



SET-A

## QUANTUM POTENTIAL TEST

[Quality Nurturer & Mind Utilizer Test for Potential Enhancement]

(IPEC Scholarship-Cum-Admission Test)

For

CLASS-IX

(For IX to X Moving Students)

Time : 2 Hrs.]

[Maximum Marks : 150

[PAPER-1]

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

### INSTRUCTIONS

1. The booklet is your Question Paper. Do not break the seal of this booklet before being instructed to do so by the invigilator.
2. Blank spaces and blank pages are provided in the question paper for your rough work. No additional sheets will be provided for rough work.
3. Blank papers, clipboards, log tables, slide rules, calculators, cameras, cellular phones, pagers and electronic gadgets are **NOT** allowed inside the examination hall.
4. The answer sheet, a machine-readable Optical Response Sheet (**ORS**), is provided separately.
5. On breaking the seal of the booklet check that it contains **14** pages and all the **50** questions.
6. A candidate has to write his / her answers in the ORS sheet by darkening the appropriate bubble with the help of **Black ball point pen** as the correct answer of the question attempted.
7. **Question Paper Format :**  
This question paper consists of **Two Parts**:  
**Part-I: IQ** (Mental Ability) - 25 Questions.  
**Part-II:** (Mathematics) - 25 Questions.
8. **Marking Scheme :**  
All **Questions** carries **+3** marks for correct answer and **Zero** for wrong answer









FOR ANSWER KEY VISIT OUR WEBSITE- [www.ipeeciit.com](http://www.ipeeciit.com)

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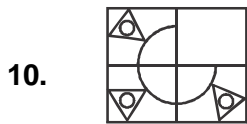
## PART -I [IQ]

## [SINGLE CORRECTTYPE]

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

1. Select odd one  
 (A) Squar (B) Triangle (C) Cylinder (D) Pentagon
2.  $\frac{1}{8} : \frac{1}{64} :: \frac{1}{16} : ?$  missing term  
 (A) 128 (B) 126 (C) 144 (D) 132
3. Select odd one  
 (A) 42 : 4 (B) 48 : 6 (C) 32 : 2 (D) 15 : 5
4. Select odd one  
 (A) Autobiography (B) Malayalam (C) Intelligence (D) Dictionary
5. Arragne words in Dictionary order  
 (i) Euphrasy (ii) Eupepsy (iii) Euphonic  
 (iv) Eugenic (v) Euphony  
 (A) (iii), (ii), (i), (v), (iv) (B) (i), (ii), (iv), (iii), (v)  
 (C) (iv), (ii), (iii), (v), (i) (D) (ii), (i), (iv), (v), (iii)
6. 0, ....., 8, 27, 64  
 (A) 2 (B) 4 (C) 3 (D) 1
7. The word can not form from INSTITUTIONALISE  
 (A) NUTRITION (B) INTUTION (C) TUITION (D) INSULATION
8. Which is correct relation between Humans, Birds and Animals  
 (A)  (B)  (C)  (D) 
9. Which is correct relation Fruits, Apple, Orange  
 (A)  (B)  (C)  (D) 

(Space for rough work)



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

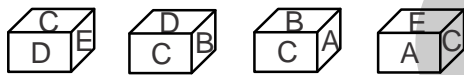
11. If 19<sup>th</sup> August 2018 is Sunday then 31<sup>st</sup> December 2018 is  
 (A) Sunday (B) Monday (C) Friday (D) Tues day

12. Paper folding



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

13. There four condition given, which latter is just opposite to D

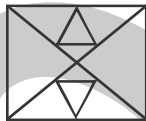


- (A) B (B) C (C) E (D) A

14. aa\_\_b, ? aab, aaa\_\_\_\_\_?

