2. To reduce Eddy current losses  
☒ 3. To provide support to windings  
☒ 4.

To decrease the reluctance of the magnetic path

Question ID : 9497309950

Status : Answered

Chosen Option : 4

Q.6 Commutator in DC generator is used for:

- Ans
- ☒ 1. reducing losses
  - ☒ 2. converting AC armature current in to DC
  - ☒ 3. increasing efficiency
  - ☒ 4. collecting current

Question ID : 9497309945

Status : Answered

Chosen Option : 2

Q.7 The volume of copper required for an AC transmission line is:

- I. proportional to voltage
- II. proportional to power factor
- III. inversely proportional voltage and proportion to current

- Ans
- ☒ 1. Only II
  - ☒ 2. Both I and II
  - ☒ 3. Only III
  - ☒ 4. Only I

Question ID : 9497309926

Status : Answered

Chosen Option : 3

Q.8 What does Millman's theorem yield?

- Ans
- ☒ 1. Equivalent voltage source
  - ☒ 2. Equivalent resistance
  - ☒ 3. Equivalent admittance
  - ☒ 4. Equivalent impedance

Question ID : 9497309948

Status : Answered

Chosen Option : 4

Q.9 Load factor during a period is defined as:

- Ans
- ☒ 1.  $\frac{\text{Maximum Load}}{\text{Installed Capacity}}$
  - ☒ 2.  $\frac{\text{Average Load}}{\text{Maximum Load}}$
  - ☒ 3.  $\frac{\text{Average Load}}{\text{Installed Capacity}}$
  - ☒ 4.  $\frac{\text{Maximum Load}}{\text{Average Load}}$

Question ID : 9497309922

Status : Answered

Chosen Option : 2

Q.10 Transformer action requires:

- Ans
- ☒ 1. a constant magnetic flux
  - ☒ 2. an increasing magnetic flux
  - ☒ 3. an alternating electric flux
  - ☒ 4. an alternating magnetic flux

Question ID : 9497309931

Status : Answered

Chosen Option : 4

Q.11

Question ID : 9497309925

Status : Marked For Review

Chosen Option : 4

What are the two parts of Indian electricity tariff?

- I. Fixed and variable charges
- II. Capacity charges and energy charges
- III. Capital cost and UI charges

- Ans
- ☒ 1. Only III
  - ☒ 2. Both I and II
  - ☒ 3. Only II
  - ☒ 4. Only I

Q.12 यदि A और B के निरपेक्ष विभव क्रमशः  $-8\text{ V}$  और  $-16\text{ V}$  हो तो VAB (वोल्टेज A, B के सम्बन्ध में) कितना होगा?

- Ans
- ☒ 1.  $-8\text{ V}$
  - ☒ 2.  $8\text{ V}$
  - ☒ 3.  $24\text{ V}$
  - ☒ 4.  $-24\text{ V}$

Question ID : 9497309929

Status : Marked For Review

Chosen Option : 2

Q.13 Internal characteristics are plotted between:

- Ans
- ☒ 1. Eg Vs Load Current
  - ☒ 2. V Vs Ia
  - ☒ 3. V Vs load Current
  - ☒ 4. Eg Vs Ia

Question ID : 9497309949

Status : Answered

Chosen Option : 4

Q.14 Which of the following quantities are known on generator bus?

- Ans
- ☒ 1. V and phase angle
  - ☒ 2. Q and V
  - ☒ 3. P and Q
  - ☒ 4. V and P

Question ID : 9497309912

Status : Answered

Chosen Option : 3

Q.15 A  $1\text{ }\mu\text{F}$  capacitor is connected to a  $12\text{ V}$  battery. What is the energy stored in the capacitor?

- Ans
- ☒ 1.  $12 \times 10^{-6}\text{ J}$
  - ☒ 2.  $72 \times 10^{-6}\text{ J}$
  - ☒ 3.  $24 \times 10^{-6}\text{ J}$
  - ☒ 4.  $48 \times 10^{-6}\text{ J}$

Question ID : 9497309940

Status : Answered

Chosen Option : 2

Q.16 A network has two branches in parallel. One branch contains impedance  $Z_1$  and the other branch has impedance  $Z_2$ . If it is fed from an AC voltage  $V$  of frequency  $f$ , what does the current through  $Z_1$  depend on?

- Ans
- ☒ 1.  $V, Z_2$
  - ☒ 2.  $V, Z_1$
  - ☒ 3.  $Z_1, Z_2$
  - ☒ 4.  $V, Z_1, Z_2$

Question ID : 9497309936

Status : Marked For Review

Chosen Option : 3

Q.17 A circuit is replaced by its Thevenin's equivalent to find current through a certain branch. If  $V_{TH} = 10\text{ V}$  and  $R_{TH} = 20\text{ }\Omega$ , the current through the branch:

Ans

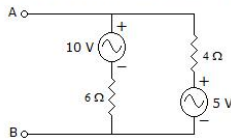
Question ID : 9497309937



- ✓ 1. will always be equal to or less than 0.5 A
- ✗ 2. will always be 0.5 A
- ✗ 3. will always be less than 0.5 A
- ✗ 4. may be 0.5 A or more or less

Status : **Marked For Review**  
Chosen Option : 1

Q.18 In the given circuit, viewed from AB, the circuit can be reduced to an equivalent circuit as:



Question ID : 9497309932

Status : **Not Attempted and Marked For Review**

Chosen Option : --

- Ans ✗ 1. 1 volt source in series with 10 Ω resistor
- ✓ 2. 7 volts source in series with 2.4 Ω resistor
- ✗ 3. 5 volts source in series with 10 Ω resistor
- ✗ 4. 15 volts source in series with 2.4 Ω resistor

Q.19 Two coils having self-inductances of 10 mH and 40 mH are mutually coupled. What is the maximum possible mutual inductance?

