# GATE Questions 11

EE24BTECH11012 - Bhavanisankar G S

1) Which of the following is CORRECT with respect to grammar and usage ?
Mount Everest is
   a) the highest peak in the world
   b) highest peak in the world
   c) one of highest peak in the world
   d) one of the highest peak in the world

2) The policeman asked the victim of a theft, ”What did you _ ?”

   a) loose  b) lose  c) loss  d) louse

3) Despite the new medicine’s _ in treating diabetes, it is not _ widely.

   a) effectiveness – prescribed
   b) availability – used
   c) prescription – available
   d) acceptance – proscribed

4) In a huge pile of apples and oranges, both ripe and unripe mixed togetherm 15 % are unripe fruits. Of the unripe fruits, 45 % are apples. Of thenripe ones, 66 % are oranges. If the pile contains a total of 5692000 fruits, how many of them are apples ?

   a) 2029198  b) 2467482  c) 2789080  d) 3577422

5) Michael lives 10 km away from where I live. Ahmed lives 5 km away and Susan lives 7 km away from where I live. Arun is farther away than Ahmed but closer than Susan from where I live. From the information provided here, what is one possible distance ( in km ) at which I live from Arun’s place ?

   a) 3.00  b) 4.99  c) 6.02  d) 7.01

6) A person moving through a tuberculosis prone zone has a 50 % probability of becoming infected. However, only 30 % of infected people develop the disease. What percentage of people moving through a tuberculosis prone zone remains infected but does not show symptoms of disease ?

   a) 15  b) 33  c) 35  d) 37

7) In a world filled with uncertainity, he was glad to have many good friends. He had always assisted them in times of need and was confident that they would reciprocate.

However, the events of the last week proved them wrong.
Which of the following inference(s) is/are logically valid and can be inferred from the above passage ?
(i) His friends were always aksing him to help them.
(ii) He felt that when in need of help, his friends would let him down.
(iii) He was sure that his friends would help him when in need.
(iv) His friends did not help him last week.

a) (i) and (ii)
b) (iii) and (iv)
c) (iii) only
d) (iv) only

8) Leela is older than her cousin sister Pavithra. Pavithra's brother Shiva is older than Leela. When Pavithya and Shiva are visiting Leela, all three like to play chess. Pavitra wins more often than Leela does.
Which one of the following statements must be TRUE based on the above ?
a) When Shiva plays hess with Leela and Pavithra, he often loses.
b) Leela is the oldest of the three.
c) Shiva is a better chess player than Pavtihra.
d) Pavithra is the youngest of the three.

9) If $q^a = \frac{1}{r}$ and $r^{-b} = \frac{1}{s}$ and $s^{-c} = \frac{1}{q}$, the value of $abc$ is

a) $(rqs)^{-1}$ b) 0 c) 1 d) $r + q + s$

10) P, Q, R and S are working on a project. Q can finish the task in 25 days, working alone for 12 hours a day. R can finish the task in 50 days, working alone for 12 hours a day. Q worked 12 hours a day but took sick leave in the beginning for two days. R worked 18 hours a day on all days. What is the ratio of work done by Q and R after 7 days from the start of the project ?

a) 10:11 b) 11:10 c) 20:21 d) 21:20

11) The solution to the system of equations

$$\begin{pmatrix} 2 & 5 \\ -4 & 3 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 2 \\ -30 \end{pmatrix}$$

is

a) 6,2 b) -6,2 c) -6,-2 d) 6,-2

12) If f(t) is a function defined for all $t \geq 0$, its Laplace transform $F(x)$ is defined as

a) $\int_0^\infty e^{st} f(t)dt$
b) $\int_0^\infty e^{-st} f(t)dt$
c) $\int_0^\infty e^{ist} f(t)dt$
d) $\int_0^\infty e^{-ist} f(t)dt$

13) $f(z) = u(x, y) + iv(x, y)$ is an analytic function of complex variable $z = x + iy$ where $i = \sqrt{-1}$. If $u(x, y) = 2xy$, then $v(x, y)$ may be expressed as

a) $-x^2 + y^2 + c$
b) $x^2 - y^2 + c$
c) $x^2 + y^2 + c$
d) $-x^2 - y^2 + c$