



Participant ID	
Participant Name	
Test Center Name	
Test Date	29/09/2024
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Subject	ENGINEERING ASSISTANT MECHANICAL

Section : Technical

Q.1 Which of the following statements is INCORRECT about sliding contact bearing and rolling contact bearing?

- Ans** A. Sliding contact bearing requires lesser attention as compared with rolling contact bearing.
- B. Sliding contact bearing has higher damping capacity as compared with rolling contact bearing.
- C. Sliding contact bearing has better life as compared with rolling contact bearing.
- D. Sliding contact bearing requires a larger amount of lubricant as compared with rolling contact bearing.

Question ID : 630680217963
 Option 1 ID : 630680845762
 Option 2 ID : 630680845759
 Option 3 ID : 630680845761
 Option 4 ID : 630680845760
 Status : Answered
 Chosen Option : C

Q.2 Which of the following is the name of the gauges used to examine the holes?

- Ans** A. Ring gauges
- B. Gap gauges
- C. Snap gauges
- D. Plug gauges

Question ID : 630680379115
 Option 1 ID : 6306801477510
 Option 2 ID : 6306801477509
 Option 3 ID : 6306801477508
 Option 4 ID : 6306801477507
 Status : Answered
 Chosen Option : D

Q.3 Which of the following statements is INCORRECT about the drilling operation on a lathe machine?

- Ans** A. Feeding is effected by the movement of the tailstock spindle.
- B. Feeding is effected by the rotation of the chuck.
- C. The workpiece is revolved in a chuck and the drill is held in the tailstock drill holder.
- D. The drill is held and driven by a drill chuck attached to the headstock spindle and the workpiece is supported by the tailstock.

Question ID : 630680211317
 Option 1 ID : 630680819416
 Option 2 ID : 630680819418
 Option 3 ID : 630680819415
 Option 4 ID : 630680819417
 Status : Answered
 Chosen Option : B

Q.4 Which of the following statements is NOT true about a brittle fracture?

- Ans A. A brittle fracture occurs suddenly without any warning of failure.
 B. The direction of crack motion is nearly perpendicular to the direction of the applied load.
 C. Brittle fracture is not possible in metals.
 D. Less energy is required to induce brittle fracture than ductile fracture.

Question ID : 630680191542
Option 1 ID : 630680742790
Option 2 ID : 630680742791
Option 3 ID : 630680742789
Option 4 ID : 630680742792
Status : Answered
Chosen Option : C

Q.5 In four-stroke petrol engines, during the burning process, chemical energy of the fuel is converted into heat energy, producing a temperature rise of about:

- Ans A. 3000°C
 B. 4000°C
 C. 2000°C
 D. 1000°C

Question ID : 630680348125
Option 1 ID : 6306801354791
Option 2 ID : 6306801354792
Option 3 ID : 6306801354790
Option 4 ID : 6306801354789
Status : Answered
Chosen Option : A

Q.6 With the increase in the preventive maintenance cost, the breakdown maintenance cost _____.

- Ans A. can increase or decrease
 B. increases
 C. remains the same
 D. decreases

Question ID : 630680340956
Option 1 ID : 6306801326268
Option 2 ID : 6306801326265
Option 3 ID : 6306801326267
Option 4 ID : 6306801326266
Status : Answered
Chosen Option : D

Q.7 What is the rotational speed achieved in a sensitive drilling machine (for drilling small holes at high speed)?

- Ans A. 1000 rpm
 B. 20000 rpm
 C. 2000 rpm
 D. 4000 rpm

Question ID : 630680219898
Option 1 ID : 630680853474
Option 2 ID : 630680853472
Option 3 ID : 630680853471
Option 4 ID : 630680853473
Status : Answered
Chosen Option : B

Q.8 Which of the following is the first step of a scientific purchase?

- Ans A. Inspection
 B. Indenting for material
 C. Selection of suppliers
 D. Ordering of material

Question ID : 630680412983
Option 1 ID : 6306801610757
Option 2 ID : 6306801610756
Option 3 ID : 6306801610758
Option 4 ID : 6306801610755
Status : Answered
Chosen Option : B

Q.9 In which of the following types of maintenance are inspection, lubrication, repair and overhaul of equipment used, which, if neglected, can result in breakdown?

- Ans A. Breakdown maintenance
 B. Scheduled maintenance
 C. Proactive maintenance
 D. Predictive maintenance

Question ID : 630680340957
Option 1 ID : 6306801326270
Option 2 ID : 6306801326271
Option 3 ID : 6306801326272
Option 4 ID : 6306801326269
Status : Answered
Chosen Option : B

Q.10 Which of the following is NOT true about bronze?

- Ans A. Because of its high corrosion resistance, it is used in automotive radiators.
 B. Because of poor tensile properties, it can't be used for jewellery.
 C. It has very high corrosion resistance.
 D. It is an alloy of copper and tin with some other alloying elements.

Question ID : 630680191566
Option 1 ID : 630680742888
Option 2 ID : 630680742887
Option 3 ID : 630680742886
Option 4 ID : 630680742885
Status : Answered
Chosen Option : B

Q.11 A circular plate of area 2 m^2 and moment of inertia about the centre of gravity 0.25 m^4 is placed vertically in water such that the distance of its centroid from the free surface of liquid is 2.5 m . The distance of the centre of pressure from the free surface will be:

- Ans A. 2.75 m
 B. 2.55 m
 C. 3 m
 D. 3.05 m

Question ID : 6306801030852
Option 1 ID : 6306804046172
Option 2 ID : 6306804046170
Option 3 ID : 6306804046169
Option 4 ID : 6306804046171
Status : Answered
Chosen Option : B

Q.12 Two spur gears having diameters D and $2D$ are in a mesh. If the module of the smaller gear is 1.16 mm , then the module of the larger gear will be _____.

- Ans A. 1.16 mm
 B. 0.58 mm
 C. 1 mm
 D. 2.32 mm

Question ID : 630680509675
Option 1 ID : 6306801991907
Option 2 ID : 6306801991906
Option 3 ID : 6306801991908
Option 4 ID : 6306801991905
Status : Answered
Chosen Option : D

Q.13 Off-set link is subjected to which of the following stresses?