Question ID : 9497309934

Status : **Answered**

Chosen Option : 2

- Ans ✗ 1. 40 mH
- ✓ 2. 20 mH
- ✗ 3. 5 mH
- ✗ 4. 10 mH

Q.20 Two windings of transformer are designed as:

Question ID : 9497309915

Status : **Answered**

Chosen Option : 4

- Ans ✗ 1. primary and h.v. windings
- ✓ 2. h.v. and l.v. windings or equal voltage windings
- ✗ 3. secondary and l.v. windings or primary and l.v. windings
- ✗ 4. primary and secondary windings

Q.21 Impedance relay is used for protection in:

Question ID : 9497309920

Status : **Answered**

Chosen Option : 1

- Ans ✓ 1. medium transmission lines
- ✗ 2. short transmission lines
- ✗ 3. both long transmission lines and short transmission lines
- ✗ 4. long transmission line

Q.22 Which device is used in substations to improve the power factor?

Question ID : 9497309916

Status : **Answered**

Chosen Option : 3

- Ans ✗ 1. Synchronous reactor
- ✗ 2. Series inductor
- ✓ 3. Synchronous condenser
- ✗ 4. Series capacitor

Q.23 The EMF induced in the DC generator armature winding is:

Question ID : 9497309944

Status : **Answered**

Chosen Option : 3

- Ans
- ☒ 1. None
  - ☒ 2. AC and DC
  - ☒ 3. AC
  - ☒ 4. DC

Q.24 Shunt capacitance is neglected in the analysis of which transmission lines?

Question ID : 9497309918

Status : **Answered**

Chosen Option : 1

- Ans
- ☒ 1. Short
  - ☒ 2. Both long and medium
  - ☒ 3. Long
  - ☒ 4. Medium

Q.25 Which act is used to regulate Indian power sector today?

Question ID : 9497309924

Status : **Marked For Review**

Chosen Option : 3

- Ans
- ☒ 1. Indian Electricity Act 1910
  - ☒ 2. Indian Electricity Act 1948
  - ☒ 3. Indian Electricity Act 2000
  - ☒ 4. Indian Electricity Act 2003

Q.26 Which device is employed to reduce the power factor in case of leading power factor in the transmission line?

Question ID : 9497309923

Status : **Answered**

Chosen Option : 1

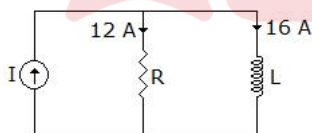
- Ans
- ☒ 1. Only (3)
  - ☒ 2. Only (2)
  - ☒ 3. (1), (2) and (3)
  - ☒ 4. Only (1)

Q.27 In the circuit shown below, what is the current  $I$  of sinusoidal source?

Question ID : 9497309935

Status : **Answered**

Chosen Option : 3



- Ans
- ☒ 1. 4 A
  - ☒ 2. It cannot be determined from the given data.
  - ☒ 3. 20 A
  - ☒ 4. 25 A

Q.28 Which motor can conveniently be operated at lagging as well as leading power factors?

Question ID : 9497309947

Status : **Answered**

Chosen Option : 3

- Ans
- ☒ 1. Wound rotor induction motor
  - ☒ 2. Squirrel cage induction motor
  - ☒ 3. Synchronous motor
  - ☒ 4. DC shunt motor

Q.29

Question ID : 9497309943

Following statements are made regarding the Open Circuit Test on the single phase transformer:

1. It is performed on LV side.
2. It is performed at rated current.
3. It helps in calculation of equivalent leakage impedance.
4. It is performed on HV side.
5. It is performed at rated voltage.
6. It gives magnetizing current and core loss.
7. It helps in determination of voltage regulation.
8. It gives turn ratio.

From these, which statements are correct?

- Ans
- ☒ 1. 2, 4, 6, 8
  - ☒ 2. 1, 5, 6, 8
  - ☒ 3. 3, 4, 5, 6, 8
  - ☒ 4. 2, 4, 7

Status : **Answered**

Chosen Option : 3

Q.30 As the load on the transformer is increased, the core losses:

- Ans
- ☒ 1. may decrease or increase slightly depending upon the nature of the load
  - ☒ 2. remain constant
  - ☒ 3. increase slightly
  - ☒ 4. decrease slightly

Question ID : 9497309942

Status : **Answered**

Chosen Option : 2

Q.31 String efficiency cannot be improved by:

- Ans
- ☒ 1. grading the insulator
  - ☒ 2. using paint
  - ☒ 3. using longer cross arm
  - ☒ 4. using a guard ring

Question ID : 9497309921

Status : **Answered**

Chosen Option : 2

Q.32 What will happen if any two phases of an induction motor are interchanged?

- Ans
- ☒ 1. The motor will run at reduced speed.
  - ☒ 2. The motor will burn.
  - ☒ 3. The motor will not run.
  - ☒ 4. The motor will run in reverse direction.

Question ID : 9497309951

Status : **Answered**

Chosen Option : 4

Q.33 Which of the following is non-linear circuit parameter?

