

SRIGAYATRI EDUCATIONAL INSTITUTIONS

ANDHRAPRADESH

CLASS-X

NTSE STAGE-1 (Regular-Level-1)

Time : 90 min

SAT TEST-1

Max. Marks : 90

Instructions :

- i. The question paper consists of **ninety** multiple choice questions numbered from **1 to 90**, each question followed by four alternatives 1, 2, 3 & 4.
 - ii. **Physics** 1 to 12, **Chemistry** 13 to 24, **Mathematics** 25 to 44, **Biology** 45 to 55, **History** 56 to 67, **Geography** 68 to 79 and **Civics** 80 to 90.
 - iii. Each question has only one correct option.
 - iv. Each correct answer carries **+1 Mark**.
 - v. There is no negative marking.
 - vi. The answers to these questions should be answered in **single OMR sheet only**.
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PHYSICS

01. Least count of an ordinary scale is:

- 1) 1 mm 2) 1 cm 3) 0.1 mm 4) 0.01 mm

02. If x is the distance travelled by the tip of the screw through a nut when 'n' complete revolutions of the head are made, then pitch of the screw P =

- 1) nx 2) x / n 3) n / x 4) $x + n$

03. If P is the pitch of the screw and N is the number of head scale divisions then the least count (L.C.)=

- 1) PN 2) $P+N$ 3) $\frac{P}{N}$ 4) $\frac{N}{P}$

04. Screw gauge works on the principle of:

- 1) screw in a nut 2) scale on scale
3) screw on a scale 4) scale on the screw

05. Screw gauge consists of _____ scale.

- 1) pitch 2) head 3) both (1) and (2) 4) neither (1) nor (2)

06. $\frac{\text{distance travelled by the screw}}{\text{No. of revolutions made}} = \underline{\hspace{2cm}}$.

- 1) least count 2) pitch 3) minimum count 4) least value

- 07. least count of screw gauge = $\frac{\text{Pitch of the screw}}{\dots\dots\dots}$**
- 1) number of head scale divisions 2) number of pitch scale divisions
3) distance travelled by the screw 4) none
- 08. If the zeroth division of the head scale is below the index line of the pitch scale, then error is said to be _____ and the correction is _____.**
- 1) positive and positive 2) negative and negative
3) negative and positive 4) positive and negative
- 09. If the zeroth division of the head scale is _____ the index line of the pitch scale, then error is said to be negative and the correction is _____.**
- 1) above and positive 2) below and positive
3) below and negative 4) above and negative
- 10. The scale marked on the index line of a screw gauge is called:**
- 1) vernier scale 2) head scale 3) pitch scale 4) both A and B
- 11. If the zeroth division of the head scale is above the index line of the pitch scale, then error is said to be _____ and the correction is _____.**
- 1) positive and positive 2) negative and negative
3) negative and positive 4) positive and negative
- 12. A _____ is used to measure the thickness of a thin glass plate and the diameter of a thin wire or a small sphere.**
- 1) physical balance 2) ordinary scale
3) screw gauge 4) density bottle

CHEMISTRY

- 13. Bohr's theory is valid for:**
- 1) All atoms 2) All ions
3) Any atom or ion having one electron 4) All molecules
- 14. Who introduced elliptical orbits?**
- 1) Bhor 2) Schrodinger 3) Zeeman 4) Sommerfeld
- 15. Which of the following quantum numbers gives size and energy of stationary orbit?.**
- 1) n 2) l 3) m 4) s
- 16. The sub-shells present in L-shell are:**
- 1) s and d 2) s and p 3) s, p and d 4) s, p, d and f
- 17. The maximum value of l for $n = 5$ is:**
- 1) 7 2) 3 3) 5 4) 4
- 18. Rutherford proposed planetary model based on his _____ scattering experiment.**

- 1) α - ray 2) β - ray 3) γ - ray 4) σ - ray

19. Quantum theory of radiation is proposed by _____

- 1) Rutherford 2) Max Planck 3) Bohr 4) Zeeman

20. Angular momentum is given by $\frac{nh}{2\pi}$, where h is _____ constant.

- 1) Rutherford's 2) Zeeman's 3) Bohr's 4) Planck's

21. $E_2 - E_1 = h\nu$, where ν is _____

- 1) Wave length of radiation 2) Wave number of radiation
3) Frequency of radiation 4) Amplitude of radiation

22. Identify subatomic particles.

- 1) Protons 2) Electrons 3) Neutrons 4) All of these

23. Bohr proposed his atomic model based on the _____ quantum theory.

- 1) Rutherford's 2) Planck's 3) Bohr's 4) Zeeman's

24. Which of the following species is not applicable to Bohr's model?

- 1) H 2) He⁺ 3) Li²⁺ 4) Be

MATHEMATICS

25. A point on the X - axis is

- 1) (2,3) 2) (2,0) 3) (0,4) 4) (0,-3)

