

1) The chairman requested the aggrieved shareholders to _____ him. [2016-XE]

- a) bare with b) bore with c) bear with d) bare

2) Identify the correct spelling out of the given options: [2016-XE]

- a) Managable b) Manageable c) Mangaible d) Managible

3) Pick the odd one out in the following:

13, 23, 33, 43, 53 [2016-XE]

- a) 23 b) 33 c) 43 d) 53

4) **R2D2** is a robot. **R2D2** can repair aeroplanes. No other robot can repair aeroplanes.

Which of the following can be logically inferred from the above statements?

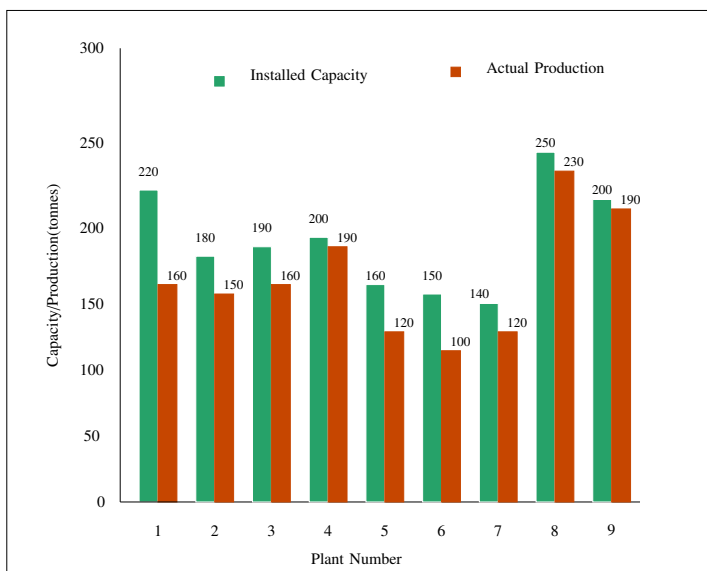
[2016-XE]

- a) **R2D2** is a robot only which can only repair aeroplanes.
b) **R2D2** is the only robot which can repair aeroplanes.
c) **R2D2** is a robot which can repair only aeroplanes.
d) Only **R2D2** is a robot.

5) If $|9y - 6| = 3$, then $y^2 - \frac{4y}{3}$ is _____. [2016-XE]

- a) 0 b) $+\frac{1}{3}$ c) $-\frac{1}{3}$ d) undefined

6) The following graph represents the installed capacity for cement production (in tonnes) and the actual production (in tonnes) of nine cement plants of a cement company. Capacity utilization of a plant is defined as ratio of actual production of cement to installed capacity. A plant with installed capacity of atleast 200 tonnes is called a large plant and a plant with lesser capacity is called a small plant. The difference between total production of large plants and small plants, in tonnes is _____. [2016-XE]



- 7) A poll of students appearing for masters in engineering indicated that 60% of the students believed that mechanical engineering is a profession unsuitable for women. A research study on women with masters or higher degrees in mechanical engineering found that 99% of such women were successful in their professions.

Which of the following can be logically inferred from the above paragraph?

[2016-XE]

- Many students have misconceptions regarding various engineering disciplines.
 - Men with advanced degrees in mechanical engineering believe women are well suited to be mechanical engineers.
 - Mechanical engineering is a profession well suited for women with masters or higher degrees in mechanical engineering.
 - The number of women pursuing higher degrees in mechanical engineering is small.
- 8) Sourya committee had proposed the establishment of Sourya Institutes of Technology (SITs) in line with Indian Institutes of Technology (IITs) to cater to the technological and industrial needs of a developing country.

Which of the following can be logically inferred from the above sentence?

Based on the proposal,

- In the initial years, SIT students will get degrees from IIT.
- SITs will have a distinct national objective.

- (iii) SIT like institutions can only be established in consultation with IIT.
- (iv) SITs will serve technological needs of a developing country.

[2016-XE]

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

- 9) Shaquille O' Neal is a 60% career free throw shooter, meaning that he successfully makes 60 free throws out of 100 attempts on average. What is the probability that he will successfully make exactly 6 free throws in 10 attempts? [2016-XE]

[2016-XE]

- a) 0.2508 b) 0.2816 c) 0.2934 d) 0.6000

- 10) The numeral in the units position of $211^{870} + 146^{127} \times 3^{424}$ is _____. [2016-XE]

- 11) A company records heights of all employees. Let X and Y denote the errors in the average height of male and female employees respectively. Assume that $X \sim N(0, 4)$ and $Y \sim N(0, 9)$ and they are independent. Then the distribution of $Z = \frac{(X+Y)}{2}$ is [2016-XE]

[2016-XE]

- a) $N(0, 6.5)$ b) $N(0, 3.25)$ c) $N(0, 2)$ d) $N(0, 1)$

- 12) The volume of the solid obtained by revolving the curve $y^2 = x, 0 \leq x \leq 1$ around y-axis is [2016-XE]

[2016-XE]

- a) π b) 2 c) $\frac{\pi}{2}$ d) $\frac{\pi}{5}$

- 13) Let $y(x)$ be the solution of the initial value problem $\frac{dy}{dx} + 2xy = x; y(0) = 0$. Find the value of $\lim_{x \rightarrow \infty} y(x)$. [2016-XE]

[2016-XE]