- Ans
- ☒ 1. Transistor
  - ☒ 2. Inductance within saturation
  - ☒ 3. Wire wound resistor
  - ☒ 4. Condenser

Question ID : 9497309928

Status : **Answered**

Chosen Option : 1

Q.34 The poles with greater displacement from the real axis in left side correspond to:

- Ans
- ☒ 1. unbounded output
  - ☒ 2. lower frequencies of oscillation
  - ☒ 3. higher frequencies of oscillation
  - ☒ 4.

Question ID : 9497309941

Status : **Not Answered**

Chosen Option : --



stable and may have higher frequencies of oscillation with exponentially decaying magnitude

**Q.35** A two branch tuned circuit has a coil of resistance  $R$  and inductance  $L$  in one branch and capacitance  $C$  in the second branch. If  $R$  is increased, the dynamic resistance:

- Ans
- ☒ 1. may increase or decrease
  - ☒ 2. decreases
  - ☒ 3. remains constant
  - ☒ 4. increases

Question ID : 9497309939

Status : **Marked For Review**

Chosen Option : 4

**Q.36** Porcelain insulator does not have:

- Ans
- ☒ 1. Kaolin
  - ☒ 2. Silica
  - ☒ 3. Feldspar
  - ☒ 4. Quartz

Question ID : 9497309914

Status : **Answered**

Chosen Option : 3

**Q.37** Gas insulated substation is smaller than conventional substation because of:

1. high insulation property of  $\text{SF}_6$  gas
2. high dielectric property of  $\text{SF}_6$  gas
3. high electronegative property of  $\text{SF}_6$  gas

- Ans
- ☒ 1. Only (1)
  - ☒ 2. Only (3)
  - ☒ 3. (1), (2) and (3)
  - ☒ 4. Only (2)

Question ID : 9497309917

Status : **Answered**

Chosen Option : 3

**Q.38** A series RLC circuit has a resonant frequency of 1000 Hz. The maximum voltage across  $C$  is likely to occur at a frequency of about:

- Ans
- ☒ 1. 1025 Hz
  - ☒ 2. 2000 Hz
  - ☒ 3. 900 Hz
  - ☒ 4. 1000 Hz

Question ID : 9497309933

Status : **Marked For Review**

Chosen Option : 4

**Q.39** An ideal voltage source should have:

- Ans
- ☒ 1. infinite source resistance
  - ☒ 2. large value of e.m.f.
  - ☒ 3. small value of e.m.f.
  - ☒ 4. zero source resistance

Question ID : 9497309930

Status : **Answered**

Chosen Option : 4

**Q.40** If we use bundled conductors in EHV transmission, it will:

- Ans
- ☒ 1. increase capacitance
  - ☒ 2. decrease the inductance
  - ☒ 3. increase effective radius
  - ☒ 4. increase effective radius and decrease the inductance

Question ID : 9497309913

Status : **Answered**

Chosen Option : 4

**Q.41** What is the expression for the crippling load  $P$  for a column of length  $L$  with one end fixed and other end free?

Ans

Question ID : 9497309979

☒ 1.  $\frac{4\pi^2 EI}{L^2}$

☒ 2.  $\frac{2\pi^2 EI}{L^2}$

☒ 3.  $\frac{\pi^2 EI}{4L^2}$

☒ 4.  $\frac{\pi^2 EI}{L^2}$

Status : **Answered**  
Chosen Option : 1

Q.42 In which of the following is a flywheel generally employed?

- Ans ☒ 1. Electric motor  
☒ 2. Lathe  
☒ 3. Gearbox  
☒ 4. Punching machine

Question ID : 9497309986  
Status : **Answered**  
Chosen Option : 4

Q.43 A steel bar of 20 mm × 20 mm square cross-section is subjected to an axial compressive load of 100 kN. If the length of the bar is 4 m and E = 200 GPa, what will be the elongation of the bar?

- Ans ☒ 1. 5 mm  
☒ 2. 2.5 mm  
☒ 3. 10 mm  
☒ 4. 1.25 mm

Question ID : 9497309977  
Status : **Answered**  
Chosen Option : 1

Q.44 The speed of an engine varies from 110 rad/s to 90 rad/s. During cycle, the change in kinetic energy is found to be 200 N-m. What is the inertia of the flywheel?

- Ans ☒ 1. 0.2 kg-m<sup>2</sup>  
☒ 2. 0.1 kg-m<sup>2</sup>  
☒ 3. 0.8 kg-m<sup>2</sup>  
☒ 4. 0.4 kg-m<sup>2</sup>

Question ID : 9497309983  
Status : **Not Answered**  
Chosen Option : --

Q.45 A jet of water issues from a nozzle with a velocity of 10 m/s and it impinges normally on a fixed flat plate. The cross sectional area of the jet is 0.02 m<sup>2</sup> and the density of water is 1000 kg/m<sup>3</sup>. What is the force developed on the plate?

- Ans ☒ 1. 2000 N  
☒ 2. 400 N  
☒ 3. 4000 N  
☒ 4. 200 N

Question ID : 9497309955  
Status : **Not Answered**  
Chosen Option : --

Q.46 In carburetors, the top of the fuel jet with reference to the level in the float chamber is kept:

- Ans ☒ 1. at slightly lower level  
☒ 2. at the same level  
☒ 3. anywhere  
☒ 4. at slightly higher level

Question ID : 9497309961  
Status : **Answered**  
Chosen Option : 1

Q.47

Question ID : 9497309988  
Status : **Not Answered**

If,  
 $p$  = bearing pressure on projected bearing area,  
 $Z$  = absolute viscosity of lubricant, and  
 $N$  = speed of journal,  
then the bearing characteristic number is given by:

Chosen Option : --

- Ans
- ✓ 1.  $\frac{ZN}{p}$
- ✗ 2.  $\frac{p}{ZN}$
- ✗ 3.  $\frac{Z}{pN}$
- ✗ 4.  $\frac{N}{Zp}$

Q.48 Which of the following is true about belt in V-belt drive?

