



PAATHSHAALA TALENT SEARCH EXAM (PTSE)

PTSE SAMPLE PAPER 2023

DATE: - ____/____/____ [FOR X TO XI MOVING STUDENTS]

TIME: -60 Minutes

F.M:120

General instruction to the Candidates: -

- This paper contains 30 Questions.
- All questions are compulsory.
- Each question has single correct answer.
- Answer the entire question in OMR sheet provided with this Question paper.
- Dark the circle with blue/black pen. Darkening more than one circle will be treated as wrong answer.
- Each question carries four marks.
- Do your rough work on the space provided in Question Paper.

NAME: _____

FATHER'S NAME: _____

NAME OF SCHOOL: _____

CONTACT NUMBER 1. _____ 2. _____

ADDRESS: - _____

Signature: _____

Invigilator Signature

PHYSICS

1. Where should an object be placed, so that a real and inverted image of the same size is obtained by a Convex lens?
 - a) At twice the focal length
 - b) Between the optical center of the lens and its focus
 - c) At infinity
 - d) At the focus of the lens
2. A ray of light travelling in air falls obliquely on the surface of a calm pond. It will
 - a) go into the water without deviating from its path
 - b) turn back of its original path
 - c) deviate towards the normal
 - d) deviate away from the normal
3. A parallel beam of light falling on the eye gets focus on the retina because of refractions at
 - a) the cornea
 - b) various surfaces in the eye
 - c) the vitreous humor
 - d) the crystalline lens
4. On which of the following no 'plus' or 'minus' sign is marked?
 - a) a cell
 - b) an ammeter
 - c) a voltmeter
 - d) a resistor
5. In a metal,
 - a) all the electrons are bound to their parent atoms
 - b) there are no electrons
 - c) some electrons are free to move
 - d) All the electrons are free to move

BIOLOGY

6. The space between meninges is filled with...
 - (a) Lymph
 - (b) Blood plasma
 - (c) Cerebrospinal fluid
 - (d) ACTH
7. Testes produce hormone.
 - (a) Estrogen
 - (b) Testosterone
 - (c) Progesterone
 - (d) Both estrogen and progesterone
8. What is the energy currency for most cellular processes?
 - (a) ATP (b) ADP
 - (c) GTP (d) AMP
9. In the kidney the correct sequence of formation of urine involves the following processes.
 - (a) Glomerular filtration, Reabsorption, Tubular secretion
 - (b) Reabsorption, Filtration, Secretion
 - (c) Filtration, Secretion, Reabsorption
 - (d) Reabsorption, Secretion, Filtration
10. Malaria is caused by a
 - (a) Protozoan (b) Fungi
 - (c) Virus (d) Bacteria

CHEMISTRY

11. Elements with valency 1 will be –

- (a) Always metal
- (b) Either metal or metalloid
- (c) Always metalloid
- (d) May be metal or non-metal

12. Calcium phosphate is present in tooth enamel. Its nature is

- (a) Acidic (b) Basic
- (c) Neutral (d) Amphoteric

13. The electronic distribution in aluminium will be

- (a) 2, 8, 1 (b) 2, 8, 3
- (c) 2, 8, 5 (d) 2, 8, 2

14. Avogadro's number represents the number, of atoms in-

- (a) 12 g of C^{12}
- (b) 320g of Sulphur
- (c) 32g of oxygen
- (d) 12.7 g of iodine

15. Which of the following metal does not react with either cold or hot water?

- (a) Mg (b) Ca
- (c) Na (d) Fe

MATHEMATICS

16. At one end A of a diameter, AB of a circle of radius 5 cm tangent XAY is drawn to the circle. The length of the chord CD parallel to XY and at a distance 8 cm from A is

- (a) 5cm (b) 4cm (c) 6cm (d) 8 cm

17. If $-4 + (-1) + 2 + \dots + x = 437$ then x equal to

- (a) 55 (b) 45 (c) 60 (d) 50

18. A bag contains 5 black & 6 white balls. If two balls are drawn together at random, then the probability that these being of different colour-

- (a) $\frac{5}{11}$ (b) $\frac{6}{11}$ (c) $\frac{11}{16}$ (d) $\frac{6}{16}$

19. Let ΔABC and ΔDEF are similar triangles and their areas be respectively 64 cm^2 and 121 cm^2 . If $EF = 15.4 \text{ cm}$, then BC is equal to –

- (a) 11.4 cm (b) 11.2 cm
- (c) 11 cm (d) 11.3 cm

20. If the roots of the equation $(a^2 + b^2)x^2 - 2b(a + c)x + (b^2 + c^2) = 0$ are equal, then

- (a) $b^2 = ac$ (b) $b = ac$
- (c) $b = \frac{2ac}{b+c}$ (d) $2b = a + c$

21. Let α, β be roots of the equation $x^2 - 2x + A = 0$ and γ and δ be the roots of the equation $x^2 - 18x + B = 0$. If α, β, γ and δ ($\alpha < \beta < \gamma < \delta$) are in arithmetic progression then find the values of A and B

- (a) $A = -2, B = 77$ (b) $A = -3, B = 77$
- (c) $A = 77, B = -3$ (d) None of these

MENTAL ABILITY

26. Find the next term in the given alphabet series– YEB, WFD, UHG, SKI,?

(a) QNL (b) QOL (c) QGL (d) TOL

27. If in a leap year it was Monday on 1st January, then the number of maximum Saturdays the leap year can have, is

(a) 51 (b) 52 (c) 53 (d) 54

28. In a certain code MEDICO is coded as DEMOCI, write code for PICNIC

(a) ICICPN (b) CIPCIN

(c) PNICIC (d) CCIINP

29. Pointing to a photograph, Vipul said, "She is the daughter of my grandfather's only son." How is Vipul related to the girl in the photograph?

a) Brother (b) Father

c) Cousin (d) Data inadequate

30. Find the least square number which is exactly divisible by 10, 12, 15 and 18?

(a) 900 (b) 400 (c) 1600 (d) none

SPACE FOR ROUGH