- Ans A. Only tensile stress
 B. Only bending stress
 C. Only torsional stress
 D. Both tensile and bending stresses

Question ID : 630680217979
Option 1 ID : 630680845823
Option 2 ID : 630680845824
Option 3 ID : 630680845826
Option 4 ID : 630680845825
Status : Answered
Chosen Option : B

Q.14 Which of the following is NOT a correct example of open choke type carburettor?

- Ans A. S.U. carburettor
 B. Solex carburettor
 C. Carter carburettor
 D. Zenith carburettor

Question ID : 630680183614
 Option 1 ID : 630680711466
 Option 2 ID : 630680711467
 Option 3 ID : 630680711468
 Option 4 ID : 630680711465
 Status : Answered
 Chosen Option : B

Q.15 In which of the following governing methods is the same quantity of air admitted at different loads, so the pressure after compression is always the same?

- Ans A. Hit and miss governing
 B. Combination governing
 C. Quantity governing
 D. Quality governing

Question ID : 630680382390
 Option 1 ID : 6306801490475
 Option 2 ID : 6306801490478
 Option 3 ID : 6306801490477
 Option 4 ID : 6306801490476
 Status : Answered
 Chosen Option : D

Q.16 Determine the axial deflection in an open coiled helical spring made up of a 15 mm diameter, a mean diameter of 120 mm, 15 coils and an angle of a helix of 12° . The axial load applied on the spring is 600 N. Consider $G = 90$ GPa and $E = 220$ GPa.

- Ans A. 27.6940 mm
 B. 18.3568 mm
 C. 32.4562 mm
 D. 45.3245 mm

Question ID : 630680205975
 Option 1 ID : 630680798705
 Option 2 ID : 630680798704
 Option 3 ID : 630680798706
 Option 4 ID : 630680798703
 Status : Answered
 Chosen Option : B

Q.17 _____ is an ordered sequence collection of formal systems for collecting, processing and disseminating of data that supports management and business operations of an organisation.
 (Where, DSS = Decision Support System; MIS = Management Information System; MRS = Management Review System; TPS = Transaction Processing System)

- Ans A. TPS
 B. MIS
 C. MRS
 D. DSS

Question ID : 630680398615
 Option 1 ID : 6306801554465
 Option 2 ID : 6306801554463
 Option 3 ID : 6306801554464
 Option 4 ID : 6306801554462
 Status : Answered
 Chosen Option : B

Q.18 For a certain machine in a plant, the total machine time = 150 hrs/week, machine available time = 90 hrs/week and actual running time = 80 hrs/week?
 Based on the above data, what will be the machine utilisation?

- Ans A. 60%
 B. 89%
 C. 74%
 D. 53%

Question ID : 630680393901
 Option 1 ID : 6306801535915
 Option 2 ID : 6306801535914
 Option 3 ID : 6306801535917
 Option 4 ID : 6306801535916
 Status : Answered
 Chosen Option : B

Q.19 Which of the following statements regarding inspection gauges is INCORRECT?

- Ans A. Inspection gauges are made to slightly larger tolerances than the workshop gauges.
- B. Some components which are not in work tolerance may be accepted when tested by inspection gauges.
- C. Inspection gauges are used for final inspection of the manufactured parts.
- D. The tolerance on inspection gauges is arranged to fall inside the work tolerance.

Question ID : 630680379120
 Option 1 ID : 6306801477527
 Option 2 ID : 6306801477529
 Option 3 ID : 6306801477530
 Option 4 ID : 6306801477528
 Status : Answered
 Chosen Option : C

Q.20 If α is the helix angle and ϕ is the angle of friction, then what is the necessary condition for the maximum efficiency of a square threaded screw?

- Ans A. $\alpha = 45^\circ - \frac{\phi}{2}$
- B. $\phi = 45^\circ + \frac{\alpha}{2}$
- C. $\alpha = 45^\circ + \frac{\phi}{2}$
- D. $\phi = 45^\circ - \frac{\alpha}{2}$

Question ID : 630680217983
 Option 1 ID : 630680845839
 Option 2 ID : 630680845842
 Option 3 ID : 630680845840
 Option 4 ID : 630680845841
 Status : Answered
 Chosen Option : A

Q.21 Which of the following statements, when measuring the moisture absorption by hair, is false?

- Ans A. The absorption of moisture by hair from the atmosphere is dependent on humidity of the atmosphere.
- B. The absorption of moisture by hair from the atmosphere is dependent on oxygen content of the atmosphere.
- C. The absorption of moisture by hair from the atmosphere is dependent on temperature of the atmosphere.
- D. The absorption of moisture by hair from the atmosphere is dependent on partial pressure of the atmosphere.

Question ID : 630680395117
 Option 1 ID : 6306801540739
 Option 2 ID : 6306801540736
 Option 3 ID : 6306801540737
 Option 4 ID : 6306801540738
 Status : Answered
 Chosen Option : B

Q.22 Which of the following is NOT an advantage attained by using superheated steam?

- Ans A. Superheated steam results in an increase in thermal efficiency.
- B. The energy required to generate superheated steam is high..
- C. Superheated steam obtains its heat from waste furnace gases.
- D. Heat losses caused by condensation of steam are not avoided.

Question ID : 630680386537
 Option 1 ID : 6306801506859
 Option 2 ID : 6306801506860
 Option 3 ID : 6306801506858
 Option 4 ID : 6306801506861
 Status : Answered
 Chosen Option : B

Q.23 The frictional resistance for turbulent flow is independent of:

Ans A. nature of the surface in contact

B. pressure

C. density of fluid

D. area of surface in contact

Question ID : 6306801030747
 Option 1 ID : 6306804045752
 Option 2 ID : 6306804045751
 Option 3 ID : 6306804045749
 Option 4 ID : 6306804045750
 Status : Answered
 Chosen Option : B

Q.24 Which of the following CAD commands constrains the lines drawn in horizontal and vertical direction only?

