

**MPPGCL JE**

**Previous Year Paper  
(Mechanical) 19 Mar, 2019**



## 100 Questions

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**Que. 1** A rotary engine is an inversion of a \_\_\_\_\_.

1. four-bar chain
2. single-slider crank chain
3. double-slider crank chain
4. quadric cyclic chain

Correct Option - 2

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**Que. 2** If the number of degrees of freedom of a mechanism is reduced to \_\_\_\_\_ then it can be called as a structure.

1. -1
2. 0
3. 1
4. 2

Correct Option - 2

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**Que. 3** A spur gear has module 2 mm and 30 number of teeth rotating at 200 rpm. What will be its circular pitch in mm?

1. 0.628
2. 6.28
3. 62.8
4. 628

Correct Option - 2

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**Que. 4** Cylindrical cams are also known as \_\_\_\_\_ cams.

1. spiral
2. conjugate
3. drum
4. spherical

Correct Option - 3

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**Que. 5** A particle of mass  $m$  moving with linear velocity  $v$  in a circular path of radius  $r$ , the magnitude of centrifugal force  $F_c$  acting on the particle is given by:

1.  $F_c = mv^2/r$
2.  $F_c = 2mv^2/r$
3.  $F_c = mr^2/v$
4.  $F_c = 2mr^2/v$

Correct Option - 1

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**Que. 6** For an elastic material, the ratio of the lateral strain to the longitudinal strain is constant and called as:

1. Young's modulus
2. Modulus of rigidity
3. Poisson's ratio
4. Elastic limit

Correct Option - 3

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**Que. 7** Which of the following processes is known as a constant entropy process?

1. Isochoric process
2. Isobaric process
3. Isothermal process
4. Isentropic process

Correct Option - 4

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**Que. 8** A heat engine operates on a Carnot cycle between the source and the sink temperatures of 337°C and 57°C respectively. The efficiency of the heat engine is:

1. 0.540
2. 0.459
3. 0.848
4. 0.789

Correct Option - 2

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**Que. 9** What will be the indicated power for a four-cylinder, two-stroke cycle petrol engine, if the brake power is 30 kW and the mechanical efficiency is 0.8?

1. 24.0 kW
2. 37.5 kW
3. 7.5 kW
4. 6.0 kW

Correct Option - 2

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**Que. 10** A real fluid in which the shear stress is NOT proportional to the velocity gradient is known as a/an:

1. ideal plastic fluid
2. ideal fluid
3. Newtonian fluid
4. non-Newtonian fluid

Correct Option - 4

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**Que. 11** If diameter of the capillary tube ( $d$ ), surface tension force for unit length ( $\sigma$ ) and weight density ( $w$ ), then the capillary rise of water in the glass tube ( $h$ ) will be given by:

(Consider angle of contact between water and the glass tube is zero)

1.  $h = 2\sigma/wd$
2.  $h = 3\sigma/wd$
3.  $h = 4\sigma/wd$
4.  $h = 6\sigma/wd$

Correct Option - 3

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**Que. 12** The total pressure force  $P$  exerted by the static fluid on a vertically immersed surface is given by:

(where  $A$  = area of immersed surface,  $w$  = specific weight of the liquid, and  $x$  = depth of Centre of gravity of immersed surface from the free liquid surface)

1.  $P = wAx$

2.  $P = w^2 Ax$
3.  $P = wA^2x$
4. no option

Correct Option - 1

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**Que. 13** What is the range of the carbon content in steel?

1. 0-0.8%
2. 0-2.0%
3. 0-4.4%
4. 0-6.67%

Correct Option - 2

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**Que. 14** The weight density of the fluid is given by:

1. (Weight of fluid) / (Volume of fluid)
2. (Weight of fluid)  $\times$  (Volume of fluid)
3. (Mass of fluid) / (Volume of fluid)
4. (Mass of fluid)  $\times$  (Volume of fluid)

Correct Option - 1

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**Que. 15** What will be the specific weight of one litre of a liquid having the weight of 7N?

1. 7 N/m<sup>3</sup>
2. 70 N/m<sup>3</sup>
3. 700 N/m<sup>3</sup>
4. 7,000 N/m<sup>3</sup>

Correct Option - 4

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**Que. 16** What will be the dynamic viscosity of a liquid having kinematic viscosity  $6 \times 10^{-4}$  m<sup>2</sup>/s and density of liquid 1,900 kg/m<sup>3</sup>?

