

gate

EE24BTECH11031 - Jashwanth

- 1) Apparent lifelessness _____ dormant life.
 - a) harbours
 - b) leads to
 - c) supports
 - d) affects
- 2) That boy from the town was a _____ in the sleepy village.
 - a) dog out of herd
 - b) sheep from the heap
 - c) fish out of water
 - d) bird from the flock
- 3) Choose the statement where underlined word is used correctly.
 - a) When the teacher eludes to different authors, he is being elusive.
 - b) When the thief keeps eluding the police, he is being elusive.
 - c) Matters that are difficult to understand, identify or remember are allusive.
 - d) Mirages can be allusive, but a better way to express them is illusory.
- 4) Tanya is older than Eric.
 Chiff is older than Tanya.
 Eric is older than Cliff.

 If the first two statements are true, then the third statement is:
 - a) True
 - b) False
 - c) Uncertain
 - d) Data insufficient
- 5) Five teams have to compete in a league, with every team playing every other team exactly once, before going to the next round. How many matches will have to be held to complete the league round of matches?
 - a) 20
 - b) 10
 - c) 8
 - d) 5
- 6) Select the appropriate option in place of underlined part of the sentence.
 Increased productive necessary reflects greater efforts made by the employees.
 - a) Increase in productivity necessary
 - b) Increase productivity is necessary
 - c) Increase in productivity necessarily
 - d) No improvement required
- 7) Given below are two statements followed by two conclusions. Assuming these statements to be true, decide which one logically follows.

statements:

- i. No manager is a leader.

ii. All the leaders are executives.

Conclusions:

i. No manager is an executive.

ii. No executive is a manager.

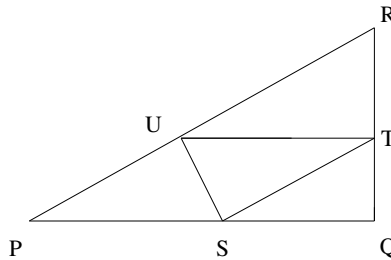
a) Only conclusion i follows.

b) Only conclusion ii follows.

c) Neither conclusion i nor ii follows.

d) Both conclusion i nor ii follows.

- 8) In the given figure angle **Q** is a right angle, **PS : QS = 3 : 1**, **RT : QT = 5 : 2** and **PU : UR = 1 : 1**. If area of triangle **QTS** is 20 cm^2 , then the area of triangle PQR in cm^2 is _____



- 9) Right triangle PQR is to be constructed in the xy - plane so that the right angle is at P and line PR is parallel to the x -axis. The x and y coordinates of P, Q, and R are to be integers that satisfy the inequalities: $-4 \leq x \leq 5$ and $6 \leq y \leq 16$. How many different triangles could be constructed with these properties?
- 110
 - 1,100
 - 9,900
 - 10,000
- 10) A coin is tossed thrice. Let X be the event that head occurs in each of the first two tosses. Let Y be the event that a tail occurs on the third toss. Let Z be the event that two tails occur in the three tosses. Based on the above information, which one of the following statements is TRUE?
- X and Y are not independent
 - Y and Z are dependent
 - Y and Z are independent
 - X and Z are independent
- 11) A satellite is moving in a circular orbit around the Earth. If T , V and E are its average kinetic, average potential and total energies, respectively, then which one of the following options is correct?
- $V = -2T$; $E = -T$
 - $V = -T$; $E = 0$
 - $V = -T/2$; $E = T/2$
 - $V = -3T/2$; $E = -T/2$
- 12) The Pauli matrices for three spin- $\frac{1}{2}$ particles are σ_1, σ_2 , and σ_3 , respectively. The dimension of the Hilbert space required to define an operator $O = \sigma_1 \cdot \sigma_2 \times \sigma_3$ is _____
- 13) The mean Kinetic energy of a nucleon in a nucleus of atomic weight A varies as A^n , where n is _____ (upto two decimal places)