Question ID : 9497309987

Status : Answered

Chosen Option : 3

- Ans
- ✗ 1. It touches at bottom.
- ✗ 2. It touches both at bottom and sides.
- ✓ 3. It touches at sides only.
- ✗ 4. It could touch anywhere.

Q.49 What are the two reference fuels used for cetane rating?

Question ID : 9497309959

Status : Answered

Chosen Option : 3

- Ans
- ✓ 1. cetane and  $\alpha$ -methyl naphthalene
- ✗ 2. cetane and n-heptane
- ✗ 3. cetane and tetraethyl lead
- ✗ 4. cetane and iso-octane

Q.50 Which of the following mechanisms represents an inversion of the double slider crank chain?

Question ID : 9497309984

Status : Answered

Chosen Option : 4

- Ans
- ✗ 1. Whit worth quick return mechanism
- ✗ 2. Pantograph mechanism
- ✗ 3. Hand pump
- ✓ 4. Elliptical trammel

Q.51 Two shafts A and B are made of the same material. The diameter of shaft B is thrice that of shaft A. What is the ratio of power which can be transmitted by A to power that can be transmitted by shaft B?

Question ID : 9497309980

Status : Answered

Chosen Option : 4

- Ans
- ✗ 1.  $\frac{1}{81}$
- ✗ 2.  $\frac{1}{3}$
- ✗ 3.  $\frac{1}{9}$

✓ 4.  $\frac{1}{27}$

Q.52 Oil flows through a 100 mm diameter horizontal pipe (friction factor = 0.05) of length 100 m having velocity of 4 m/s. What is the head loss due to friction?

- Ans
- ✗ 1. 200 m
  - ✗ 2. 20 m
  - ✗ 3. 400 m
  - ✓ 4. 40 m

Question ID : 9497309954

Status : Not Answered

Chosen Option : --

Q.53 Bernoulli's equation is applicable between any two points located in:

- Ans
- ✓ 1. steady, irrotational flow of an incompressible fluid
  - ✗ 2. steady, rotational flow of an incompressible fluid
  - ✗ 3. irrotational flow of compressible or incompressible fluid
  - ✗ 4. rotational flow of an incompressible fluid

Question ID : 9497309953

Status : Answered

Chosen Option : 1

Q.54 The spindle speed range in a general purpose lathe is divided into steps which approximately follow:

- Ans
- ✗ 1. arithmetic progression
  - ✗ 2. logarithmic progression
  - ✓ 3. geometric progression
  - ✗ 4. harmonic progression

Question ID : 9497309969

Status : Answered

Chosen Option : 1

Q.55 Which of the following is a self-aligned bearing?

- Ans
- ✓ 1. Spherical
  - ✗ 2. Conical
  - ✗ 3. Journal
  - ✗ 4. Rectangular

Question ID : 9497309989

Status : Answered

Chosen Option : 3

Q.56 A sample of ideal gas has an internal energy  $U$  and is then compressed to one-half of its original volume while the temperature stays the same. What is the new internal energy of the ideal gas in terms of  $U$ ?

- Ans
- ✗ 1.  $\frac{1}{2}U$
  - ✓ 2.  $U$
  - ✗ 3.  $4U$
  - ✗ 4.  $\frac{1}{4}U$

Question ID : 9497309963

Status : Answered

Chosen Option : 2

Q.57 Which type of governor is commonly employed in gramophones for adjusting the speed of the turntable?

- Ans
- ✗ 1. Watt governor
  - ✓ 2. Pickering governor
  - ✗ 3. Hartnell governor

Question ID : 9497309985

Status : Answered

Chosen Option : 2



✗ 4. Inertia governor

Q.58 In the formulation of Lewis equation for toothed gearing, the load  $F_T$  acts on:

- Ans
- ✓ 1. face of the tooth
  - ✗ 2. tip of the tooth
  - ✗ 3. root of the tooth
  - ✗ 4. pitch point

Question ID : 9497309991

Status : Answered

Chosen Option : 2

Q.59 Backward curved vanes are used in:

- Ans
- ✗ 1. reciprocating pump
  - ✓ 2. centrifugal pump
  - ✗ 3. positive displacement pump
  - ✗ 4. axial flow pump

Question ID : 9497309956

Status : Answered

Chosen Option : 2

Q.60 A milling cutter having 8 teeth is rotating at 200 r.p.m. If the feed per tooth is 0.1 mm, then what is its speed?

- Ans
- ✗ 1. 70 mm per minute
  - ✗ 2. 87 mm per minute
  - ✓ 3. 160 mm per minute
  - ✗ 4. 120 mm per minute

Question ID : 9497309970

Status : Not Answered

Chosen Option : --

Q.61 Major difficulty during welding of aluminum is due to:

- Ans
- ✓ 1. high tendency of oxidation
  - ✗ 2. low density
  - ✗ 3. high thermal conductivity
  - ✗ 4. low melting point

Question ID : 9497309976

Status : Answered

Chosen Option : 4

Q.62 A kaplan turbine is:

- Ans
- ✗ 1. high head mixed flow turbine
  - ✓ 2. low head axial flow turbine
  - ✗ 3. outward flow reaction turbine
  - ✗ 4. inward flow impulse turbine

Question ID : 9497309952

Status : Answered

Chosen Option : 2

Q.63 Which of the following cycles consists of two adiabatic and constant volume process?