- (A) baa (B) aab (C) abb (D) aba

15. Total no. of Triangle



- (A) 14 (B) 15 (C) 16 (D) 17

16. Cat is related to kitten in the same way as fish is related to

- (A) Fry (B) Fawn (C) Fin (D) Foal

17. TMJ, QNL, ?, KPP

- (A) JQR (B) NON (C) HQQ (D) IQS

18. A, CD, GHI..... UVWXYZ

- (A) LMNP (B) MNOC (C) NOPL (D) MNOP

(Space for rough work)

19. ELFA, GLHA, ILJA.....MLNA  
 (A) ILMA (B) KLLA (C) QLPA (D) KLMA
20. 3, 8, 18, 38, .....  
 (A) 61 (B) 78 (C) 41 (D) 51

**Direction for question. number. 21 to 25**

Read the following information and answer the question given below

Six persons A, B, C, D, E and F are sitting in two rows. Three in each.

E is not at end of any Row

D is second to the left of F

C, the neighbours of E, is sitting Diagonally to D.

B is the neighbour of F

21. Which of the following are sitting diagonally opposite to each other  
 (A) F and C (B) D and A (C) A and F (D) A and B
22. Who is facing B  
 (A) A (B) C (C) D (D) E
23. Which of the following are in same row  
 (A) A and E (B) E and D (C) C and B (D) A and B
24. Which of the following are in one of the two rows?  
 (A) FBC (B) CEB (C) DBF (D) AEF
25. ab \_\_\_ b \_\_\_ cbacba \_\_\_ ba \_\_\_ cabcb  
 (A) caba (B) cbbb (C) bccb (D) acb

**PART -II [Mathematics]****[SINGLE CORRECTTYPE]**

Each question has four choices (A), (B), (C) and (D) out of which only one is correct.

26. Set of natural numbers is a subset of  
 (A) set of even numbers (B) set of odd numbers  
 (C) set of composite numbers (D) set of real numbers
27. If  $x = \frac{\sqrt{3}+1}{2}$ , then  $x^3 + \frac{1}{x^3} =$   
 (A)  $\frac{28\sqrt{3}+15}{8}$  (B)  $\frac{27\sqrt{3}-35}{4}$  (C)  $\frac{28\sqrt{3}-15}{8}$  (D)  $\frac{27\sqrt{3}+35}{4}$

(Space for rough work)

28. Which of the following algebraic expressions is not a polynomial ?

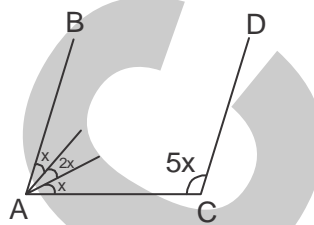
- (A)  $\frac{17}{2}x^2 + x - 3$       (B)  $\sqrt{7}x^3 + 3x^{2/3} - 8$       (C) 3      (D) 0

29. One of the dimensions of the cuboid whose volume is  $16x^2 - 26x + 10$  is

- (A) 2      (B)  $(8x - 5)$       (C)  $(x - 1)$       (D) All of these

30. If  $AB \parallel CD$ , what is the value of  $x$  ?

- (A)  $18^\circ$   
(B)  $15^\circ$   
(C)  $20^\circ$   
(D)  $25^\circ$



31. If both  $x = 2$  and  $x = \frac{1}{2}$  are factors of  $px^2 + 5x + r$ , then  $p =$

- (A)  $\frac{3}{4}r$       (B)  $2r$       (C)  $\frac{r}{2}$       (D)  $r$

32. The common quantity that must be added to each term of  $a^2 : b^2$  to make it equal to  $a : b$  is

- (A)  $ab$       (B)  $a + b$       (C)  $a - b$       (D)  $\frac{a}{b}$

33. Find the factors of the polynomial  $\sqrt{3}x^2 + 11x + 6\sqrt{3}$ .

- (A)  $(\sqrt{3}x + 2)(x - 3\sqrt{3})$       (B)  $(\sqrt{3}x + 2)(x + 3\sqrt{3})$   
(C)  $(\sqrt{2}x + 3)(x + 2\sqrt{3})$       (D)  $(\sqrt{2}x - 2)(x + 3\sqrt{2})$