Ans A. ORTHO Command

B. SNAP Command

C. HELP Command

D. GRID Command

Question ID : 6306801030533
 Option 1 ID : 6306804044895
 Option 2 ID : 6306804044893
 Option 3 ID : 6306804044896
 Option 4 ID : 6306804044894
 Status : Answered
 Chosen Option : A

Q.25 A beam having unsymmetrical section is subjected to bending. The distance of extreme fibres in compression and tension from neutral axis are y_c and y_t respectively. If 'I' is the moment of inertia of the section about the centroidal axis and f_c and f_t are the permissible values of compressive and tensile stresses in bending, respectively, then the moment of resistance of section will be given by which of the following expressions (Given that $y_t y_c$ and $f_t f_c$)?

Ans A. $\frac{f_c}{y_c} I$

B. $\frac{y_c}{f_c} I$

C. $\frac{y_t}{f_t} I$

D. $\frac{f_t}{y_t} I$

Question ID : 630680504366
 Option 1 ID : 6306801971025
 Option 2 ID : 6306801971027
 Option 3 ID : 6306801971028
 Option 4 ID : 6306801971026
 Status : Answered
 Chosen Option : B

Q.26 In geometric control of work piece, the minimum number of locaters needed to define a plane is _____.

Ans A. 2

B. 7

C. 3

D. 6

Question ID : 630680393906
 Option 1 ID : 6306801535934
 Option 2 ID : 6306801535936
 Option 3 ID : 6306801535935
 Option 4 ID : 6306801535937
 Status : Answered
 Chosen Option : C

Q.27 Which of the following is NOT true about the Iron carbon phase diagram?

- Ans A. The peritectic reaction occurs at 1493 °C in the Iron carbon phase diagram.
 B. The peritectoid reaction occurs at 1493 °C in the iron carbon phase diagram.
 C. The carbon percentage at Eutectic point is 4.3%.
 D. It is the graphical representation of the composition of Iron and carbon with temperature.

Question ID : 630680191559
Option 1 ID : 630680742859
Option 2 ID : 630680742858
Option 3 ID : 630680742860
Option 4 ID : 630680742857
Status : Answered
Chosen Option : B

Q.28 Which type of layout is suitable for manufacturing of heavy products carried out by bringing tools, machines and men to the workplace?

- Ans A. Product layout
 B. Fixed-position layout
 C. Combination layout
 D. Process layout

Question ID : 630680340952
Option 1 ID : 6306801326250
Option 2 ID : 6306801326251
Option 3 ID : 6306801326252
Option 4 ID : 6306801326249
Status : Answered
Chosen Option : B

Q.29 The frictional torque transmitted by a disc or plate clutch is the same as that of _____.

- Ans A. flat collar bearing
 B. truncated conical pivot bearing
 C. conical pivot bearing
 D. flat pivot bearing

Question ID : 630680616703
Option 1 ID : 6306802413073
Option 2 ID : 6306802413075
Option 3 ID : 6306802413074
Option 4 ID : 6306802413072
Status : Answered
Chosen Option : B

Q.30 In the absence of internal heat generation, the three-dimensional heat conduction equation reduces to:

- Ans A. Fourier's equation
 B. Laplace equation
 C. Continuity equation
 D. Poisson's equation

Question ID : 630680412674
Option 1 ID : 6306801609519
Option 2 ID : 6306801609521
Option 3 ID : 6306801609522
Option 4 ID : 6306801609520
Status : Answered
Chosen Option : A

Q.31 Which of the following measuring tools is NOT typically used for machine tool alignment testing?

- Ans A. Profilometer
 B. Dial gauges
 C. Test mandrels
 D. Auto collimator

Question ID : 630680379133
Option 1 ID : 6306801477582
Option 2 ID : 6306801477579
Option 3 ID : 6306801477580
Option 4 ID : 6306801477581
Status : Answered
Chosen Option : A

Q.32 Which of the following measuring equipment is NOT required generally for checking parallelism of the work table surface to the main spindle in knee type milling machine?

- Ans A. Test mandrel
 B. Spirit level
 C. Dial indicator
 D. Straight edge

Question ID : 630680379134
 Option 1 ID : 6306801477584
 Option 2 ID : 6306801477585
 Option 3 ID : 6306801477583
 Option 4 ID : 6306801477586
 Status : Answered
 Chosen Option : B

Q.33 In a cyclic process, an engine engages into two work interactions -18 kJ and 48 kJ, and two heat interactions out of three are given as -80 kJ and 44kJ. What will be the magnitude of the third heat transfer?

- Ans A. 22 kJ
 B. -18 kJ
 C. 13 kJ
 D. 66 kJ

Question ID : 630680403998
 Option 1 ID : 6306801575480
 Option 2 ID : 6306801575481
 Option 3 ID : 6306801575478
 Option 4 ID : 6306801575479
 Status : Answered
 Chosen Option : D

Q.34 A bending moment causing concavity upward is called:

- Ans A. sagging bending moment
 B. second moment of area
 C. moment of resistance
 D. hogging bending moment

Question ID : 630680504424
 Option 1 ID : 6306801971258
 Option 2 ID : 6306801971260
 Option 3 ID : 6306801971259
 Option 4 ID : 6306801971257
 Status : Answered
 Chosen Option : A

Q.35 Which of the following bearings is used for long shafts, requiring intermediate support, especially when the shaft CANNOT be introduced into the bearing, end-wise?

- Ans A. Foot-step bearing
 B. Plummer block bearing
 C. Ball bearing
 D. Collar bearing

Question ID : 6306801030629
 Option 1 ID : 6306804045278
 Option 2 ID : 6306804045279
 Option 3 ID : 6306804045280
 Option 4 ID : 6306804045277
 Status : Answered
 Chosen Option : D

Q.36 According to Darcy-Weisbach equation, the head loss due to friction in pipes is directly proportional to _____. Where f = friction factor

- Ans A. $1/f$
 B. $1/f^2$
 C. f
 D. f^2

Question ID : 6306801030771
 Option 1 ID : 6306804045847
 Option 2 ID : 6306804045848
 Option 3 ID : 6306804045845
 Option 4 ID : 6306804045846
 Status : Answered
 Chosen Option : C

Q.37 If the indicated power and the mechanical efficiency of an internal combustion engine are 200 kW and 75%, respectively, then what will be the frictional power?