1. 114 Ns/m<sup>2</sup>
2. 11.4 Ns/m<sup>2</sup>
3. 1.14 Ns/m<sup>2</sup>
4. 0.114 Ns/m<sup>2</sup>

Correct Option - 3

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**Que. 17** The pressure intensity at a point in a fluid is given  $3.924 \times 10^4$  N/m<sup>2</sup>. What will be the corresponding height of column of fluid when the fluid is water?

1. 0.004 m of water
2. 0.040 m of water
3. 0.400 m of water
4. 4.000 m of water

Correct Option - 4

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**Que. 18** Atmospheric pressure head in terms of water column will be \_\_\_\_\_ m.

1. 8.86

2. 9.81
3. 10.05
4. 10.30

Correct Option - 4

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**Que. 19** Water is flowing through a pipe of 50 mm diameter under a pressure of  $29.43 \times 10^4 \text{ N/m}^2$ . What will be the pressure head?

1. 0.03 m
2. 0.30 m
3. 3.00 m
4. 30.0 m

Correct Option - 4

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**Que. 20** The value of coefficient of discharge ( $C_d$ ) for a venturimeter usually lies between \_\_\_\_\_.

1. 0.55 to 0.58
2. 0.66 to 0.68
3. 0.77 to 0.88
4. 0.95 to 0.98

Correct Option - 4

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**Que. 21** If  $D$  is the diameter of a Pelton wheel and  $d$  is the diameter of the jet, then Jet ratio  $m$  will be given by

1.  $m = d/D$
2.  $m = D/d$
3.  $m = 2d/D$
4.  $m = D/2$

Correct Option - 2

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**Que. 22** The speed ratio of a Francis turbine varies from:

1. 0.1 - 0.15
2. 0.15 - 0.2
3. 0.6 - 0.9
4. 0.9 - 0.95

Correct Option - 3

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**Que. 23** In which of the following operations is work pulled through the die opening?

1. Squeezing
2. Forging
3. Wire drawing
4. Extrusion

Correct Option - 3

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**Que. 24** If the mechanical efficiency and manometric efficiency of a centrifugal pump are 68.00% and 74.00% respectively, then the overall efficiency of the pump will be:

1. 0.0503%
2. 0.5032%

3. 5.032%
4. 50.32%

Correct Option - 4

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**Que. 25** For a rivetted thin cylindrical shell of internal diameter ( $d$ ), thickness of shell wall ( $t$ ) and internal pressure ( $P$ ) with efficiency of longitudinal joint ( $\eta_l$ ); the hoop (tress  $\sigma_c$ ) will be given by:

1.  $\sigma_c = \frac{Pd}{2t}$
2.  $\sigma_c = \frac{Pd}{4t}$
3.  $\sigma_c = \frac{Pd}{2t\eta_l}$
4.  $\sigma_c = \frac{Pd}{4t\eta_l}$

Correct Option - 3

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**Que. 26** A boiler of 1.6 m diameter is made of a 20-mm thick plate. What will be the permissible steam pressure in the boiler in the maximum tensile stress in the plates must NOT exceed 80 MPa?

1. 2 MPa
2. 2 GPa
3. 20 MPa
4. 20 GPa

Correct Option - 1

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**Que. 27** The equivalent length for a column fixed at both ends is:

1. 1
2.  $2l$
3.  $\frac{l}{2}$
4. not option

Correct Option - 3

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**Que. 28** Rankine's formula is applicable for \_\_\_\_\_.

1. medium columns only
2. very short columns only
3. very long columns only
4. very short to very long columns

Correct Option - 4

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**Que. 29** If  $D$  and  $d$  are the outer and inner diameters, respectively of the hallow shaft, then maximum shear stress will be given by:

1.  $\tau = 8TD/\pi(D^4 - d^4)$
2.  $\tau = 16TD/\pi(D^4 - d^4)$
3.  $\tau = 32TD/\pi(D^3 - d^3)$
4.  $\tau = 64TD/\pi(D^3 - d^3)$

Correct Option - 2

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**Que. 30** In case of shaft, the torque per radian twist is known as:

