

FIITJEE ADMISSION TEST

Class – X (going to class XI)

I.Q.

Direction (1 – 5): A, B, C, D, E, F and G are 7 people planning to go on an SOTC world tour. A is the oldest person and has one son and a daughter. G's father is D, who is a businessman. D's wife, E is a social worker. C is a spinster. B, who is A's son, and F are a newly married couple. Both the children of A are married and all stay together. G and C are siblings.

- How is F related to A?
(A) daughter-in-law (B) daughter
(C) son-in-law (D) son
- Who among the following is A's child?
(A) E (B) D
(C) C (D) can't be determined
- How is G related to E?
(A) son (B) daughter
(C) brother (D) can't be determined
- How is F related to C?
(A) niece (B) nephew
(C) uncle (D) none of these
- How is C related to A?
(A) grand son (B) grand daughter
(C) son (D) none of these

Physics

- A body of mass m is thrown vertically upwards with a velocity of $2v$. Another body of mass $2m$ is thrown upward with a velocity v , the ratio of the times for the two bodies to reach their maximum height is
(A) 2 : 1 (B) 1 : 2
(C) 4 : 1 (D) 1 : 14
- A ball is projected upwards with speed " u ". The distance travelled by the ball in last second before it reaches the maximum height is, ($g = 9.8 \text{ m/s}^2$)
(A) $\frac{u^2}{g}$ (B) 4.9 m
(C) 9.8 m (D) None of these
- The brakes of a car can provide a maximum retardation of 10 m/s^2 . The least distance in which the car can be stopped, if the velocity is 30 m/s , will be
(A) 20 m (B) 45 m
(C) 54 m (D) 62 m

4. An insect flies from the corner A to the corner B of a cubic room in 5 sec, where A and B are diagonally opposite corners. The side of the room is 5m. The speed of the insect is
 (A) $\sqrt{2}$ m/s (B) $\sqrt{3}$ m/s
 (C) $2\sqrt{2}$ m/s (D) $2\sqrt{3}$ m/s
5. A body is acted upon by a constant net force, then it will have a uniform
 (A) speed (B) momentum
 (C) velocity (D) acceleration

Chemistry

1. Element with valency of 7 is
 (A) oxygen (B) neon
 (C) iodine (D) nitrogen
2. CO₂ is
 (A) acidic in nature (B) basic in nature
 (C) neutral (D) amphoteric in nature
3. Pure gold is not suitable for making ornaments because it is
 (A) soft (B) ductile
 (C) very hard (D) both (A) and (B)
4. Which metal produces fire in water?
 (A) Lithium (B) Sodium
 (C) Aluminum (D) Magnesium
5. Which of the following will conduct electricity?
 (A) NaCl(aq) (B) HCl(aq)
 (C) NaOH(aq) (D) All of these

Mathematics

1. If the surface area of a sphere is 616 cm², then its radius is
 (A) r = 5 cm (B) r = 6 cm
 (C) r = 7 cm (D) none of these
2. The difference of two number is 4, if the difference of their reciprocals is $\frac{4}{21}$, then the two numbers are
 (A) 5 and 2 (B) 7 and 3
 (C) 6 and 2 (D) 7 and 2
3. If the radii of the circular ends of a conical bucket, which is 16 cm high, are 20 cm and 8 cm, Find the total surface area of the bucket is
 (A) 10459.43 cm² (B) 1961.14 cm²
 (C) 1561.14 cm² (D) none of these
4. In a ΔABC , right-angled at A, if $\tan C = \sqrt{3}$, then the value of $\sin B \cdot \cos C + \cos B \cdot \sin C$ is
 (A) 1 (B) 2
 (C) 3 (D) none of these
5. Which term of the sequence 114, 109, 104, ... is the first negative term?
 (A) 21st term (B) 22nd term
 (C) 23rd term (D) 24th term

ANSWERS**IQ**

1. A 2. A 3. D 4. D
5. B

Physics

1. A 2. B 3. B 4. B
5. D

Chemistry

1. C 2. A 3. D 4. B
5. D

Mathematics

1. C 2. B 3. B 4. A
5. D