Vidyalankar Foundation Test (Std. IX) : Sample Questions

Section I : Mathematics

1. By what least number should 648 be multiplied to get a perfect cube?
   (A) 3   (B) 6   (C) 9   (D) 8

2. If $496 \times 492 = x^2 - 4$, where $(x > 0)$, then $x =$
   (A) 495   (B) 494   (C) 493   (D) 496

Section II : Science (Physics, Chemistry & Biology)

3. A piece of ornament weighs 300 gm in air. If the density of the material it is made up of is 2.5 gm/cc, what will be its weight in water?
   (A) 180 gm   (B) 360 gm   (C) 150 gm   (D) 250 gm

4. If the distance between two successive crests of a wave is 12 cm, then the distance between two successive troughs is _____.
   (A) 24 cm   (B) 6 cm   (C) 12 cm   (D) 4 cm

5. Which pair of substances shown below are most likely isotopes?
   (A) $^{12}_{6}C$ and $^{14}_{6}C$ (B) Carbon dioxide and carbon monoxide
   (C) diamond and graphite   (D) C_2H_4 and C_3H_6

6. The pH of three solutions A, B, C is 6, 4, 8 receptivity which of the following is the correct option ?
   (A) $A > B > C$ decreasing acidic strength   (B) $C > B > A$ increasing acidic strength
   (C) $B > A > C$ is decreasing acidic strength   (D) $C > B > A$ decreasing acidic strength

7. Read the following statements about bacteria.
   I. Bacteria are the unicellular organisms.
   II. They have cell walls with defined nucleus.
   III. They reproduce by binary fission and can grow very rapidly in favourable conditions.
   IV. They can also reproduce sexually by exchanging genetic information through DNA or RNA.
   Which of the above statement(s) is/are incorrect?
   (A) I and IV   (B) Only II   (C) II and IV   (D) Only IV

8. Non-infectious disease is
   (A) Malaria   (B) Cancer   (C) Common cold   (D) Influenza

Section III : Mental Ability Test (MAT)

9. The number of P's in the following series which are immediately followed by B as well as immediately preceded by Z is :

                 PMBZPNPPBZPBPZBPPZPBPZPB

   (A) 5   (B) 6   (C) 4   (D) 3

10. The number of numbers from 1 to 200 which are divisible by 10 but not divisible by 30 is :
   (A) 13   (B) 15   (C) 14   (D) 20

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