- Ans A. 150 kW
 B. 100 kW
 C. 50 kW
 D. 75 kW

Question ID : 630680348132
Option 1 ID : 6306801354817
Option 2 ID : 6306801354818
Option 3 ID : 6306801354819
Option 4 ID : 6306801354820
Status : Answered
Chosen Option : C

Q.38 Which of the following gears has the greatest value of gear ratio in a single stage?

Where, Gear ratio = $\frac{T}{t}$
T = No of teeth on gear wheel
t = No of teeth on pinion

- Ans A. Spur gear
 B. Helical gear
 C. Bevel gear
 D. Worm and worm wheel

Question ID : 630680980849
Option 1 ID : 6306803847250
Option 2 ID : 6306803847251
Option 3 ID : 6306803847252
Option 4 ID : 6306803847253
Status : Answered
Chosen Option : D

Q.39 Which of the following materials is different from the others?

- Ans A. Monel
 B. Invar
 C. Brass
 D. Gun metal

Question ID : 630680191570
Option 1 ID : 630680742902
Option 2 ID : 630680742903
Option 3 ID : 630680742901
Option 4 ID : 630680742904
Status : Answered
Chosen Option : D

Q.40 The brake should be always:

- Ans A. self lubricating
 B. self noisy
 C. self locking
 D. self energising

Question ID : 630680980673
Option 1 ID : 6306803846533
Option 2 ID : 6306803846535
Option 3 ID : 6306803846534
Option 4 ID : 6306803846532
Status : Answered
Chosen Option : D

Q.41 How is the interaction between a roller cam follower and the cam surface different from other types?

- Ans A. It has surface contact.
 B. It has no contact with the cam surface.
 C. It has point contact.
 D. It has line contact.

Question ID : 630680616688
Option 1 ID : 6306802413014
Option 2 ID : 6306802413015
Option 3 ID : 6306802413012
Option 4 ID : 6306802413013
Status : Answered
Chosen Option : D

Q.42 According to Darcy-Weisbach equation, the friction factor for turbulent flow is directly proportional to _____.
Where τ_0 = wall shear stress

- Ans A. τ_0
- B. $1/(\tau_0)^2$
- C. $1/\tau_0$
- D. $(\tau_0)^2$

Question ID : 6306801030778
Option 1 ID : 6306804045873
Option 2 ID : 6306804045876
Option 3 ID : 6306804045874
Option 4 ID : 6306804045875
Status : Answered
Chosen Option : B

Q.43 Which of the following parts of the electronic indicator generates an electric signal in proportion to the pressure to which it is subjected inside the engine cylinder?

- Ans A. A pressure pick-up
- B. A time-base recording device
- C. A display unit
- D. A pre-amplifying device

Question ID : 630680382395
Option 1 ID : 6306801490495
Option 2 ID : 6306801490497
Option 3 ID : 6306801490498
Option 4 ID : 6306801490496
Status : Answered
Chosen Option : B

Q.44 Which of the following practices in CAD generates 'line entities' for the chosen pattern and adds them to the drawing?

- Ans A. Oops
- B. Edit
- C. Hatching
- D. Zoom

Question ID : 6306801030545
Option 1 ID : 6306804044944
Option 2 ID : 6306804044941
Option 3 ID : 6306804044942
Option 4 ID : 6306804044943
Status : Answered
Chosen Option : B

Q.45 Consider an open belt drive system connected between two pulleys. If the open belt is replaced with crossed belts keeping the pulley diameters and the centre distance between them unchanged, compare their lengths.

- Ans A. Their lengths cannot be compared.
- B. The length of an open belt drive is greater than the length of crossed belt drive.
- C. Their lengths are also equal.
- D. The length of an open belt drive is less than the length of crossed belt drive.

Question ID : 630680616659
Option 1 ID : 6306802412899
Option 2 ID : 6306802412897
Option 3 ID : 6306802412896
Option 4 ID : 6306802412898
Status : Answered
Chosen Option : D

Q.46 Arrange the following drives in ascending order of their overall dimensions, starting from the smallest.

1. Gear drive,
2. Chain drive and
3. Flat belt drive

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

Question ID : 630680980844
Option 1 ID : 6306803847225
Option 2 ID : 6306803847224
Option 3 ID : 6306803847222
Option 4 ID : 6306803847223
Status : Answered
Chosen Option : C

Q.47 Which of the following is NOT a suitable material for commercial bearings?

Ans A. White metals
 B. Babbit metals
 C. Lead bronze
 D. Brightray alloys

Question ID : 630680191564
Option 1 ID : 630680742877
Option 2 ID : 630680742880
Option 3 ID : 630680742879
Option 4 ID : 630680742878
Status : Answered
Chosen Option : A

Q.48 For stress-strain diagram of mild steel in tension, which of the following is the correct sequence of various points on the stress-strain diagram with the increase in load? in increasing order of load?

Ans A. Elastic limit, Proportional limit, Yield point, Lower Yield point, Ultimate strength, Rupture strength
 B. Proportional limit, Elastic limit, Lower Yield point, Yield point, Ultimate strength, Rupture strength
 C. Elastic limit, Proportional limit, Yield point, Lower Yield point, Rupture strength, Ultimate strength
 D. Proportional limit, Elastic limit, Yield point, Lower Yield point, Ultimate strength, Rupture strength

Question ID : 630680504360
Option 1 ID : 6306801971001
Option 2 ID : 6306801971002
Option 3 ID : 6306801971004
Option 4 ID : 6306801971003
Status : Answered
Chosen Option : D

Q.49 Two sets of guideways, innerways and outerways, are found on which of the followings part of lathe?

Ans A. Headstock
 B. Tailstock
 C. Lathe bed
 D. Carriage

Question ID : 6306801030939
Option 1 ID : 6306804046521
Option 2 ID : 6306804046522
Option 3 ID : 6306804046523
Option 4 ID : 6306804046524
Status : Answered
Chosen Option : D

Q.50 _____ is a tool that signifies the trade-offs between the customer and the producer regarding the level of quality.

