DDA JE

Previous Year Paper
(E & M) 25 April 2018

EdCIL - DDA JE (Civil & 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?

Question ID : **9497309919**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. −1
✘ 2. 0.5
✘ 3. 1
✘ 4. 0

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

Question ID : **9497309946**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. a universal motor
✘ 2. a synchronous motor
✘ 3. an induction motor
✘ 4. a DC motor

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

Question ID : **9497309938**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. the line current and increases power factor
✘ 2. both line current and power factor
✘ 3. line current
✘ 4. power factor

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

Question ID : **9497309927**
Status : **Marked For Review**
Chosen Option : **3**

Ans
✔ 1. Line to Line
✘ 2. Line-Line to Ground
✘ 3. Line to Ground
✘ 4. Line-Line-Line to Ground

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

Question ID : **9497309950**
Status : **Answered**
Chosen Option : **4**

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

Q.6 Commutator in DC generator is used for:

Question ID : **9497309945**
Status : **Answered**
Chosen Option : **2**

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

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

Question ID : **9497309926**
Status : **Answered**
Chosen Option : **3**

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

Q.8 What does Millman's theorem yield?

Question ID : **9497309948**
Status : **Answered**
Chosen Option : **4**

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

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

Question ID : **9497309922**
Status : **Answered**
Chosen Option : **2**

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. $\frac{\text{Maximum Load}}{\text{Average Load}}$

Q.10 Transformer action requires:

Question ID : **9497309931**
Status : **Answered**
Chosen Option : **4**

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

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 V और –16 V हो तो VAB (वोल्टेज A, B के सम्बन्ध में) कितना होगा?

Question ID : **9497309929**
Status : **Marked For Review**
Chosen Option : **2**

Ans
✗ 1. –8 V
✓ 2. 8 V
✗ 3. 24 V
✗ 4. –24 V

Q.13 Internal characteristics are plotted between:

Question ID : **9497309949**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. Eg Vs Load Current
✗ 2. V Vs Ia
✗ 3. V Vs load Current
✓ 4. Eg Vs Ia

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

Question ID : **9497309912**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. V and phase angle
✗ 2. Q and V
✓ 3. P and Q
✗ 4. V and P

Q.15 A 1 μF capacitor is connected to a 12 V battery. What is the energy stored in the capacitor?

Question ID : **9497309940**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. 12×10^{-6}J
✓ 2. 72×10^{-6}J
✗ 3. 24×10^{-6}J
✗ 4. 48×10^{-6}J

Q.16 A network has two branches in parallel. One branch contains impedance Z1 and the other branch has impedance Z2. If it is fed from an AC voltage V of frequency f, what does the current through Z1 depend on?

Question ID : **9497309936**
Status : **Marked For Review**
Chosen Option : **3**

Ans
✗ 1. V, Z2
✓ 2. V, Z1
✗ 3. Z1, Z2
✗ 4. V, Z1, Z2

Q.17 A circuit is replaced by its Thevenin's equivalent to find current through a certain branch. If VTH = 10 V and RTH = 20 Ω, the current through the branch:

Question ID : **9497309937**

Ans

✔ 1. will always be equal to or less than 0.5 A

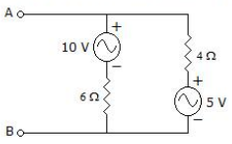
✘ 2. will always be 0.5 A

✘ 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**

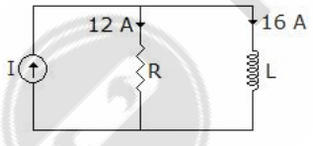
Ans
✗ 1. Indian Electricity Act 1910
✗ 2. Indian Electricity Act 1948
✗ 3. Indian Electricity Act 2000
✓ 4. Indian Electricity Act 2003

Q.26 Which device is employed to reduce the power factor in case of leading power factor in the transmission line?
1. Synchronous condenser
2. SVC
3. Reactor

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?

Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 2, 4, 6, 8
✓ 2. 1, 5, 6, 8
✗ 3. 3, 4, 5, 6, 8
✗ 4. 2, 4, 7

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

Question ID : **9497309942**
Status : **Answered**
Chosen Option : **2**

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

Q.31 String efficiency cannot be improved by:

Question ID : **9497309921**
Status : **Answered**
Chosen Option : **2**

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

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

Question ID : **9497309951**
Status : **Answered**
Chosen Option : **4**

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.

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

Question ID : **9497309928**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. Transistor
✗ 2. Inductance within saturation
✗ 3. Wire wound resistor
✗ 4. Condenser

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

Question ID : **9497309941**
Status : **Not Answered**
Chosen Option : **--**

Ans
✗ 1. unbounded output
✗ 2. lower frequencies of oscillation
✗ 3. higher frequencies of oscillation
✓ 4.

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:

Question ID : **9497309939**
Status : **Marked For Review**
Chosen Option : **4**

Ans
✗ 1. may increase or decrease
✓ 2. decreases
✗ 3. remains constant
✗ 4. increases

Q.36 Porcelain insulator does not have:

Question ID : **9497309914**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. Kaolin
✓ 2. Silica
✗ 3. Feldspar
✗ 4. Quartz

Q.37 Gas insulated substation is smaller than conventional substation because of:
1. high insulation property of SF6 gas
2. high dielectric property of SF6 gas
3. high electronegative property of SF6 gas

Question ID : **9497309917**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. Only (1)
✗ 2. Only (3)
✓ 3. (1), (2) and (3)
✗ 4. Only (2)

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:

Question ID : **9497309933**
Status : **Marked For Review**
Chosen Option : **4**

Ans
✗ 1. 1025 Hz
✗ 2. 2000 Hz
✗ 3. 900 Hz
✓ 4. 1000 Hz

Q.39 An ideal voltage source should have:

Question ID : **9497309930**
Status : **Answered**
Chosen Option : **4**

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

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

Question ID : **9497309913**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. increase capacitance
✗ 2. decrease the inductance
✗ 3. increase effective radius
✓ 4. increase effective radius and decrease the inductance

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?

Question ID : **9497309979**

Ans

Status : **Answered**
Chosen Option : **1**

1. $\frac{4\pi^2 EI}{L^2}$
2. $\frac{2\pi^2 EI}{L^2}$
3. $\frac{\pi^2 EI}{4L^2}$
4. $\frac{\pi^2 EI}{L^2}$

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

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

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

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?

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

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

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?

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

Ans
1. 0.2 kg-m^2
2. 0.1 kg-m^2
3. 0.8 kg-m^2
4. 0.4 kg-m^2

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^2 and the density of water is 1000 kg/m^3. What is the force developed on the plate?

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

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

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

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

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

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 α-methyl napthalene

✘ 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?

Question ID : **9497309954**
Status : **Not Answered**
Chosen Option : **--**

Ans
✘ 1. 200 m
✘ 2. 20 m
✘ 3. 400 m
✔ 4. 40 m

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

Question ID : **9497309953**
Status : **Answered**
Chosen Option : **1**

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

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

Question ID : **9497309969**
Status : **Answered**
Chosen Option : **1**

Ans
✘ 1. arithmetic progression
✘ 2. logarithmic progression
✔ 3. geometric progression
✘ 4. harmonic progression

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

Question ID : **9497309989**
Status : **Answered**
Chosen Option : **3**

Ans
✔ 1. Sphercal
✘ 2. Conical
✘ 3. Journal
✘ 4. Rectangular

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?

Question ID : **9497309963**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. $\frac{1}{2}U$
✔ 2. U
✘ 3. 4U
✘ 4. $\frac{1}{4}U$

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

Question ID : **9497309985**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. Watt governor
✔ 2. Pickering governor
✘ 3. Hartnell governor

✗ 4. Inertia governor

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

Question ID : **9497309991**
Status : **Answered**
Chosen Option : **2**

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

Q.59 Backward curved vanes are used in:

Question ID : **9497309956**
Status : **Answered**
Chosen Option : **2**

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

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?