1. polar sectional moment

2. resisting torque
3. torsional moment resistance
4. torsional stiffness

Correct Option - 4

**Que. 31** The neutral axis in a beam is subjected to \_\_\_\_\_ bending stress.

1. zero
2. minimum
3. maximum
4. infinite

Correct Option - 1

**Que. 32** What will be the section modulus (Z) of a rectangular beam of width (b) and depth (h)?

1.  $Z = \frac{bh^2}{6}$
2.  $Z = \frac{bh^2}{12}$
3.  $Z = \frac{bh^3}{6}$
4. not option

Correct Option - 1

**Que. 33** The relation between modulus of elasticity and bulk modulus is given by:

1.  $E = 3K/(1 + 2\nu)$
2.  $E = 3K(1 + 2\nu)$
3.  $E = 3K/(1 - 2\nu)$
4.  $E = 3K(1 - 2\nu)$

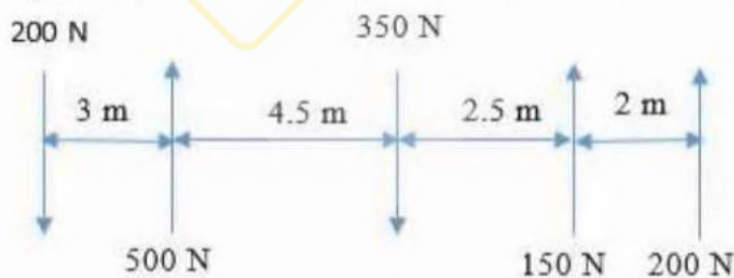
Correct Option - 4

**Que. 34** The maximum bending moment (M) in a cantilever beam of length (l) carrying a point load (P) at a free end is given by:

1.  $M = Pl$
2.  $M = Pl^2$
3.  $M = Pl/2$
4.  $M = Pl^2/2$

Correct Option - 1

**Que. 35**



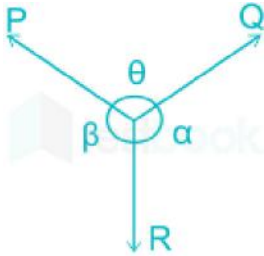
The resultant of the parallel system of forces is:

1.  $R = 300\text{ N}\uparrow$

2.  $R = 300 \text{ N} \downarrow$
3.  $R = 400 \text{ N} \uparrow$
4.  $R = 400 \text{ N} \downarrow$

Correct Option - 1

**Que. 36** Which of the following is the correct Lami's equation?



1.  $\frac{P}{\sin \theta} = \frac{Q}{\sin \alpha} = \frac{R}{\sin \beta}$
2.  $\frac{P}{\cos \theta} = \frac{Q}{\cos \alpha} = \frac{R}{\cos \beta}$
3.  $\frac{P}{\sin \alpha} = \frac{Q}{\sin \beta} = \frac{R}{\sin \theta}$
4.  $\frac{P}{\cos \alpha} = \frac{Q}{\cos \beta} = \frac{R}{\cos \theta}$

Correct Option - 3

**Que. 37** What will be the magnitude of the force P needed to just impend the motion of the block? (If the weight of the block is 100 N and coefficient of static friction is 0.4).

1. 100 N
2. 250 N
3. 40 N
4. 140 N

Correct Option - 3

**Que. 38** If a projectile is thrown with velocity  $u$  at an angle  $\theta$  with the horizontal, then the velocity at maximum height during the projectile's motion will be:

1.  $u \sin \theta$
2.  $u \cos \theta$
3.  $2u \sin \theta$
4.  $2u \cos \theta$

Correct Option - 2

**Que. 39** The coefficient of friction is a function of the \_\_\_\_\_ between two rubbing parts.

1. shape of surfaces
2. area of contact
3. nature of surfaces
4. strength of surfaces

Correct Option - 3

**Que. 40**



When a body just begins to slide over another surface, the maximum frictional force which comes into play is called as \_\_\_\_\_.

1. Kinematic friction force
2. dynamic friction force
3. limiting friction force
4. resulting friction force

Correct Option - 3

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**Que. 41** A thermodynamic process proceeds in a manner such that the system remains almost infinitesimally close to equilibrium. Such a process is termed as:

1. flow process
2. quasi-static process
3. non-flow process
4. irreversible process

Correct Option - 2

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**Que. 42** A thermodynamic system is said to be in equilibrium state if:

1. the system is in thermal equilibrium only.
2. the system is in mechanical equilibrium only.
3. the system is in chemical equilibrium only.
4. the system is in thermal, mechanical and chemical equilibrium simultaneously.