- Ans
- ✗ 1. Joule cycle
  - ✗ 2. Diesel cycle
  - ✓ 3. Otto cycle
  - ✗ 4. Dual cycle

Question ID : 9497309960

Status : Answered

Chosen Option : 3

Q.64 Which of the following welding processes uses vacuum?

Ans

Question ID : 9497309974

- ☒ 1. LBW
- ☒ 2. EBW
- ☒ 3. Arc welding
- ☒ 4. Resistance welding

Status : **Answered**  
Chosen Option : 2

Q.65 Amount of energy consumption per unit volume of metal removal is maximum in:

- Ans
- ☒ 1. Reaming
  - ☒ 2. Grinding
  - ☒ 3. Turning
  - ☒ 4. Milling

Question ID : 9497309972  
Status : **Answered**  
Chosen Option : 2

Q.66 In a throttling process, which of the following parameters remains constant?

- Ans
- ☒ 1. Pressure
  - ☒ 2. Entropy
  - ☒ 3. Enthalpy
  - ☒ 4. Temperature

Question ID : 9497309958  
Status : **Answered**  
Chosen Option : 3

Q.67 In which casting operation is an expandable pattern used?

- Ans
- ☒ 1. Centrifugal
  - ☒ 2. Slush
  - ☒ 3. Squeeze
  - ☒ 4. Investment

Question ID : 9497309967  
Status : **Answered**  
Chosen Option : 1

Q.68 Which of the following is used to convert a rotational motion to translational motion?

- Ans
- ☒ 1. Rack and pinion gears
  - ☒ 2. Double helical gears
  - ☒ 3. Bevel gears
  - ☒ 4. Worm gears

Question ID : 9497309990  
Status : **Answered**  
Chosen Option : 1

Q.69 Which of the following materials is used as the bonding material for grinding wheel?

- Ans
- ☒ 1. Boron carbide
  - ☒ 2. Silicon carbide
  - ☒ 3. Aluminium oxide
  - ☒ 4. Sodium silicate

Question ID : 9497309975  
Status : **Not Answered**  
Chosen Option : --

Q.70 A fusible plug is fitted in small boilers in order to:

- Ans
- ☒ 1. avoid explosion
  - ☒ 2. control steam dome
  - ☒ 3. extinguish fire if water level in the boiler falls below alarming limit

Question ID : 9497309966  
Status : **Answered**  
Chosen Option : 3

☒ 4. avoid excessive buildup of pressure

Q.71 Which of the following is not a fusion welding process?

- Ans ☒ 1. Gas welding  
☒ 2. Friction stir welding  
☒ 3. Arc welding  
☒ 4. Resistance welding

Question ID : 9497309968

Status : Answered

Chosen Option : 4

Q.72 A solid circular shaft is subjected to a bending moment  $M$  and twisting moment  $T$ . What is the equivalent twisting moment  $T_e$ ?

- Ans ☒ 1.  $M + T$   
☒ 2.  $(M^2 + T^2)^{1/2}$   
☒ 3.  $M^2 + T^2$   
☒ 4.  $M - T$

Question ID : 9497309978

Status : Answered

Chosen Option : 2

Q.73 At the triple point of a pure substance, what is the number of degrees of freedom?

- Ans ☒ 1. 2  
☒ 2. 0  
☒ 3. 1  
☒ 4. 3

Question ID : 9497309962

Status : Answered

Chosen Option : 2

Q.74 Hot tearing in metal casting is due to:

- Ans ☒ 1. high melting temperature  
☒ 2. low coefficient of thermal expansion  
☒ 3. wide range of solidification temperature  
☒ 4. high fluidity

Question ID : 9497309971

Status : Answered

Chosen Option : 1

Q.75 De-Laval turbine is a:

- Ans ☒ 1. single rotor impulse turbine  
☒ 2. reaction turbine  
☒ 3. axial flow turbine  
☒ 4. multi-rotor impulse turbine

Question ID : 9497309957

Status : Not Answered

Chosen Option : --

Q.76 A four-bar chain has:

- Ans ☒ 1.  
one sliding pair and the other are turning pairs  
☒ 2.  
one turning pair and the others are sliding pairs  
☒ 3. all turning pair  
☒ 4. all sliding pairs

Question ID : 9497309982

Status : Answered

Chosen Option : 1

Q.77 It is required to produce large amount of steam at low pressure. Which boiler should be used?

- Ans
- ☒ 1. Babcock and Wilcox boiler
  - ☒ 2. Cochran boiler
  - ☒ 3. Lancashire boiler
  - ☒ 4. Pulverised fuel fired boiler

Question ID : 9497309965  
Status : Not Answered  
Chosen Option : --

Q.78 Point of contraflexure occurs where:

- Ans
- ☒ 1. bending moment is maximum or minimum.
  - ☒ 2. bending moment is constant.
  - ☒ 3. loading is constant.
  - ☒ 4. bending moment is zero.