Question ID : **9497309970**
Status : **Not Answered**
Chosen Option : **--**

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

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

Question ID : **9497309976**
Status : **Answered**
Chosen Option : **4**

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

Q.62 A kaplan turbine is:

Question ID : **9497309952**
Status : **Answered**
Chosen Option : **2**

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

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

Question ID : **9497309960**
Status : **Answered**
Chosen Option : **3**

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

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

Question ID : **9497309974**

Ans

✗ 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?

Question ID : **9497309968**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. Gas welding
✓ 2. Friction stir welding
✗ 3. Arc welding
✗ 4. Resistance welding

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 ?

Question ID : **9497309978**
Status : **Answered**
Chosen Option : **2**

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

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

Question ID : **9497309962**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. 2
✓ 2. 0
✗ 3. 1
✗ 4. 3

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

Question ID : **9497309971**
Status : **Answered**
Chosen Option : **1**

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

Q.75 De-Laval turbine is a:

Question ID : **9497309957**
Status : **Not Answered**
Chosen Option : **--**

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

Q.76 A four-bar chain has:

Question ID : **9497309982**
Status : **Answered**
Chosen Option : **1**

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

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 है?

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 : ?

Question ID : **9497309993**
Status : **Answered**
Chosen Option : **4**

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

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?

Question ID : **94973010000**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. 19
✓ 2. 36
✗ 3. 17
✗ 4. 34

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

3	10	21
k	22	96
13	17	52

Question ID : **9497309999**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. 16
✗ 2. 18
✗ 3. 12
✗ 4. 14

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?

Question ID : **9497309996**
Status : **Answered**
Chosen Option : **4**

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

Q.7 सादृश्य को पूरा करें।

भारत : रुपया : : आर्मेनिया : ?

Question ID : **9497309994**
Status : **Not Answered**
Chosen Option : **--**

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

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?

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

Ans
✗ 1. पैर का अँगूठा
✗ 2. पैर
✓ 3. उँगली
✗ 4. आँख

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। ज्ञात करें कि उन सभी में कौन सबसे ज्यादा मोटा है?

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

Ans
✗ 1. P
✓ 2. T
✗ 3. S
✗ 4. R

Section : **Quantitative Aptitude**

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

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

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

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

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

Ans
✗ 1. 12
✗ 2. 49
✓ 3. 35
✗ 4. 84

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 रैंप का निर्माण किया गया है। रैंप की लंबाई ज्ञात कीजिये।

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

Ans
✗ 1. 4.8 मीटर
✓ 2. 3 मीटर
✗ 3. 4.6 मीटर
✗ 4. 3.5 मीटर

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।

Question ID : **94973010007**
Status : **Answered**

Ans
✗ 1. 8 : 7

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?

Question ID : **94973010006**
Status : **Not Answered**
Chosen Option : **--**

Ans
1. 225 किग्रा
2. 300 किग्रा
3. 275 किग्रा
4. 250 किग्रा

Q.6 L और M एक काम को क्रमश: 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?

Question ID : **94973010008**
Status : **Answered**
Chosen Option : **3**

Ans
1. 18 दिन
2. 20 दिन
3. 30 दिन
4. 25 दिन

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।

Question ID : **94973010005**
Status : **Not Answered**
Chosen Option : **--**

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

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

Question ID : **94973010009**
Status : **Answered**
Chosen Option : **2**

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

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?

Question ID : **94973010003**
Status : **Answered**
Chosen Option : **1**

Ans
1. 3 : 2
2. 3 : 1
3. 1 : 3
4. 2 : 3

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?