- Ans
- A. Sampling error
 - B. Variables
 - C. Lot Tolerance Percent Defective (LTPD)
 - D. Acceptance Quality Level (AQL)

Question ID : 630680340965
 Option 1 ID : 6306801326303
 Option 2 ID : 6306801326304
 Option 3 ID : 6306801326301
 Option 4 ID : 6306801326302
 Status : Answered
 Chosen Option : D

Q.51 Which of the following is NOT present in forced circulation water-cooling systems?

- Ans
- A. Radiator
 - B. Baffles
 - C. Thermostat
 - D. Fan

Question ID : 630680382381
 Option 1 ID : 6306801490439
 Option 2 ID : 6306801490441
 Option 3 ID : 6306801490442
 Option 4 ID : 6306801490440
 Status : Answered
 Chosen Option : D

Q.52 A thin spherical shell has internal diameter 'd' mm and thickness 't' mm. It is subjected to an internal pressure of 'p' N/mm². Modulus of elasticity of shell material is 'E' and Poissons ratio of shell material is 1/m. Which of the following expressions will give the hoop strain of thin spherical shell (Neglecting the effect of internal radial pressure)?

- Ans
- A. $\frac{pd}{4tE} \left(1 - \frac{1}{m}\right)$
 - B. $\frac{pd}{2tE} \left(1 - \frac{1}{2m}\right)$
 - C. $\frac{pd}{2tE} \left(\frac{1}{2} - \frac{1}{m}\right)$
 - D. $\frac{3pd}{4tE} \left(1 - \frac{1}{m}\right)$

Question ID : 630680504427
 Option 1 ID : 6306801971272
 Option 2 ID : 6306801971270
 Option 3 ID : 6306801971269
 Option 4 ID : 6306801971271
 Status : Answered
 Chosen Option : B

Q.53 Invar is Fe-Ni based alloy. Which property gives the name of this material?

- Ans
- A. Its coefficient of thermal expansion is very low, even at elevated temperature
 - B. Invariable magnetic property with increasing temperature
 - C. Vary high corrosion resistance
 - D. Invariable coercivity with increasing temperature

Question ID : 630680191573
 Option 1 ID : 630680742915
 Option 2 ID : 630680742914
 Option 3 ID : 630680742913
 Option 4 ID : 630680742916
 Status : Answered
 Chosen Option : A

Q.54 The composition of duralumin alloy is:

- Ans A. Cu = 88%, Sn = 8 to 10%
 B. Cu = 88%, Al = 8%
 C. Cu = 60%, Zn = 37%
 D. Al = 94%, Cu = 4%

Question ID : 630680403953
 Option 1 ID : 6306801575299
 Option 2 ID : 6306801575298
 Option 3 ID : 6306801575300
 Option 4 ID : 6306801575301
 Status : Answered
 Chosen Option : D

Q.55 The cross-section of the lever arm of an overhang crank is usually _____.

- Ans A. circular
 B. elliptical
 C. triangular
 D. rectangular

Question ID : 630680328831
 Option 1 ID : 6306801279291
 Option 2 ID : 6306801279290
 Option 3 ID : 6306801279292
 Option 4 ID : 6306801279289
 Status : Answered
 Chosen Option : D

Q.56 The diameter of a steam engine cylinder is 300 mm, and the maximum steam pressure acting on the cylinder cover is 1 N/mm^2 . If the core diameter of the stud is 20 mm, how many studs are to be used for fitting of the cylinder cover on cylinder? (Assume permissible stress in the studs is 30 N/mm^2 .)

- Ans A. 7
 B. 10
 C. 9
 D. 8

Question ID : 630680217972
 Option 1 ID : 630680845795
 Option 2 ID : 630680845798
 Option 3 ID : 630680845797
 Option 4 ID : 630680845796
 Status : Answered
 Chosen Option : B

Q.57 Submerged arc welding is NOT suitable for:

- Ans A. nickel
 B. zinc
 C. alloy steel
 D. carbon steel

Question ID : 630680403960
 Option 1 ID : 6306801575328
 Option 2 ID : 6306801575329
 Option 3 ID : 6306801575327
 Option 4 ID : 6306801575326
 Status : Answered
 Chosen Option : B

Q.58 According to Fourier's law of heat conduction, the rate of heat transfer in the x-direction is proportional to:

- Ans A. temperature gradient in y direction (dt/dy)
 B. temperature gradient in x direction (dt/dx)
 C. surface area along the direction of heat transfer
 D. overall heat transfer coefficient

Question ID : 630680403943
 Option 1 ID : 6306801575258
 Option 2 ID : 6306801575259
 Option 3 ID : 6306801575260
 Option 4 ID : 6306801575261
 Status : Answered
 Chosen Option : B

Q.59 A thin spherical shell has an internal diameter of 'd' mm and thickness 't' mm. It is subjected to an internal pressure of 'p' N/mm². Which of the following expressions will give the hoop stress?

- Ans
- A. $\frac{pd}{2t}$
 - B. $\frac{pd}{4t}$
 - C. $\frac{pd}{6t}$
 - D. $\frac{pd}{8t}$

Question ID : 630680504428
 Option 1 ID : 6306801971273
 Option 2 ID : 6306801971274
 Option 3 ID : 6306801971275
 Option 4 ID : 6306801971276
 Status : Answered
 Chosen Option : A

Q.60 Which of the following bearings is used to support a vertical shaft whose bottom surface rests on the disc-shaped surface of the bearing?

- Ans
- A. Hanger bearing
 - B. Collar bearing
 - C. Bracket bearing
 - D. Foot-step bearing

Question ID : 6306801030598
 Option 1 ID : 6306804045147
 Option 2 ID : 6306804045145
 Option 3 ID : 6306804045148
 Option 4 ID : 6306804045146
 Status : Answered
 Chosen Option : D

Q.61 Which of the following elements acts as a deoxidizer in molten steel?