Question ID : 9497309981  
Status : Answered  
Chosen Option : 4

Q.79 Trepanning is performed for:

- Ans
- ☒ 1. finishing a drilled hole
  - ☒ 2. truing a hole for alignment
  - ☒ 3. producing a large hole without drilling
  - ☒ 4. enlarging a drilled hole

Question ID : 9497309973  
Status : Answered  
Chosen Option : 3

Q.80 For reversible adiabatic process, the change in entropy is:

- Ans
- ☒ 1. zero
  - ☒ 2. maximum
  - ☒ 3. minimum
  - ☒ 4. unpredictable

Question ID : 9497309964  
Status : Answered  
Chosen Option : 1

## Section : Reasoning

Q.1 कथन तथा उसके कुछ निष्कर्ष नीचे दिए गए हैं।

कथन: कुछ छात्र उच्च शिक्षा के लिए विदेश जाते हैं।

निष्कर्ष: I. वे गुणवत्तापूर्ण शिक्षा प्राप्त करने में रुचि रखते हैं।

II. उनके माता-पिता अमीर हैं।

III. उनके माता-पिता ने विदेश में पढ़ाई की है।

निम्नलिखित निष्कर्षों में से कौन सा/से निष्कर्ष तार्किक रूप से दिए गए कथन का पालन करता/करते हैं?

- Ans
- ☒ 1. केवल निष्कर्ष I पालन करता है।
  - ☒ 2. कोई भी पालन नहीं करता है।
  - ☒ 3. I और III दोनों पालन करते हैं।
  - ☒ 4. I और II दोनों पालन करते हैं।

Question ID : 94973010001  
Status : Answered  
Chosen Option : 1

Q.2 एक व्यक्ति पश्चिम दिशा में 7 किमी चलता है तथा फिर अपने दाईं ओर मुड़कर 7 किमी चलता है और फिर अपनी बाईं ओर मुड़ता है और 5 किमी चलता है। अंत में अपनी बाईं ओर मुड़कर 7 किमी चलता है। वह अपने आरंभ बिंदु से कितनी दूरी और किस दिशा में है?

- Ans
- ☒ 1. 12 किमी, दक्षिण
  - ☒ 2. 12 किमी, पश्चिम
  - ☒ 3. 21 किमी, पूर्व

Question ID : 9497309998  
Status : Answered  
Chosen Option : 2



✗ 4. 7 किमी, उत्तर

Q.3 Find the related number to complete the analogy.

7261 : 9483 :: 5314 : ?

- Ans
- ✗ 1. 6341
  - ✗ 2. 8647
  - ✗ 3. 6425
  - ✓ 4. 7536

Question ID : 9497309993

Status : Answered

Chosen Option : 4

Q.4 40 व्यक्तियों में से 21 फिल्म देखना पसंद करते हैं तथा 13 पिकनिक जाना पसंद करते हैं, जबकि 4 लोग दोनों में से किसी में भी रुचि नहीं रखते हैं। कितने लोग कम से कम एक गतिविधि में रुचि रखते हैं?

- Ans
- ✗ 1. 19
  - ✓ 2. 36
  - ✗ 3. 17
  - ✗ 4. 34

Question ID : 94973010000

Status : Answered

Chosen Option : 2

Q.5 Find the value of 'k' in the given table.

3	10	21
k	22	96
13	17	52

- Ans
- ✓ 1. 16
  - ✗ 2. 18
  - ✗ 3. 12
  - ✗ 4. 14

Question ID : 9497309999

Status : Answered

Chosen Option : 1

Q.6 राहुल की वर्तमान आयु और राहुल के जन्म के समय उसके पिता की आयु समान है। यदि अब पिता की आयु 42 साल है, तो 7 साल बाद राहुल की उम्र क्या होगी?

- Ans
- ✗ 1. 21 साल
  - ✗ 2. 27 साल
  - ✗ 3. 24 साल
  - ✓ 4. 28 साल

Question ID : 9497309996

Status : Answered

Chosen Option : 4

Q.7 सादृश्य को पूरा करें।

भारत : रुपया :: आर्मेनिया : ?

- Ans
- ✗ 1. मनत
  - ✓ 2. ड्राम
  - ✗ 3. लारी
  - ✗ 4. बाट

Question ID : 9497309994

Status : Not Answered

Chosen Option : --

Q.8 P की बहन Q है और D का पिता R है। D का P से क्या संबंध है?

Question ID : 9497309992

- Ans
- ☒ 1. माँ
  - ☒ 2. बहन
  - ☒ 3. भांजी/भतीजी
  - ☒ 4. निर्धारित नहीं कर सकते

Status : **Answered**  
Chosen Option : 4

Q.9 एक विशिष्ट भाषा में, 'पैर' को 'सिर' लिखा जाता है, 'सिर' को 'आँख' लिखा जाता है, 'आँख' को 'उँगली' लिखा जाता है, 'उँगली' को 'पैर' का अँगूठा लिखा जाता है। तो आदमी देखने के लिए किस अंग का इस्तेमाल करेगा?

- Ans
- ☒ 1. पैर का अँगूठा
  - ☒ 2. पैर
  - ☒ 3. उँगली
  - ☒ 4. आँख

Question ID : 9497309997  
Status : **Answered**  
Chosen Option : 3

Q.10 P, Q से पतला है किंतु R से मोटा है। S, P से मोटा है किंतु Q से पतला है। Q, T के जितना मोटा नहीं है। जात करें कि उन सभी में कौन सबसे ज्यादा मोटा है?