Question ID : **94973010004**
Status : **Answered**
Chosen Option : **4**

Ans
1. 4.5 वर्ष
2. 3.5 वर्ष

✗ 3. 3.0 वर्ष

✓ 4. 4.0 वर्ष

Section : **General Awareness**

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

Question ID : **94973010016**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. तमिल
✗ 2. संस्कृत
✗ 3. मगधी
✓ 4. पाली

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

Question ID : **94973010015**
Status : **Answered**
Chosen Option : **4**

Ans
✗ 1. हुमायूं एवं अकबर
✗ 2. अकबर एवं औरंगजेब
✗ 3. शाहजहां एवं अकबर
✓ 4. बाबर एवं जहांगीर

Q.3 Solid Carbon dioxide is known as:

Question ID : **94973010020**
Status : **Answered**
Chosen Option : **2**

Ans
✗ 1. Diamond
✓ 2. Dry Ice
✗ 3. Rock
✗ 4. Mercury

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

Question ID : **94973010012**
Status : **Answered**
Chosen Option : **1**

Ans
✓ 1. Gymnastics
✗ 2. Tennis
✗ 3. Athletics
✗ 4. Chess

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

Question ID : **94973010017**
Status : **Answered**
Chosen Option : **2**

Ans
✓ 1. 45 सेकंड
✗ 2. 20 सेकंड
✗ 3. 1 मिनट
✗ 4. 7 सेकंड

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

Question ID : **94973010021**
Status : **Answered**
Chosen Option : **3**

Ans
✗ 1. 340
✗ 2. 206

✔ 3. 640

✘ 4. 350

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

Question ID : **94973010013**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Ans
✘ 1. France
✔ 2. Argentina
✘ 3. Japan
✘ 4. Australia

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

Question ID : **94973010018**
Status : **Answered**
Chosen Option : **1**

Ans
✘ 1. जुलाई 1950
✘ 2. अगस्त 1947
✘ 3. अगस्त 1950
✔ 4. जुलाई 1947

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

Question ID : **94973010019**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. Osmotic force
✔ 2. Surface Tension
✘ 3. Electromagnetic force
✘ 4. Gravitational force

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

Question ID : **94973010014**
Status : **Answered**
Chosen Option : **3**

Ans
✘ 1. ताप्ती
✘ 2. पेरियार
✔ 3. गोदावरी
✘ 4. कावेरी

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).

Question ID : **94973010025**
Status : **Answered**
Chosen Option : **2**

Ans
✘ 1. (1)
✔ 2. (4)
✘ 3. (2)
✘ 4. (3)

Q.2 Change the verb into passive voice.

'They pour water into glasses.'

Question ID : **94973010030**
Status : **Answered**
Chosen Option : **1**

Ans
✔ 1. … is poured

✗ 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.

Question ID : **94973010027**
Status : **Not Answered**
Chosen Option : **--**

Ans

✗ 1. Malice, Ill-will

✓ 2. Curtail, Protract

✗ 3. Precarious, Critical

✗ 4. Opulent, Affluent

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

Question ID : **94973010026**
Status : **Not Answered**
Chosen Option : **--**

Ans

✓ 1. Rise, Ascend

✗ 2. Quiet, Restive

✗ 3. Soft , Rugged

✗ 4. Concede, Repudiate

Q.5 Find the mis-spelt word.

Question ID : **94973010028**
Status : **Answered**
Chosen Option : **2**

Ans

✗ 1. Noticeable

✓ 2. Twelth

✗ 3. Rhythm

✗ 4. Relieve

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

'Look down upon'

Question ID : **94973010029**
Status : **Answered**
Chosen Option : **1**

Ans

✗ 1. Be humble

✗ 2. Keep head downwards

✗ 3. Keep low profile

✓ 4. Hate

Q.7 It is too good to _____ true.

Question ID : **94973010023**
Status : **Answered**
Chosen Option : **2**

Ans

✗ 1. Bear

✓ 2. Be

✗ 3. Being

✗ 4. Fall

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.

Question ID : **94973010031**
Status : **Not Answered**
Chosen Option : **--**

Ans

✗ 1. LNKM

2. NLKM
3. NMKL
4. MNKL

Q.9 _____ planning is necessary to manage household expenses.

Question ID : **94973010022**
Status : **Answered**
Chosen Option : **4**

Ans
1. Town
2. Fiscal
3. Industrial
4. Financial

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.

Question ID : **94973010024**
Status : **Answered**
Chosen Option : **3**

Ans
1. (3)
2. (4)
3. (2)
4. (1)