Correct Option - 4

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**Que. 43** What is the temperature at which the Celsius and Fahrenheit scales becomes equal?

1.  $-32^{\circ}\text{C}$
2.  $+32^{\circ}\text{C}$
3.  $-40^{\circ}\text{C}$
4.  $+40^{\circ}\text{C}$

Correct Option - 3

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**Que. 44** 4 kg of solid material is heated from  $15^{\circ}\text{C}$  to  $115^{\circ}\text{C}$  with the addition of 750 kJ of heat in a furnace. What will be its specific heat?

1. 1.875 kJ/kg  $^{\circ}\text{C}$
2. 18.75 kJ/kg  $^{\circ}\text{C}$
3. 187.5 kJ/kg  $^{\circ}\text{C}$
4. 1,875 kJ/kg  $^{\circ}\text{C}$

Correct Option - 1

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**Que. 45** In an experiment, a sample of wet steam is passed through a separating calorimeter. At some instant the mass of water collected in the separator was 0.2 kg, while the amount of steam condensed was found to be 2.6 kg. What will be the dryness fraction of the steam entering the calorimeter?

1. 0.9230
2. 0.0769
3. 0.0714
4. 0.9285

Correct Option - 4

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**Que. 46** A domestic food freezer maintains a temperature of  $-15^{\circ}\text{C}$  the ambient temperature is  $30^{\circ}\text{C}$ . The heat leaks into the freezer at  $1.75 \text{ kJ/s}$ . What is the minimum power required to pump this heat out of the freezer?

1.  $0.305 \text{ kW}$
2.  $30.5 \text{ kW}$
3.  $0.2599 \text{ kW}$
4.  $25.99 \text{ kW}$

Correct Option - 1

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**Que. 47** A Carnot engine absorbs  $200 \text{ J}$  of heat from reservoir at the temperature  $373 \text{ K}$  and reject heat at the temperature of  $273 \text{ K}$  What will be the amount of heat rejected?

1.  $273.2 \text{ J}$
2.  $2732 \text{ J}$
3.  $146.3 \text{ J}$
4.  $1463 \text{ J}$

Correct Option - 3

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**Que. 48** Which of the following is NOT a mounting of a boiler?

1. Blow-off cock
2. Feed check valve
3. Steam stop valve
4. Steam trap

Correct Option - 4

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**Que. 49** Which of the following statement is NOT true regarding natural draught?

1. A tall chimney is required.
2. The chimney has a long life.
3. No power required for producing the draught.
4. Efficiency increases with increase in outside temperature

Correct Option - 4

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**Que. 50** The steam jet draught is used in \_\_\_\_\_ boiler.

1. Benson
2. Cochran
3. Locomotive
4. Lancashire

Correct Option - 3

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**Que. 51** In an internal combustion engine, the clearance ratio is given by:

1.  $\frac{\text{Swept volume}}{\text{Clearance volume}}$
2.  $\frac{\text{Clearance volume}}{\text{Swept volume}}$
3.  $\frac{\text{Swept volume} \times \text{Clearance volume}}{\text{Clearance volume}}$
4.  $\frac{\text{Swept volume} \times \text{Clearance volume}}{\text{Swept volume}}$

Correct Option - 2

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**Que. 52** In an engine working on an ideal Otto cycle, the temperature at the beginning and at the end of the compression are 27°C and 327°C. What will be the compression ratio? (Assume constant specific heat and its ratio  $\gamma = 1.4$ )

1.  $2^{2.5}$
2.  $\left(\frac{1}{2}\right)^{2.5}$
3.  $(2)^{\frac{1}{1.4}}$
4.  $\left(\frac{1}{2}\right)^{\frac{1}{1.4}}$

Correct Option - 1

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**Que. 53** Which of the following is an INCORRECT statement about the effect of the friction in a steam nozzle?