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

Question ID : 9497309995  
Status : **Answered**  
Chosen Option : 2

#### Section : Quantitative Aptitude

Q.1 नीचे दी गयी द्विघात समीकरणों में से किसके मूल दो लगातार पूर्णांक हैं।

- Ans
- ☒ 1.  $13m + m^2 - 250 = 4m - 30$
  - ☒ 2.  $t^2 + 20t + 250 = 50 - 10t$
  - ☒ 3.  $10p + 280 = p^2 + 23p - 50$
  - ☒ 4.  $a^2 + 39a - 70 = 10a - 280$

Question ID : 94973010011  
Status : **Answered**  
Chosen Option : 2

Q.2 वह बड़ी से बड़ी संख्या ज्ञात कीजिए जिससे क्रमशः 247 तथा 423 को विभाजित करने पर शेष 2 और 3 बचता है।

- Ans
- ☒ 1. 12
  - ☒ 2. 49
  - ☒ 3. 35
  - ☒ 4. 84

Question ID : 94973010002  
Status : **Answered**  
Chosen Option : 3

Q.3 एक सीधी 2.4 मीटर ऊँची दीवार पर चढ़ने के लिए दीवार से 1.8 मीटर की दूरी पर स्थित एक बिंदु से एक रॉप का निर्माण किया गया है। रॉप की लंबाई ज्ञात कीजिये।

- Ans
- ☒ 1. 4.8 मीटर
  - ☒ 2. 3 मीटर
  - ☒ 3. 4.6 मीटर
  - ☒ 4. 3.5 मीटर

Question ID : 94973010010  
Status : **Answered**  
Chosen Option : 2

Q.4 A 250 मीटर की एक दूरी 10 मिनट में तय करता है। B, 2 किमी की दूरी 1.5 घंटे में तय करता है। उनकी चाल का अनुपात ज्ञात कीजिए।

- Ans
- ☒ 1. 8 : 7

Question ID : 94973010007  
Status : **Answered**

- ✗ 2. 8 : 9  
✓ 3. 9 : 8  
✗ 4. 7 : 8

Chosen Option : 3

Q.5 एक व्यापारी ने 500 किलो चावल में से एक भाग 10% लाभ पर और बाकि 15% लाभ पर बेचा। उसे 12% का शुद्ध लाभ हुआ। 10% लाभ पर बेची गयी चावल की मात्रा कितनी थी?

- Ans ✗ 1. 225 किग्रा  
✓ 2. 300 किग्रा  
✗ 3. 275 किग्रा  
✗ 4. 250 किग्रा

Question ID : 94973010006

Status : Not Answered

Chosen Option : --

Q.6 L और M एक काम को क्रमशः 10 तथा 15 दिनों में कर सकते हैं। L, M और N उसी काम को मिलकर एक साथ 5 दिनों में कर सकते हैं। N अकेला इस काम को कितने दिनों में कर सकता है?

- Ans ✗ 1. 18 दिन  
✗ 2. 20 दिन  
✓ 3. 30 दिन  
✗ 4. 25 दिन

Question ID : 94973010008

Status : Answered

Chosen Option : 3

Q.7 एक फैक्टरी आउटलेट ने एक व्यापारी को एक वस्तु 20% लाभ पर बेची। व्यापारी ने वह वस्तु एक दुकानदार को बेचकर 20% का लाभ कमाया। फैक्टरी के विक्रय मूल्य और व्यापारी के विक्रय मूल्य में अंतर ₹ 360 है। वस्तु का क्रय मूल्य ज्ञात कीजिए।

- Ans ✗ 1. ₹ 1,800  
✗ 2. ₹ 1,700  
✗ 3. ₹ 1,600  
✓ 4. ₹ 1,500

Question ID : 94973010005

Status : Not Answered

Chosen Option : --

Q.8 निम्नलिखित में से कौन सी श्रृंखला ज्यामितीय श्रेणी में नहीं है?

- Ans ✗ 1. 5, 15, 45, ...  
✓ 2. 12, 24, 36, ...  
✗ 3. 3, 15, 75, ...  
✗ 4. 4, 8, 16, ...

Question ID : 94973010009

Status : Answered

Chosen Option : 2

Q.9 यदि एक संख्या का 50% दूसरी संख्या के एक-तिहाई के बराबर है, तो दूसरी संख्या का पहली संख्या से अनुपात क्या होगा?

- Ans ✓ 1. 3 : 2  
✗ 2. 3 : 1  
✗ 3. 1 : 3  
✗ 4. 2 : 3

Question ID : 94973010003

Status : Answered

Chosen Option : 1

Q.10 एक आदमी ने ₹ 18,000 की धनराशि साधारण ब्याज की 13% वार्षिक दर पर उधार ली, जिसे एक निश्चित अवधि में लौटाया जाना है। यदि कुल साधारण ब्याज ₹ 9,360 है, तो धनराशि कितने समय के लिए ली गयी थी?

- Ans ✗ 1. 4.5 वर्ष  
✗ 2. 3.5 वर्ष

Question ID : 94973010004

Status : Answered

Chosen Option : 4

✗ 3. 3.0 वर्ष

✓ 4. 4.0 वर्ष

Section : General Awareness

Q.1 गौतम बुद्ध के प्रवचन किस भाषा में थे?

Ans ✗ 1. तमिल

✗ 2. संस्कृत

✗ 3. मगधी

✓ 4. पाली

Question ID : 94973010016

Status : Answered

Chosen Option : 4

Q.2 निम्नलिखित में से किन दो मुगल बादशाहों ने अपनी स्मृतियां लिखीं?

Ans ✗ 1. हुमायूं एवं अकबर

✗ 2. अकबर एवं औरंगजेब

✗ 3. शाहजहां एवं अकबर

✓ 4. बाबर एवं जहांगीर

Question ID : 94973010015

Status : Answered

Chosen Option : 4

Q.3 Solid Carbon dioxide is known as:

Ans ✗ 1. Diamond

✓ 2. Dry Ice

✗ 3. Rock

✗ 4. Mercury

Question ID : 94973010020

Status : Answered

Chosen Option : 2

Q.4 With which of the following sports is Dipa Karmakar associated?