34. P is the point  $(-5, 3)$  and Q is the point  $(-5, m)$ . If sum of abscissas and ordinates of both points is equal then the possible value of  $m$  is

- (A)  $-5$       (B)  $-13$       (C)  $-10$       (D) 3

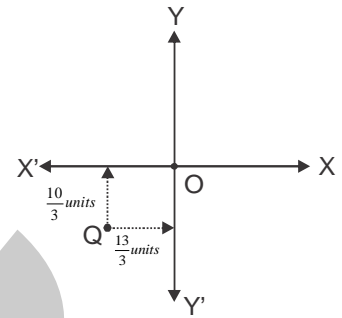
35. If both 'a' and 'b' are rational numbers, then 'a' and 'b' from  $\frac{3 - \sqrt{5}}{3 + 2\sqrt{5}} = a\sqrt{5} - b$ , respectively are

- (A)  $\frac{9}{11}, \frac{19}{11}$       (B)  $\frac{19}{11}, \frac{9}{11}$       (C)  $\frac{2}{11}, \frac{8}{11}$       (D)  $\frac{10}{11}, \frac{21}{11}$

(Space for rough work)

36. In figure, the coordinates of the point Q are

- (A)  $(\frac{10}{3}, 0)$  (B)  $(0, \frac{13}{3})$   
 (C)  $(\frac{10}{3}, \frac{13}{3})$  (D)  $(-\frac{13}{3}, -\frac{10}{3})$



37. Axioms are

- (A) universal truths in all branches of Mathematics (B) Theorems  
 (C) Universal truths specific to geometry (D) Definitions

38. Which one of the following statement is not false ?

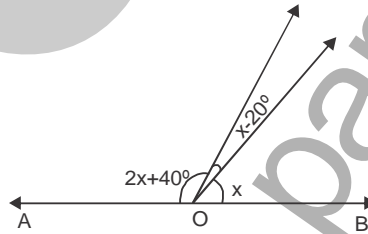
- (A) If two angles forming a linear pair, then each of these angle is of measure  $90^\circ$ .  
 (B) Angles forming a linear pair can both be acute angles.  
 (C) Both of the angles forming a linear pair can be obtuse angles .  
 (D) Bisectors of the adjacent angles forming a linear pair form a right angle.

39. The perimeter of a right angled triangle is 450m. If its sides are in the ratio 5:12:13, the area of the triangle is

- (A)  $9000m^2$  (B)  $8765m^2$  (C)  $6750m^2$  (D)  $11750m^2$

40. If  $AOB$  is a straight line, then x is

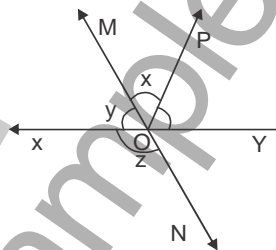
- (A)  $60^\circ$   
 (B)  $30^\circ$   
 (C)  $90^\circ$   
 (D)  $40^\circ$



41. In figure, lines XY and MN intersect at O.

If  $\angle POY = 70^\circ$  and  $x : y = 3 : 2$ , find z.

- (A)  $70^\circ$   
 (B)  $95^\circ$   
 (C)  $136^\circ$   
 (D)  $120^\circ$



(Space for rough work)

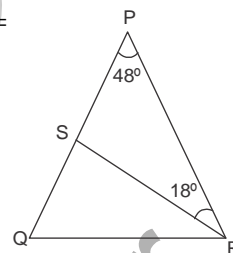
42. The function  $\frac{2(\sqrt{2} + \sqrt{6})}{3(\sqrt{2} + \sqrt{3})}$  is equal to

- (A)  $\frac{2\sqrt{2}}{3}$  (B) 1 (C)  $\frac{2\sqrt{3}}{3}$  (D)  $\frac{4}{3}$

43. If one angle of a triangle is equal to the sum of the other two angles, then triangle is a/an  
 (A) acute angled triangle (B) obtuse angled triangle  
 (C) right angled triangle (D) none of these

