

SAMPLE QUESTIONS

These are only sample questions and actual questions will have no resemblance.

General Aptitude

1. Select the related words from the given alternatives:

weight : kilogram ::

(A) mile : length (B) bushel : corn **(C) distance : kilometre** (D) seconds : hours

2. Which state is the largest producer of tobacco?

(A) Karnataka (B) Maharashtra (C) Bihar **(D) Andhra Pradesh**

3. Fill in the blank with the appropriate preposition

Let us go _____ foot.

(A) by (B) upon (C) with **(D) on**

4. What number should come next in the series?

7, 10, 8, 11, 9, 12,

(A) 10 (B) 12 (C) 13 (D) 14

5. Think of a number, divide it by 4 and add 9 to it, the result is 15. Find the number.

(A) 96 **(B) 24** (C) 36 (D) 48

Chemical

1. A Fourier's law applies to the heat transfer by

(A) convection (B) radiation (C) conduction **(D) all of these**

2. 200 mesh screen means 200 opening per

(A) cm² (B) cm **(C) inch** (D) inch²

3. Which of the following facilitates close control of flow of fluids

(A) gate valve **(B) globe valve** (C) butterfly valve (D) check valve

4. Flow measurement in an open channel is done by a/an

(A) venturimeter (B) orificemeter **(C) weir** (D) rotameter

5. Fluid energy mill comes in the category of

(A) grinder (B) crusher (C) cutter **(D) ultrafine grinder**

Civil

- The permissible stress in axial tension σ_{st} in steel member on the net effective area of the section shall not exceed the following value (f_y is the yield stress)

(A) $0.80 f_y$ (B) $0.75 f_y$ **(C) $0.60 f_y$** (D) $0.50 f_y$
- A three hinged parabolic arch ABC has a span of 20 m and a central rise of 4 m. The arch has hinges at the ends at the centre. A train of two point loads of 20 kN and 10 kN, 5 m apart crosses this arch from left to right, with 20 kN load leading. The maximum thrust induced at the supports is

(A) 25.00 kN (B) 28.13 kN **(C) 31.25 kN** (D) 32.81 kN
- If a close coiled helical spring absorbs 30 N/mm of energy while extending by 5 mm, its stiffness will be

(A) 2 N/mm **(B) 4 N/mm** (C) 6 N/mm (D) 10 N/mm
- The capillary tension in a soil mass having void ratio = 0.70 and effective grain size = 0.1 mm will be

(A) 34.5 cm (B) 24.6 cm (C) 38.1 cm (D) 42.2 cm
- What is the evaporation, if 4.75 litre of water is removed from an evaporation pan of diameter 1.22 m and the simultaneous rainfall measurement is 8.8 mm?

(A) 8.64 mm (B) 7.24 mm (C) 5.34 mm **(D) 4.74 mm**

Computer Science

- Primitive operations common to all record management system include

(A) print (B) sort **(C) look-up** (D) all of these
- Databases overall structure is maintained in a file called

(A) Redolog file (B) Data file **(C) Control file** (D) All of these
- The number of processes completed per unit time is known as _____.

(A) output **(B) throughput** (C) efficiency (D) capacity
- In the DBMS approach, application programs perform the

(A) storage function **(B) processing functions**
(C) access control (D) all of these
- Which of the following disk scheduling techniques has a drawback of starvation?

(A) SCAN **(B) SSTF** (C) FCFS (D) LIFO

Electrical

1. A alternator is delivering power to a balanced load at unit power factor. The phase angle between the line voltage and the line current is?
(A) 90° (B) 60° **(C) 30°** (D) 0°
2. The convergence characteristic of the Newton—Raphson method for solving a load flow problem is
(A) quadratic (B) linear (C) geometric (D) cubic
3. If stator field is rotating in clockwise direction rotor rotates in
(A) any direction (B) cannot predict (C) anticlockwise **(D) clockwise**
4. What is the line current of a circuit when the current transformer of 1000 : 5 rating measures 4 amp?
(A) 5000 amp (B) 1000 amp (C) 400 amp **(D) 800 amp**
5. Hollow conductors are used in transmission lines to
(A) reduce weight of copper (B) improve stability
(C) reduce corona (D) increase power transmission

Instrumentation

1. What is the vector location of TRAP interrupt?
(A) 0000 h (B) 0008 h (C) 0014 h **(D) 0024 h**
2. An amplifier has a voltage gain of 50; this gain in dB will be
(A) 34 dB (B) 68 dB (C) 41 dB (D) 14 dB
3. Converter is a device for transforming
(A) ac to dc (B) dc to dc (C) dc to ac **(D) ac to ac**
4. The input frequency is 50 Hz. The ripple frequency in a 12 phase full wave rectifier is
(A) 1200 Hz (B) 600 Hz (C) 100 Hz (D) 50 Hz
5. The grid in triodes is made in the form of
(A) mesh (B) metal strip (C) metallic cylinder (D) single filament wire

Mechanical

- The property of a material which enable it to resist fracture due to high impact loads is known as
 (A) Elasticity (B) Endurance **(C) Strength** (D) Toughness
- The best cutting angle of a twist drill is
 (A) 130° (B) 120° **(C) 118°** (D) 112°
- Plastic deformation results from
 (A) Slip (B) Twinning **(C) Both (A) and (B)** (D) None of these
- In CNC programming G03 code is used for,
 (A) Linear interpolation (B) Rapid Traverse
 (C) circular interpolation (CW) **(D) Circular Interpolation (CCW)**
- Aluminium foils are produced by a process known as,
(A) Cold Rolling (B) Hot Rolling
 (C) Cold drawing (D) Stretch forming

Metallurgy

- Which of the following will have the highest melting point?
 (A) pig iron (B) mild steel **(C) wrought iron** (D) high carbon steel
- During production of malleable iron by annealing of white cast iron the nucleation rate is favoured by the
(A) high silicon content (B) rapid heating rate
 (C) both (A) and (B) (D) neither (A) nor (B)
- Heating the steel above upper critical temperature and then cooling in air is the process of
 (A) annealing **(B) normalising** (C) tempering (D) hardening
- _____ can be hot worked, even when not heat is applied to the metal
 (A) steel (B) plastics **(C) certain metals** (D) no metal
- In case of the corrosion by mechanism of oxygen absorption, the anodic area is _____ the cathodic area
 (A) equal to (B) longer than **(C) smaller than** (D) not related to