Ans ✓ 1. Gymnastics

✗ 2. Tennis

✗ 3. Athletics

✗ 4. Chess

Question ID : 94973010012

Status : Answered

Chosen Option : 1

Q.5 पेशेवर गोल्फ टूर खिलाड़ियों को प्रत्येक शॉट के लिए कितना समय मिलता है?

Ans ✓ 1. 45 सेकेंड

✗ 2. 20 सेकेंड

✗ 3. 1 मिनट

✗ 4. 7 सेकेंड

Question ID : 94973010017

Status : Answered

Chosen Option : 2

Q.6 एक सामान्य वयस्क मानव शरीर में लगभग कितनी मांसपेशियां होती हैं?

Ans ✗ 1. 340

✗ 2. 206

Question ID : 94973010021

Status : Answered

Chosen Option : 3



✓ 3. 640

✗ 4. 350

Q.7 Which country hosted the 2018 G20 summit conference?

Ans ✗ 1. France

✓ 2. Argentina

✗ 3. Japan

✗ 4. Australia

Question ID : 94973010013

Status : Not Attempted and  
Marked For Review

Chosen Option : --

Q.8 भारत के राष्ट्रीय ध्वज का डिज़ाइन संविधान सभा द्वारा कब अपनाया गया था?

Ans ✗ 1. जुलाई 1950

✗ 2. अगस्त 1947

✗ 3. अगस्त 1950

✓ 4. जुलाई 1947

Question ID : 94973010018

Status : Answered

Chosen Option : 1

Q.9 What causes the water drop to be spherical shaped?

Ans ✗ 1. Osmotic force

✓ 2. Surface Tension

✗ 3. Electromagnetic force

✗ 4. Gravitational force

Question ID : 94973010019

Status : Answered

Chosen Option : 2

Q.10 प्रायद्वीपीय भारत में सबसे लंबी नदी कौन सी है?

Ans ✗ 1. ताप्ती

✗ 2. पेरियार

✓ 3. गोदावरी

✗ 4. कावेरी

Question ID : 94973010014

Status : Answered

Chosen Option : 3

## Section : English Language

Q.1 The following sentence contains an error. Find the part of the sentence which contains the error.

The forest fires (1) / in Uttarakhand is (2) / raging for (3) / over three months (4).

Ans ✗ 1. (1)

✓ 2. (4)

✗ 3. (2)

✗ 4. (3)

Question ID : 94973010025

Status : Answered

Chosen Option : 2

Q.2 Change the verb into passive voice.

‘They pour water into glasses.’

Ans ✓ 1. ... is poured

Question ID : 94973010030

Status : Answered

Chosen Option : 1

- ☒ 2. ... is being poured  
☒ 3. ... has been poured  
☒ 4. ... was poured

Q.3 From the given pairs of words, select the one which does not have the same meaning.

- Ans ☒ 1. Malice, Ill-will  
☒ 2. Curtail, Protract  
☒ 3. Precarious, Critical  
☒ 4. Opulent, Affluent

Question ID : 94973010027

Status : Not Answered

Chosen Option : --

Q.4 From the given pairs of words, select the one which has the same meaning.

- Ans ☒ 1. Rise, Ascend  
☒ 2. Quiet, Restive  
☒ 3. Soft, Rugged  
☒ 4. Concede, Repudiate

Question ID : 94973010026

Status : Not Answered

Chosen Option : --

Q.5 Find the mis-spelt word.

- Ans ☒ 1. Noticeable  
☒ 2. Twelfth  
☒ 3. Rhythm  
☒ 4. Relieve

Question ID : 94973010028

Status : Answered

Chosen Option : 2

Q.6 Select the meaning of the given phrase / idiom.

‘Look down upon’

- Ans ☒ 1. Be humble  
☒ 2. Keep head downwards  
☒ 3. Keep low profile  
☒ 4. Hate

Question ID : 94973010029

Status : Answered

Chosen Option : 1

Q.7 It is too good to \_\_\_\_\_ true.

- Ans ☒ 1. Bear  
☒ 2. Be  
☒ 3. Being  
☒ 4. Fall

Question ID : 94973010023

Status : Answered

Chosen Option : 2

Q.8 Rearrange the given sentences in the most appropriate sequence to form a meaningful paragraph.

- K - Also, the problem of insufficient rains needs to be addressed.  
 L - This requires a committed approach by the authorities.  
 M - India is seemingly prone to the ravages of drought.  
 N - Therefore, the solution lies in the timely arrival of sufficient rains.

- Ans ☒ 1. LNKM

Question ID : 94973010031

Status : Not Answered

Chosen Option : --

- ✗ 2. NLKM  
✗ 3. NMKL  
✓ 4. MNKL

Q.9 \_\_\_\_\_ planning is necessary to manage household expenses.

- Ans ✗ 1. Town  
✗ 2. Fiscal  
✗ 3. Industrial  
✓ 4. Financial

Question ID : 94973010022

Status : Answered

Chosen Option : 4

Q.10 The following sentence contains an error. Find the part of the sentence which contains the error.

When I (1) / complete (2) / my degree I (3) / take up (4) / this job.

- Ans ✗ 1. (3)  
✓ 2. (4)  
✗ 3. (2)  
✗ 4. (1)

Question ID : 94973010024

Status : Answered

Chosen Option : 3