1. Reduction in enthalpy drop.
2. Reheating of fluid.
3. Increase in exit velocity.
4. Increase in specific volume.

Correct Option - 3

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**Que. 54** For a single-stage impulse steam turbine, the blade efficiency is given by:

1.  $\eta = \text{Work done on the blade} / \text{Energy supplied to the blade}$
2.  $\eta = \text{Energy supplied to the blade} / \text{Work done on the blade}$
3.  $\eta = \text{Net work output at shaft} / \text{Energy supplied to the blade}$
4.  $\eta = \text{Energy supplied to the blade} / \text{Net work output at shaft}$

Correct Option - 1

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**Que. 55** An ideal gas at 27°C is heated at constant pressure till the volume becomes three times. The final temperature of the gas will be:

1. 91°C
2. 910°C
3. 627°C
4. 927°C

Correct Option - 3

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**Que. 56** A circular shaft rotating inside a bearing is an example of:

1. sliding pair
2. turning pair
3. rolling pair
4. Screw pair

Correct Option - 2

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**Que. 57** A vertical shaft 150 mm in diameter rotating at 200 rpm rests on a flat foot step bearing. The shaft carries a vertical load of 20 kN. Considering uniform pressure distribution and coefficient of friction as 0.05, what will be the frictional torque on the bearing?

1. 0.05 N.m
2. 0.05 N.mm
3. 50 N.mm

4. 50 N.m

Correct Option - 4

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**Que. 58** The frictional torque transmitted in a flat collar bearing assuming uniform wear is given by:  
(where,  $\mu$  = coefficient of friction,  $P$  = Total thrust on bearing, and  $r_1$  and  $r_2$  are the internal and external radii of the collar)

1.  $T = \frac{1}{2}\mu P (r_1 + r_2)$
2.  $T = \frac{1}{2}\mu P (r_1 - r_2)$
3.  $T = \frac{2}{3}\mu P (r_1 + r_2)$
4.  $T = \frac{2}{3}\mu P (r_1 - r_2)$

Correct Option - 1

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**Que. 59** In case of a rivetted joint, the tearing resistance ( $P_t$ ) of the plate across the row of rivets, when  $p$  = pitch of the rivets,  $d$  = diameter of the rivet hole,  $t$  = thickness of the plate and the permissible tensile strength ( $\sigma$ ) for the plate material, is given by:

1.  $P_t = dt\sigma$
2.  $P_t = pdt\sigma$
3.  $P_t = (p - d)t\sigma$
4.  $P_t = \left(\frac{p-d}{2}\right) t\sigma$

Correct Option - 3

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**Que. 60** If  $T_1$ ,  $T_2$  are the respective tensions on the tight and slack side of the open belt drive in Newtons and  $v$  is the velocity in the belt in m/s, then the power transmitted by the belt drive will be given by:

1.  $P = (T_1 - T_2)/v$
2.  $P = (T_1 + T_2)/v$
3.  $P = (T_1 - T_2)v$
4.  $P = (T_1 + T_2)v$

Correct Option - 3

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**Que. 61** If  $N_1$ ,  $N_2$  and  $N$  are the minimum equilibrium speed, maximum equilibrium speed and mean equilibrium speed of the governor, respectively, then the equation  $(N_1 - N_2)/N$  gives:

1. hunting speed of governor.
2. isochronous speed of governor.
3. stability of governor.
4. sensitiveness of governor.

Correct Option - 4

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**Que. 62** In case of radial cams, the smallest circle that can be drawn from the centre of the cam and tangential to the pitch curve is termed as:

1. base circle
2. pitch circle
3. prime circle
4. trace circle

Correct Option - 3

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**Que. 63** During the cutting of \_\_\_\_\_, discontinuous chips are formed.

1. brittle materials
2. ductile materials
3. any material at a high cutting speed
4. any material with a heavy coolant

Correct Option - 1

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**Que. 64** The effect of hardness of the work material:

1. has no effect on its machinability.
2. increases its machinability.
3. decreases its machinability.
4. has negligible effect on the machinability.

Correct Option - 3

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**Que. 65** Which of the following attachments is NOT used in a lathe machine for enhancing its capability?

1. Milling attachment
2. Grinding attachment
3. Copy turning attachment
4. Slotting attachment

Correct Option - 4

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**Que. 66** In the plain indexing, the crank is to be turned by  $1\frac{3}{7}$  turns, using Plate no 2 : 21, 23, 27, 29, 31 and 33 holes. This can be done by:

1. One full rotation + 9 holes in a 21 - hole circle
2. One full rotation + 9 holes in a 23 - hole circle
3. One full rotation + 7 holes in a 21 - hole circle
4. One full rotation + 7 holes in a 23 - hole circle

Correct Option - 1

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**Que. 67** Which of the following machining operations is suitable only for very large volume manufacturing due to the high cost of the tooling involved?