- Ans
- A. Silicon
 - B. Chromium
 - C. Carbon
 - D. Copper

Question ID : 630680191550
 Option 1 ID : 630680742821
 Option 2 ID : 630680742822
 Option 3 ID : 630680742823
 Option 4 ID : 630680742824
 Status : Answered
 Chosen Option : A

Q.62 A milling cutter consisting of 8 teeth and rotating at a speed of 120 RPM, maintaining a feed per tooth of 0.1, would result in a table speed of _____ millimetres per minute.

- Ans
- A. 125
 - B. 96
 - C. 76
 - D. 140

Question ID : 630680504605
 Option 1 ID : 6306801971983
 Option 2 ID : 6306801971982
 Option 3 ID : 6306801971981
 Option 4 ID : 6306801971984
 Status : Answered
 Chosen Option : B

Q.63 What will be the break-even point in terms of units? Use the following particulars:-
Fixed factory Overhead Cost = 50,000
Fixed selling Overhead Cost = 10,000
Variable manufacturing cost per unit = 12
Variable Selling cost per unit = 3
Selling price per unit = 25

- Ans A. 6000
 B. 8000
 C. 3750
 D. 5000

Question ID : 630680393895
Option 1 ID : 6306801535890
Option 2 ID : 6306801535893
Option 3 ID : 6306801535892
Option 4 ID : 6306801535891
Status : Answered
Chosen Option : D

Q.64 For steam, the reference point at which the entropy is given an arbitrary value of zero is:

- Ans A. 100°C
 B. -40°C
 C. 50°C
 D. 0°C

Question ID : 630680404001
Option 1 ID : 6306801575491
Option 2 ID : 6306801575490
Option 3 ID : 6306801575493
Option 4 ID : 6306801575492
Status : Answered
Chosen Option : D

Q.65 In the metric gravitational system of units, specific volume of fluid (for the problems involving gas flow) is expressed in:

- Ans A. cubic centimetre per gram
 B. cubic foot per pound
 C. cubic metre per metric slug
 D. cubic foot per slug

Question ID : 6306801030821
Option 1 ID : 6306804046045
Option 2 ID : 6306804046048
Option 3 ID : 6306804046046
Option 4 ID : 6306804046047
Status : Answered
Chosen Option : A

Q.66 The actual objective of Industrial Disputes Act 1929 is _____.

- Ans A. to investigate the working conditions on plantations in India
 B. to provide for the payment by certain classes of employers to their workmen of compensation for injury by accident
 C. to provide relief to workmen in matters of lay-offs, retrenchment, wrongful dismissals
 D. to provide additional facilities for the mediation of labour disputes affecting commerce, to equalise legal responsibilities of labour organisations and employers, etc.

Question ID : 630680210786
Option 1 ID : 630680817303
Option 2 ID : 630680817306
Option 3 ID : 630680817305
Option 4 ID : 630680817304
Status : Answered
Chosen Option : D

Q.67 Which of the following joints is used to connect two circular rods subjected to axial loads, where one of the rods can be swivelled through some angle about the connecting pin?

- Ans A. Socket and spigot joint
 B. Threaded joint
 C. Welded joint
 D. Knuckle joint

Question ID : 6306801030612
Option 1 ID : 6306804045211
Option 2 ID : 6306804045212
Option 3 ID : 6306804045209
Option 4 ID : 6306804045210
Status : Answered
Chosen Option : D

Q.68 In which of the following connecting devices is the central block having two arms at right angle to each other, placed between the forks and connected to both of them by using pins and collars?

- Ans A. Universal coupling
 B. Bushed-pin type flange coupling
 C. Protected flange coupling
 D. Oldham coupling

Question ID : 6306801030692
Option 1 ID : 6306804045532
Option 2 ID : 6306804045529
Option 3 ID : 6306804045531
Option 4 ID : 6306804045530
Status : Answered
Chosen Option : A

Q.69 In Chezy's formula, $V = C \sqrt{m i}$, 'i' is given by _____.
Where V = velocity of flow, C = Chezy's constant, m = hydraulic mean depth, i = hydraulic slope, L = length of pipe, h_f

- Ans A. $1/(h_f \cdot L)$
 B. h_f/L
 C. L/h_f
 D. $h_f \cdot L$

Question
Option 1
Option 2
Option 3
Option 4
Stat
Chosen Opti

Q.70 The process of influencing the volume or consumption of the product or service through management decision is described by _____.

- Ans A. kanban
 B. demand management
 C. process management
 D. JIT

Question ID : 630680403650
Option 1 ID : 6306801574093
Option 2 ID : 6306801574091
Option 3 ID : 6306801574090
Option 4 ID : 6306801574092
Status : Answered
Chosen Option : A

Q.71 _____ is used for machining rectangular slots on a horizontal knee and column milling machine.

- Ans A. Angle milling cutter
 B. Side milling cutter
 C. Side and face milling cutter
 D. Slab milling cutter

Question ID : 630680504603
Option 1 ID : 6306801971975
Option 2 ID : 6306801971976
Option 3 ID : 6306801971974
Option 4 ID : 6306801971973
Status : Answered
Chosen Option : C

Q.72 _____ is used as the shielding gas in Metal Inert Gas (MIG) welding.

- Ans A. Oxygen
 B. Argon
 C. Hydrogen
 D. Nitrogen

Question ID : 630680504614
Option 1 ID : 6306801972019
Option 2 ID : 6306801972017
Option 3 ID : 6306801972020
Option 4 ID : 6306801972018
Status : Answered
Chosen Option : B

Q.73 The property of a metal to be deformed or compressed permanently into the sheet without fracture is called:

- Ans A. toughness
 B. malleability
 C. hardness
 D. elasticity

Question ID : 630680403956
Option 1 ID : 6306801575313
Option 2 ID : 6306801575311
Option 3 ID : 6306801575310
Option 4 ID : 6306801575312
Status : Answered
Chosen Option : B

Q.74 Which of the following is NOT a general characteristic of a work-piece?