44. In the given figure,  $PQ = QR$ ,  $\angle QPR = 48^\circ$ ,  $\angle SRP = 18^\circ$ , then  $\angle PQR =$

- (A)  $48^\circ$   
 (B)  $84^\circ$   
 (C)  $30^\circ$   
 (D)  $36^\circ$

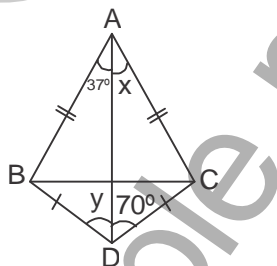


45.  $ABC$  is an equilateral triangle of side  $4\sqrt{3}cm$ . P, Q and R are mid-points of  $AB, CA$  and  $BC$  respectively. The area of triangle PQR is (in  $cm^2$ ).

- (A)  $3\sqrt{3}$  (B)  $2\sqrt{3}$  (C)  $\frac{\sqrt{3}}{2}$  (D)  $\frac{\sqrt{3}}{4}$

46. In the given figure, x and y are

- (A)  $x = 70^\circ, y = 37^\circ$   
 (B)  $x = 37^\circ, y = 70^\circ$   
 (C)  $x + y = 117^\circ$   
 (D)  $x - y = 100^\circ$



47. In  $\triangle ABC$ , side AB is produced to D so that  $BD = BC$ . If  $\angle B = 60^\circ$  and  $\angle A = 70^\circ$ , then

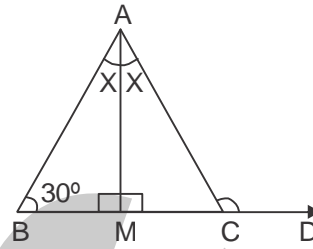
- (A)  $AD > CD$  (B)  $\angle ADC = 90^\circ$  (C)  $AD < CD$  (D)  $\angle CAD = 30^\circ$

(Space for rough work)



48. In the given figure, find the measure of  $\angle ACD$ .

- (A)  $150^\circ$
- (B)  $120^\circ$
- (C)  $140^\circ$
- (D)  $160^\circ$



49. The sides of a triangle are 25cm, 17cm and 12cm. The length of the altitude on the longest side is equal to

- (A) 7.5cm
- (B) 7.2cm
- (C) 8.2cm
- (D) 9.8cm

50. Diagonals of a rhombus are  $d_1$  and  $d_2$ , then side of a rhombus is

- (A)  $\sqrt{d_1^2 + d_2^2}$
- (B)  $\frac{1}{2}\sqrt{d_1 d_2}$
- (C)  $\frac{1}{2}\sqrt{d_1^2 + d_2^2}$
- (D)  $\sqrt{d_1 d_2}$

(Space for rough work)



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For

**CLASS-IX**

**(For IX to X Moving Students)**

Time : 2 Hrs.]

[Maximum Marks : 150

[PAPER-1]

### **(SAMPLE PAPER) ANSWER KEY**

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 1. (C)  | 2. (A)  | 3. (A)  | 4. (B)  | 5. (C)  |
| 6. (D)  | 7. (A)  | 8. (C)  | 9. (B)  | 10. (B) |
| 11. (B) | 12. (C) | 13. (D) | 14. (B) | 15. (C) |
| 16. (A) | 17. (B) | 18. (D) | 19. (B) | 20. (B) |
| 21. (D) | 22. (D) | 23. (A) | 24. (C) | 25. (A) |
| 26. (D) | 27. (B) | 28. (B) | 29. (D) | 30. (C) |
| 31. (D) | 32. (A) | 33. (B) | 34. (B) | 35. (A) |
| 36. (D) | 37. (A) | 38. (D) | 39. (C) | 40. (D) |
| 41. (C) | 42. (D) | 43. (C) | 44. (B) | 45. (A) |
| 46. (B) | 47. (A) | 48. (A) | 49. (B) | 50. (C) |