1. Slotting
2. Gear hobbing
3. Gear shaping
4. Broaching

Correct Option - 4

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**Que. 68** The ability of the moulding material to withstand the high temperatures of the molten metal so that it does NOT cause fusion is termed as:

1. green strength
2. hot strength
3. refractoriness
4. permeability

Correct Option - 3

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**Que. 69** Which of the following is the combination of casting and forging processes?

1. Continuous casting
2. Squeeze casting
3. Slush casting
4. Vacuum casting

Correct Option - 2

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**Que. 70** Two steel sheets of 1.0 mm thick are resistance welded in a lap joint with a current of 10,000 A for 0.1 second. The effective resistance of the joint can be taken as  $100 \mu\Omega$ . How much will be the heat supplied?

1. 100 J
2. 1000 J
3. 100 kJ
4. 1,000 kJ

Correct Option - 2

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**Que. 71** If the perimeter of a square is 328 m, then the area of the square (in  $m^2$ ) is:

1. 7056
2. 6724
3. 2644
4. 3528

Correct Option - 2

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**Que. 72** A sum of ₹1,47,378 is divided between two persons A and B in the ratio 4 : 7. The difference between thrice the part of A and twice the part of B will be:

1. ₹26,796
2. ₹70,196
3. ₹53,592
4. ₹72,392

Correct Option - 1

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**Que. 73** The simple interest on a certain sum at 6% per annum for three years is ₹1,200. Then, the compound interest on the same sum at the same rate for two years will be:

1. ₹724
2. ₹816
3. ₹824
4. ₹1,216

Correct Option - 3

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**Que. 74**  $\frac{7}{4}$ th of a number is 36 more than the number itself. The number is:

1. 64
2. 56
3. 48
4. 42

Correct Option - 3

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**Que. 75** The ratio of the present ages (in years) of two persons A and B is 5 : 4. After six years, the ratio of their ages will be 17 : 14. Then, the ratio of their ages after 12 years will be:

1. 15 : 8
2. 15 : 13
3. 19 : 16
4. 19 : 18

Correct Option - 3

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**Que. 76** A shopkeeper bought 245 articles at ₹30 per article and spent ₹2,450 on their packages. He sold these articles at ₹50 per article. The percentage profit earned by him was:

1. 20%
2. 22.5%
3. 25%
4. 27.5%

Correct Option - 3

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**Que. 77** A and B together can do a piece of work in 4 days. If A alone can do it in 12 days, then B alone can do the work in:

1. 10 days
2. 9 days
3. 8 days
4. 6 days

Correct Option - 4

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**Que. 78** A right circular cone of height 15 cm and base radius 15 cm is carved out of a wooden sphere of radius 15 cm. Volume of the remaining wood (in %) is:

1. 25
2. 37.5
3. 50
4. 75

Correct Option - 4

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**Que. 79** A boat goes 8 km downstream in 1 hour and takes 4 hours to go the same distance upstream. The speed of the boat in still water is:

1. 6 km/h
2. 5 km/h
3. 4 km/h
4. 3 km/h

Correct Option - 2

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**Que. 80** The mean of 20 observations was calculated as 56. But it was found that the observation 61 was misread as 64. The correct mean will be:

1. 55.85
2. 54.75



3. 54.85
4. 54.65

Correct Option - 1

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**Que. 81** Select the term that will come next in the following series.  
ayz, bwx, cuv, dst, ?

1. erq
2. eqr
3. epq
4. ets

Correct Option - 2

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**Que. 82** The two words in the word pair given below are related in a particular way. Find the option in which the two words are related in the same way.

Knife : Instrument

1. Needle : Iron
2. Ornament : Gold
3. Hammer : Tool
4. Shoe : Leather

Correct Option - 3

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**Que. 83** In a code language, SMARTER is coded as SFUSBNT. How would RIVULET be coded as in that language?

1. IRUVTEL
2. UMFVVSJ
3. SJWVMFU
4. UFMVWJS

Correct Option - 4

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**Que. 84** Two statements are followed by two conclusions. Assuming that the statements are true even if they do not conform to real world knowledge, decide which of the conclusions logically follows/follow from the statements.

