PGT Mathematics

Q 1). Who among the following has become the world's youngest and fastest female para swimmer to swim solo across the English Channel Successfully recently?

(A) Shivani Kataria

(B) Dolly Nazir

(C) Devanshi Satija

(D) Jiya Rai

Correct Answer: (D)

Q 2). Recently, an Indian-origin lecturer named Prasanthi Ram at Nanyang Technological University has won Singapore Literature Prize for English fiction for her short story named _____.

(A) Nine Yard Sarees

(B) House of Cards

(C) Dollar Bahu

(D) The Very Expensive Coconut

Correct Answer: (A)

Q 3). Recently, WHO has declared Dhulikhel Municipality as the second healthiest city in Asia. This Dhulikhel Municipality is in which of the following countries?

(A) India

(B) Bhutan

(C) Nepal

(D) Myanmar

Correct Answer: (C)

Q 4). If a teacher first explains the rule and then gives examples. Which type learning style is this?

(A) Inductive

(B) Deductive

(C) Indo-Deductive

(D) Illustration

Correct Answer: (B)

Q 5). In which stage, children are able to think about things in terms of consistent physical features?

(A) Sensory Motor

(B) Concrete Operational

(C) Pre-Operational

(D) Formal Operational

Correct Answer: (C)

Q 6). Which of the following is not the main feature of RTE Act?

(A) Free Elementary Education for all children in age group 6-14 years in a neighbourhood school.

(B) Completion of Elementary Education even after fourteen years of age.

(C) Private Tuitions by teachers is not prohibited.

(D) No child is denied admission due to lack of age certificate.

Correct Answer: (C)

Q 7). The value of $(16)^{0.09} \times (256)^{0.08}$ is _____.

(A) 1

(B) 2

(C) 4

(D) 16

Correct Answer: (B)

Q 8). If $A = \begin{bmatrix} 2 & 3 \\ 5 & -2 \end{bmatrix}$ is a matrix then the A^{-1} is:

(A) $-\frac{1}{19}A$

(B) $\frac{1}{19}A$

(C) A

(D) $-A$

Correct Answer: (B)

Q 9). An isosceles right triangle has area 8 cm^2. Then the length of its hypotenuse is _____.

(A) $4\sqrt{2}$ cm

(B) 4 cm

(C) $3\sqrt{2}$ cm

(D) $2\sqrt{6}$ cm

Correct Answer: (A)

Q 10). The pair of linear equations y = 0 and y = –7 has how many solutions?

(A) One solution

(B) Two solutions

(C) Infinitely many solutions

(D) No solution

Correct Answer: (D)

Q 11). Which of the following has only one subset?

(A) {}

(B) {4}

(C) {4, 5}

(D) {0}

Correct Answer: (A)

Q 12). A dice is rolled. If the outcome is an odd number, what is possibility that it is prime?

(A) $\frac{1}{3}$

(B) $\frac{1}{2}$

(C) $\frac{2}{3}$

(D) $\frac{1}{4}$

Correct Answer: (C)

Q 13). In class 12^{th} a minimum 33% is to be secured in each of 5 subjects of the course, for a pass result. In how many ways can a student fail in a class of 50 students?

(A) 15

(B) 31

(C) 125

(D) 625

Correct Answer: (B)

Q 14). What is the value of $\tan(\frac{\pi}{4} - x) \tan(\frac{\pi}{4} + x)$?

(A) 0

(B) 1

(C) 2

(D) Not define

Correct Answer: (B)

Q 15). The function $f(x) = e^{ax} + b$ is strictly decreasing for all $x \in R$ if:

(A) $a = 0$

(B) $a < 0$

(C) $a > 0$

(D) $a \leq 0$

Correct Answer: (B)

Q 16). If $|z^2 - 1| = |z|^2 + 1$, then locus of z is:

(A) $x + y = 1$

(B) $x - 2y = 1$

(C) $x = 0$

(D) $y = 0$

Correct Answer: (C)

Q 17). Find the coefficient of x^2 in $(1 + 3x + 3x^2 + x^3)^6$.

(A) 81

(B) 223

(C) 153

(D) 3

Correct Answer: (C)

Q 18) The value of $\int_0^1 x(1-x)^{23}\ dx$, is:

(A) $\frac{1}{24}$

(B) 1

(C) $\frac{1}{23}$

(D) $\frac{1}{600}$

Correct Answer: (D)

Q 19). Asymptote(s), parallel to the X axis for the curve $y^4 + x^2y^2 + 2xy^2 - 4x^2 - y + 1 = 0$ is/are:

(A) $y = 0$

(B) $y = 4$

(C) $y = \pm 2$

(D) $y = \pm 4$

Correct Answer: (C)

Q 20). If $x + \frac{1}{x} = -1$ then value of $x^{2000} + \frac{1}{x^{2000}}$ =?

(A) 1

(B) 0

(C) 2

(D) −1

Correct Answer: (D)