- Ans A. Part orientation
 B. Poor machinability
 C. General description of the part
 D. Recorded changes in design

Question ID : 630680412986
Option 1 ID : 6306801610768
Option 2 ID : 6306801610770
Option 3 ID : 6306801610767
Option 4 ID : 6306801610769
Status : Answered
Chosen Option : D

Q.75 Which of the following statements is correct about selective assembly?

- Ans A. In selective assembly, a complete protection against defective assemblies cannot be achieved.
 B. In selective assembly, the clearance of a fit varies.
 C. In selective assembly, a fit is obtained by trial and error.
 D. In selective assembly, the products are classified into the groups according to their sizes.

Question ID : 630680379118
Option 1 ID : 6306801477522
Option 2 ID : 6306801477520
Option 3 ID : 6306801477519
Option 4 ID : 6306801477521
Status : Answered
Chosen Option : D

Section : Numerical Ability

Q.76 Solve the following system of equations.

$$\begin{aligned} 2x - 3y - 5z &= -12 \\ 3x + 4y + 6z &= 19 \\ 5x + 2y + 3z &= 13 \end{aligned}$$

- Ans
- A. $x = -2, y = 3, z = 1$
 - B. $x = 2, y = 1, z = -2$
 - C. $x = 1, y = -2, z = 4$
 - D. $x = 5, y = 6, z = 3$

Question ID : 630680395490
 Option 1 ID : 6306801542130
 Option 2 ID : 6306801542131
 Option 3 ID : 6306801542129
 Option 4 ID : 6306801542128
 Status : Answered
 Chosen Option : C

Q.77 By selling an article for ₹114, a man loses 40%. At what price (in ₹) should he sell it to gain 40%?

- Ans
- A. 266
 - B. 276
 - C. 286
 - D. 256

Question ID : 630680613826
 Option 1 ID : 6306802402036
 Option 2 ID : 6306802402037
 Option 3 ID : 6306802402039
 Option 4 ID : 6306802402038
 Status : Answered
 Chosen Option : A

Q.78 The distance between two points on a map is 4 cm. The scale of the map is 1 : 533230. The actual distance between the two points (in km) is:

- Ans
- A. 19.24
 - B. 21.06
 - C. 21.33
 - D. 22.99

Question ID : 6306801063108
 Option 1 ID : 6306804174793
 Option 2 ID : 6306804174792
 Option 3 ID : 6306804174791
 Option 4 ID : 6306804174794
 Status : Answered
 Chosen Option : C

Q.79 Find the LCM of 148 and 185.

- Ans
- A. 2960
 - B. 740
 - C. 680
 - D. 3700

Question ID : 630680137341
 Option 1 ID : 630680531960
 Option 2 ID : 630680531959
 Option 3 ID : 630680531958
 Option 4 ID : 630680531961
 Status : Answered
 Chosen Option : B

Q.80 6 men or 8 women can do a job in 13 days. 6 men work for 6 days and leave. The number of women required to complete the remaining work in 8 days is:

- Ans
- A. 4
 - B. 6
 - C. 7
 - D. 8

Question ID : 630680915306
 Option 1 ID : 6306803586269
 Option 2 ID : 6306803586270
 Option 3 ID : 6306803586268
 Option 4 ID : 6306803586271
 Status : Answered
 Chosen Option : A

Q.81 The mean proportion of 19 and 171 is:

- Ans A. 58
 B. 57
 C. 55
 D. 59

Question ID : 6306801063118
Option 1 ID : 6306804174832
Option 2 ID : 6306804174831
Option 3 ID : 6306804174833
Option 4 ID : 6306804174834
Status : Answered
Chosen Option : B

Q.82 In what duration (in years) will ₹2400 fetch a simple interest of ₹360 at 4% per annum rate of interest?

- Ans A. 2.75
 B. 4.75
 C. 7.5
 D. 3.75

Question ID : 630680612228
Option 1 ID : 6306802395647
Option 2 ID : 6306802395646
Option 3 ID : 6306802395645
Option 4 ID : 6306802395644
Status : Answered
Chosen Option : D

Q.83 By how much is 60% of 50 greater than $\frac{2}{5}$ of 55?

- Ans A. 8
 B. 2
 C. 5
 D. 6

Question ID : 630680572696
Option 1 ID : 6306802239652
Option 2 ID : 6306802239654
Option 3 ID : 6306802239653
Option 4 ID : 6306802239655
Status : Answered
Chosen Option : A

Q.84 The average of 10 observations is 40. It was realised later that an observation was misread as 31 in place of 47. Find the correct average.

- Ans A. 42.6
 B. 41.6
 C. 44.6
 D. 40.6

Question ID : 630680566306
Option 1 ID : 6306802214214
Option 2 ID : 6306802214212
Option 3 ID : 6306802214215
Option 4 ID : 6306802214213
Status : Answered
Chosen Option : B

Q.85 The positive square root of $(50^2 - 48^2)$ is:

- Ans A. 19
 B. 17
 C. 14
 D. 16

Question ID : 630680736999
Option 1 ID : 6306802888602
Option 2 ID : 6306802888601
Option 3 ID : 6306802888600
Option 4 ID : 6306802888603
Status : Answered
Chosen Option : D

Q.86 The cost price of an article is ₹2796. The vendor wants to earn a profit of 27% after giving a discount of 35%. What is the marked price of the article? [Give your answer correct to the nearest integer.]

- Ans
- A. ₹5468
 - B. ₹5461
 - C. ₹5463
 - D. ₹5459

Question ID : 630680796514
 Option 1 ID : 6306803121046
 Option 2 ID : 6306803121047
 Option 3 ID : 6306803121044
 Option 4 ID : 6306803121045
 Status : Answered
 Chosen Option : B

Q.87 एक मालगाड़ी और एक सुपरफास्ट रेलगाड़ी क्रमशः स्टेशन A और स्टेशन B से समानांतर पटरियों पर एक-दूसरे की ओर एक ही समय पर चलना शुरू करती हैं। यदि स्टेशन A और स्टेशन B के बीच की दूरी 238 km है और रेलगाड़ियाँ क्रमशः 22 km/h और 97 km/h की चाल से चल रही हैं, तो रेलगाड़ियाँ स्टेशन B से कितनी दूरी (km में) पर मिलेंगी?

