

## Sample Questions

### Mechanical Engineering

- 1 An engine operates between temperature limits of  $900^{\circ}\text{K}$  and  $T_2$ , and another between  $T_2$  and  $400^{\circ}\text{K}$ . For both to be equally efficient,  $T_2$  will be equal to  
A  $600^{\circ}\text{K}$  C  $650^{\circ}\text{K}$   
B  $625^{\circ}\text{K}$  D  $700^{\circ}\text{K}$
- 2 40% of the incident radiant energy on the surface of a thermally transparent body is reflected back. If the transmissivity of the body be 0.15, then the emissivity of surface is  
A 0.45 C 0.40  
B 0.55 D 0.60
- 3 The property of a material by virtue of which it can be beaten or rolled into plates is called  
A ductility C malleability  
B plasticity D elasticity

### Electrical Engineering

- 1 Twelve identical wires of resistance  $6\Omega$  each are arranged to form the edges of a cube. The effective resistance between the opposite corners of the cube is –  
A  $6\Omega$  C  $8\Omega$   
B  $5\Omega$  D  $4.5\Omega$
- 2 A d.c shunt motor runs at 200 V supply, if the armature current is 20 A and resistance of the armature is 0.5 ohm, the back e.m.f developed will be-  
A 210 V C 190 V  
B 200 V D 180 V
- 3 A 0-25 A ammeter has guaranteed accuracy of 1% of full scale reading. The current measured by this instrument is 5 A. The limiting error in percentage is  
A 5 C 2  
B 2.5 D 1

## Civil Engineering

- 1 A cantilever beam curved in plan and subjected to lateral loads will develop at any section –
- |                                      |   |
|--------------------------------------|---|
| A bending moment and shearing force  | C twisting moment and shearing force                |
| B bending moment and twisting moment | D bending moment, twisting moment & shearing force. |
- 2 The force of attraction between the individual particles of soil which keeps the soil particles bound together is known as-
- |              |             |
|--------------|-------------|
| A Compaction | C Friction  |
| B Cohesion   | D Dilatancy |
- 3 The dimensions of pressure gradient in a fluid flow are-
- |                     |                          |
|---------------------|--------------------------|
| A $M L^{-1} T^2$    | C $M L^{-2} T^{-2}$      |
| B $M L^{-3} T^{-2}$ | D $M^{-1} L^{-3} T^{-2}$ |

## Control & Instrumentation Engineering

- 1 The D flip-flop and T flip flops are respectively used as –
- |                                |                              |
|--------------------------------|------------------------------|
| A delay and toggle switch      | C both used as toggle switch |
| B toggle switch and delay gate | D both used as delay gates   |
- 2 A signal has frequency components which lie in the range of 0.001Hz to 10 Hz. Which one of the following types of coupling should be chosen in a multistage amplifier designed to amplify this signal?
- |                        |                          |
|------------------------|--------------------------|
| A RC Coupling          | C Direct Coupling        |
| B Transformer Coupling | D Doubled-tuned Coupling |
- 3 Fourier transform of  $U_o (T_1 - t) + U_o (T_1 + t)$  is –
- |                             |                                 |
|-----------------------------|---------------------------------|
| A $\text{Cos } \omega T_1$  | C $2 \text{ Sin } \omega T_1$   |
| B $2\text{Cos } \omega T_1$ | D $2 j \text{ Sin } \omega T_1$ |

## Human Resource Management

- 1 A human resource plan is
  - A identifying what business we are in
  - B identifying what business we want to be in
  - C identifying the growth strategy
  - D identifying what human skills we have and what we will need in the future.
  
- 2 Appraisals that review what the manager actually did as a manager is
  - A a rating method
  - B a ranking method
  - C appraising managers against verifiable objectives
  - D appraising managers as managers
  
- 3 Which of these are not the forces of change?
  - A external environment
  - B technology
  - C goals and values
  - D formation of unions

## Finance Management

- 1 Which of the following technique fails in evaluating the Non-conventional Investments?
  - A NPV
  - B IRR
  - C MIRR
  - D ARR
  
- 2 Which of the following currency is not a constituent of SDR?
  - A US dollar
  - B Euro
  - C Japanese yen
  - D French franc
  
- 3 An investor has Rs. 65000 for investment in treasury bills at the interest rate of 15% of denomination Rs 25000. He can buy only two Bills. For the surplus fund he has two options - a) invest in FD @10% or b) borrow the deficit amount @20% and invest in TB. What should the investor do?
  - A Invest all the surplus money in FD
  - B Borrow deficit and invest in TB
  - C Both will yield same results
  - D Insufficient information

## General Aptitude

- 1 The most appropriate measure of a country's economic growth is its
- A Gross Domestic Product                      C Net National Product  
B Net Domestic Product                         D Per Capita Real Income
- 2 'Come Out And Play' is the anthem of
- A Olympic Games-2012                         C National Games-2008  
B Commonwealth Games-2010                 D Asian Games-2010
- 3 Read the sentence carefully to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. The letter of that part is the answer. If there is no error, the answer is 'D'.  
(Ignore the errors of punctuation, if any)
- We discussed about the problem so thoroughly (A) / on the eve of the examination (B) / that I found it very easy to work it out.(C) / No error (D).

*Four alternatives are given for the idiom/phrase italicized in the sentence. Choose the alternative which best expresses the meaning of the idiom/phrase ?*

- 4 The new Chief Minister *stuck his neck out* today and promised 10 kgs. free wheat a month for all rural families
- A took an oath                                      C extended help  
B took a risk                                         D caused embarrassment
- 5 In the month of January'10, Sachin's income and expenses were Rs. 15000 and Rs. 9000, respectively. His monthly expenses vary directly as the square of his monthly income. What is his income when it just equals his expenses?
- A Rs.20600    C Rs. 27600  
B Rs. 25000                                         D Rs. 28600
- 6 A machine produces 10 units of an article in a day of which 4 are defective. The quality inspector allows release of the products if he finds none of the 3 units chosen by him at random to be defective. What is the probability of quality inspector allowing the release?
- A 1/5    C 1/6  
B 3/5    D 5/6

