Class – X   **Mental Ability**

1 In Δ *ABC*, if ∠ *B* = 90° and the numbers denoting the length of '*h*' and '*a*' are consecutive integers, find sin θ in terms of '*b*'.
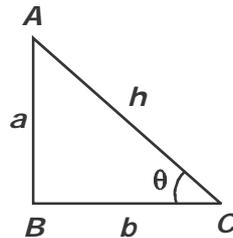

(A) $\dfrac{b-1}{b+2}$ (B) $\dfrac{b-1}{b+1}$ (C) $\dfrac{b^2-1}{b^2+1}$ (D) $\dfrac{b-2}{b^2-1}$

2 Find the unit digit of $1 + 9 + 9^2 + \ldots \ldots 9^{2008}$.

(A) 3   (B) 9   (C) 1   (D) 0

3 A man arranges to pay off a debt of ₹ 36000 by 40 annual instalments which are in A.P. When 30 of the instalments are paid he dies leaving one third of the debt unpaid. Find the value of 12th instalment.

(A) 530   (B) 510   (C) 340   (D) 730

4 If α, β are the roots of $x^2 + px + 1 = 0$ and γ, δ are the roots of $x^2 + qx + 1 = 0$, find $(\alpha - \gamma)(\beta - \gamma)(\alpha + \delta)(\beta + \delta)$.

(A) $2q^2$ (B) $2p^2$ (C) $p^2 - q^2$ (D) $q^2 - p^2$

5 If the sides of a triangle are doubled, what is the effect on its area?

(A) remains same   (B) is doubled

(C) becomes 4 times   (D) Can't say

Class – X   *Reasoning*

6 **Which shape continues the picture sequence?**

(A)   (B)   (C)   (D)

7 **In which of the following the given figure is hidden?**

(A)   (B)

(C)   (D)
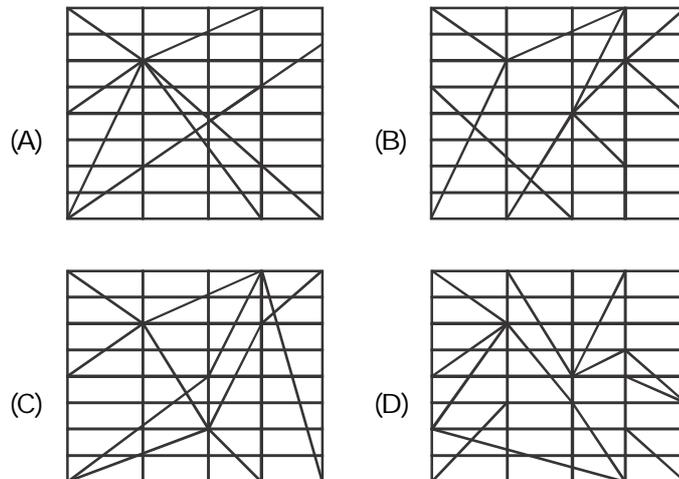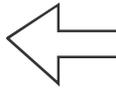
8 *If A× B means A is to the South of B,*

A + B means A is to the North of B,

A ÷ B means A is to the East of B,

A – B means A is to the West of B,

then in P ÷ Q + R – S, S is in which direction with respect to Q?

(A) South-west   (B) South-east
(C) North-east   (D) North-west

9 *How many pairs of letters are there in the word CREATIVE which have as many letters between them in the word as in the English alphabet?*

(A) One   (B) Two   (C) Three   (D) Four

10 *A and B are children of D. Which of the given statements I and II is necessary to answer the question below the box?*

> *(i) C is the brother of A and the son of E.*
> *(ii) F is the mother of B.*

Who is the father of A?

(A) Only (i)   (B) Only (ii)

(C) Either (i) or (ii)   (D) Both (i) and (ii)

Class – X **Computers**

11 *What is a wireless technology built in electronic gadgets used for exchanging data over short distances?*

(A) Bluetooth (B) Wifi

(C) Modem (D) USB

12 *What do you mean by verification of login name and password?*

(A) Access (B) Login

(C) Authentication (D) Logout

13 *Which of the following memory has the shortest access time?*

(A) Read only memory (B) Virtual memory

(C) Random access memory (D) Cache memory

14 *What is the collection of user message on various subjects that are posted on worldwide network?*

(A) Telnet (B) Usenet

(C) Arpanet (D) Internet

15 *What does JPEG stands for?*

(A) Junction Point Exchange Group

(B) Joint Point Exchange Group

(C) Joint Photographic Experts Group

(D) Junction Photographic Experts Group

Class – X   ***English***

16 *Which of the following words is suitable for the given blank?*

> *Having _____, Vivek does not like birds.*

(A) ornithophobia   (B) pediophobia

(C) claustrophobia   (D) ranidaphobia

17 *Identify the right option to correct this incorrect one.*

> *He said that he was studying since morning.*

(A) he had studied   (B) he was going to

(C) he had been studying   (D) he studies

18 *What does 'ALLEGIANCE' mean?*

(A) Devotion   (B) Dedication

(C) Compassion   (D) Loyalty

19 *Identify the MISSPELT word.*

(A) Sarcofhagus   (B) Maintenance

(C) Lieutenant   (D) Reincarnation

20 *Which option can replace the blank in the given sentence?*

> *We cannot use this machine as the secretary has set a _____ policy.*

(A) pinch of salt   (B) dog in the manger

(C) drug on the market   (D) life in the fast lane