**Statements:**

1. Some fruits are vegetables.
2. All apples are fruits.

**Conclusions:**

- I. Some apples are vegetables.
- II. All apples are vegetables.

1. only I follows
2. only II follows
3. Both I and II follow
4. Neither I nor II follows

Correct Option - 4

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**Que. 85** Which option will replace the question mark (?) in the following number series?  
5, 7, 13, 21, ?, 57



1. 35
2. 29
3. 31
4. 33

Correct Option - 1

**Que. 86** The numbers in three of the following number-pairs are related in a certain way and one pair is different. Find the odd number-pair.

1. 7-50
2. 3-22
3. 5-32
4. 9-64

Correct Option - 3

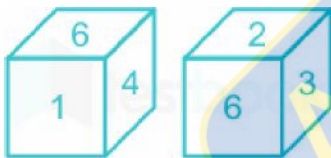
**Que. 87** Which of the two signs in the following equation should be interchanged to make the equation correct?

$$8 \div 4 - 6 + 9 \times 3 = 10$$

1.  $\times$  and  $\div$
2.  $-$  and  $\times$
3.  $\div$  and  $-$
4.  $+$  and  $\div$

Correct Option - 4

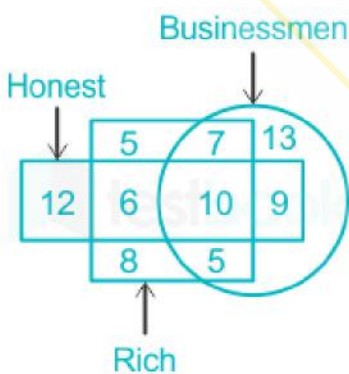
**Que. 88** Two rotated positions of a dice are given below. Which number is on the face opposite to the face containing 2?



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

Correct Option - 3

**Que. 89** In the following diagram, the square stands for 'rich', the rectangle stands for 'honest' and the circle stands for 'businessmen'. The numbers in different sections are the number of persons in those sections.



How many rich businessmen are NOT honest?

1. 10

2. 12
3. 15
4. 17

Correct Option - 2

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**Que. 90** In a code language, MONKEY is coded as ZNOEKN. How would BANKER be coded as in that language?

1. SNAEKC
2. CEKNAS
3. QNAEKA
4. SKENAC

Correct Option - 1

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**Que. 91** What is the full form of the term 'DBMS' used in Computer Science?

1. Duplicate Broadband Managing System
2. Designed Based Marking System
3. Database Management System
4. Double Bundle Management System

Correct Option - 3

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**Que. 92** In which year was the Scheduled Castes and Tribes (Prevention of Atrocities) Act passed in India?

1. 1975
2. 1989
3. 1992
4. 1997

Correct Option - 2

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**Que. 93** Which of the following countries has the longest coastline?

1. Philippines
2. Russia
3. Indonesia
4. Canada

Correct Option - 4

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**Que. 94** In terms of age, as of February 2019, the oldest prime minister in the world belongs to:

1. Malaysia
2. Singapore
3. Russia
4. Japan

Correct Option - 1

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**Que. 95** According to World Economic Forum Report 2018, which country has the highest life expectancy?

1. Japan
2. Hong Kong
3. Spain

4. Italy

Correct Option - 2

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**Que. 96** UNESCO has declared 2019 as the international year of which scientific phenomenon?

1. Laws of Motion
2. Archimedes' Principle
3. Period Table of Chemical Elements
4. Avogadro's Law

Correct Option - 3

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**Que. 97** Which of the following nations has withdrawn from UNESCO in 2019?

1. United States of America
2. Japan
3. India
4. United Kingdom

Correct Option - 1

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**Que. 98** What is the new name of Faizabad District of Uttar Pradesh, approved in November 2018?

1. Prayagraj
2. Ayodhya
3. Nandnagri
4. Sreedham

Correct Option - 2

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**Que. 99** 'Who among the following has been appointed as the Chief Election Commissioner December 2018?

1. Nasim Zaidi
2. V.S. Sampath
3. Sunil Arora
4. S.Y. Quraishi

Correct Option - 3

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**Que. 100** Who among the following was the chief guest for the Republic Day Parade 2019?

1. Cyril Ramaphosa
2. Lee Hsien Loong
3. Sultan Hassanah Bolkuiah
4. Najib Razak

Correct Option - 1