- Ans
- A. 193
 - B. 191
 - C. 204
 - D. 194

Question ID : 630680894697
 Option 1 ID : 6306803504807
 Option 2 ID : 6306803504806
 Option 3 ID : 6306803504808
 Option 4 ID : 6306803504805
 Status : Answered
 Chosen Option : D

Q.88 If $x^2 - \sqrt{10.25}x + 1 = 0$, ($x > 1$), then what is the value of $(x - \frac{1}{x})$?

- Ans
- A. 4.5
 - B. 2.5
 - C. 1.5
 - D. 3.5

Question ID : 630680517628
 Option 1 ID : 6306802022911
 Option 2 ID : 6306802022908
 Option 3 ID : 6306802022910
 Option 4 ID : 6306802022909
 Status : Answered
 Chosen Option : C

Q.89 The sum of 6 numbers is 648. Find their average.

- Ans
- A. 106
 - B. 109
 - C. 108
 - D. 107

Question ID : 630680551905
 Option 1 ID : 6306802157848
 Option 2 ID : 6306802157847
 Option 3 ID : 6306802157845
 Option 4 ID : 6306802157846
 Status : Answered
 Chosen Option : C

Q.90 Two pipes A and B can fill a cistern in 15 min and 20 min, respectively. Both pipes are opened. The cistern will be filled in just 14 min 40 sec if A is turned off after:

- Ans
- A. 2 min
 - B. 3 min
 - C. 5 min
 - D. 4 min

Question ID : 630680135949
 Option 1 ID : 630680526502
 Option 2 ID : 630680526503
 Option 3 ID : 630680526505
 Option 4 ID : 630680526504
 Status : Answered
 Chosen Option : D

Section : General Awareness

Q.91 In the Summer Olympics of year 2024, who won the gold medal for India in athletics?

- Ans A. PV Sindhu
 B. Neeraj Chopra
 C. Bajrang Punia
 D. Hima Das

Question ID : 630680965471
Option 1 ID : 6306803786387
Option 2 ID : 6306803786386
Option 3 ID : 6306803786384
Option 4 ID : 6306803786385
Status : Answered
Chosen Option : B

Q.92 The Government of India had notified the Citizenship (Amendment) Rules, 2024, in the month of _____ 2024.

- Ans A. April
 B. January
 C. March
 D. February

Question ID : 630680945722
Option 1 ID : 6306803707649
Option 2 ID : 6306803707646
Option 3 ID : 6306803707648
Option 4 ID : 6306803707647
Status : Answered
Chosen Option : D

Q.93 Which of the following Indian states have English as an official language?

- Ans A. Sikkim and Tripura
 B. Nagaland, Sikkim, Meghalaya
 C. Kerala and Tripura
 D. Nagaland, Kerala and Haryana

Question ID : 630680944812
Option 1 ID : 6306803704028
Option 2 ID : 6306803704027
Option 3 ID : 6306803704030
Option 4 ID : 6306803704029
Status : Answered
Chosen Option : A

Q.94 On which of the following dates did Vice Admiral Krishna Swaminathan assume charge as the Vice Chief of Naval Staff?

- Ans A. 01 July 2024
 B. 01 May 2024
 C. 01 June 2024
 D. 01 April 2024

Question ID : 630680965526
Option 1 ID : 6306803786606
Option 2 ID : 6306803786604
Option 3 ID : 6306803786605
Option 4 ID : 6306803786603
Status : Answered
Chosen Option : C

Q.95 Which compound is used with caustic soda solution to test the presence of protein in food?

- Ans A. Iron Sulphate
 B. Barium Sulphate
 C. Zinc Sulphate
 D. Copper Sulphate

Question ID : 630680996634
Option 1 ID : 6306803910271
Option 2 ID : 6306803910270
Option 3 ID : 6306803910269
Option 4 ID : 6306803910268
Status : Answered
Chosen Option : B

Q.96 In which year did the Supreme Court hold that the Governor of the State is NOT in employment under the Central Government and it is an independent Constitutional body?

- Ans
- A. 1978
 - B. 1985
 - C. 1979
 - D. 1984

Question ID : 630680945883
Option 1 ID : 6306803708286
Option 2 ID : 6306803708289
Option 3 ID : 6306803708287
Option 4 ID : 6306803708288
Status : Answered
Chosen Option : C

Q.97 What percentage of rainfall variability exists on the western coasts, Western Ghats and northeastern peninsula?

- Ans
- A. Less than 25 per cent
 - B. Between 25-50 per cent
 - C. More than 50 per cent
 - D. More than 33 per cent

Question ID : 630680996667
Option 1 ID : 6306803910400
Option 2 ID : 6306803910403
Option 3 ID : 6306803910401
Option 4 ID : 6306803910402
Status : Answered
Chosen Option : B

Q.98 According to Census 2011 of India, which state has the lowest literacy rate of females?

- Ans
- A. Uttar Pradesh
 - B. Madhya Pradesh
 - C. Rajasthan
 - D. Bihar

Question ID : 630680162088
Option 1 ID : 630680627662
Option 2 ID : 630680627663
Option 3 ID : 630680627660
Option 4 ID : 630680627661
Status : Answered
Chosen Option : C

Q.99 Tarabai Shinde, who protested patriarchy and caste in 19th century India, wrote which of the following pieces of literature?

- Ans
- A. My Story
 - B. Stri Purush Tulana
 - C. Rudali
 - D. Ret Samadhi

Question ID : 630680958398
Option 1 ID : 6306803757598
Option 2 ID : 6306803757599
Option 3 ID : 6306803757601
Option 4 ID : 6306803757600
Status : Answered
Chosen Option : B

Q.100 The Bharatiya Nyaya Sanhita is primarily concerned with which of the following?

- Ans
- A. Educational Justice
 - B. Political Justice
 - C. Legal Justice
 - D. Environmental Justice

Question ID : 630680965606
Option 1 ID : 6306803786926
Option 2 ID : 6306803786923
Option 3 ID : 6306803786925
Option 4 ID : 6306803786924
Status : Answered
Chosen Option : C