26. A point on the Y-axis is

- 1) (0,2) 2) (4,0) 3) (-3,4) 4) (2,-1)

27. The slope of the line joining (4,6) and (2,-5) is

- 1) $\frac{6}{5}$ 2) $\frac{-2}{4}$ 3) $\frac{5}{6}$ 4) $\frac{11}{2}$

28. Two straight lines are parallel, if their slopes are

- 1) Zero 2) unequal 3) equal 4) undefined

29. If two lines intersect at right angles, then the product of their slopes is

- 1) 1 2) 0 3) -1 4) ∞

30. The slope of a line parallel to the line $3x - 2y + 1 = 0$ is

- 1) $\frac{3}{2}$ 2) $\frac{2}{3}$ 3) 3 4) $\frac{-2}{3}$

31. The slope of a line perpendicular to the line $5x - 2y + 4 = 0$ is

- 1) $\frac{2}{5}$ 2) $\frac{-2}{5}$ 3) 2 4) $\frac{5}{2}$

32. The coordinates of the points A(x_1, y_1) and B(x_2, y_2) that lie on the straight line, then the slope of the line is

- 1) $\frac{y_2 - y_1}{x_2 - x_1}$ 2) $\frac{x_2 - x_1}{y_2 - y_1}$ 3) $\frac{y_2 + y_1}{x_2 + x_1}$ 4) $\frac{x_2 + x_1}{y_2 + y_1}$

33. Distance between the points (0, 1) and (2, 3) is

- 1) 6 2) 8 3) $2\sqrt{2}$ 4) 2

34. The distance between two given points $A(x_1, y_1), B(x_2, y_2)$ is

- 1) $\sqrt{(x_2 - x_1) + (y_2 - y_1)^2}$ 2) $\sqrt{(x_2 + x_1) + (y_2 + y_1)^2}$
 3) $\sqrt{(x_2 - x_1) - (y_2 - y_1)^2}$ 4) $\sqrt{(x_2 + x_1) - (y_2 + y_1)^2}$

35. Coordinates of the centroid of a triangle whose vertices are (2, 0), (0, 2) and (0, 0) is

- 1) $\left(\frac{2}{3}, \frac{2}{3}\right)$ 2) (2,2) 3) (0,0) 4) (-2,2)

36. The slope of the line $y = 5x + 3$ is _____

- 1) 3 2) $5/3$ 3) 5 4) -3

37. The slope of the line parallel to X - axis _____

- 1) 0 2) 1 3) -1 4) un defined

38. The line $y = mx + c$ cuts the Y - axis at _____

- 1) m 2) x 3) y 4) c

39. The slope of the line $3x + y + 7 = 0$ is

- 1) -3 2) 3 3) 1 4) 7

40. The line $y = 5$ is parallel to _____

- 1) x axis 2) y axis 3) both (1)&(2) 4) none

41. Slope of a line making an angle of 60° with the positive direction of X - axis is

- 1) 1 2) $-\sqrt{3}$ 3) $\sqrt{3}$ 4) 0

42. Slope of Y - axis is _____

- 1) 0 2) 1 3) -1 4) un defined

43. The coordinates of R, when R divides the line segment AB internally in the ratio $m : n$ is

- 1) $\left(\frac{mx_2 - nx_1}{m - n}, \frac{my_2 - ny_1}{m - n}\right)$ $\left(\frac{mx_2 + nx_1}{m + n}, \frac{my_2 + ny_1}{m + n}\right)$
 $\left(\frac{m + n}{m + n}, \frac{m + n}{m + n}\right)$ $\left(\frac{mx_2 - nx_1}{m + n}, \frac{my_2 - ny_1}{m + n}\right)$
 3) $\left(mx_2 + nx_1, my_2 + ny_1\right)$ 4) $\left(m + n, m + n\right)$

44. If $a < 0$, then $(-a, a)$ lying in the quadrant

- 1) 1 2) 2 3) 3 4) 4

BIOLOGY

- 45. In stem cuttings, a slanting cut is made in the stem**
- 1) Below the node
 - 2) Above the node
 - 3) At the node
 - 4) Across the node
- 46. The ability of plant cells to give rise to whole plant is referred as**
- 1) Totipotency
 - 2) Explant
 - 3) Callus
 - 4) Embryo
- 47. Propagation is preferred for the ornamental and horticultural plants:**
- 1) Self pollination
 - 2) Vegetative propagation
 - 3) Cross pollination
 - 4) Micropyle
- 48. The most common type of asexual reproduction in yeasts is:**
- 1) Sporulation
 - 2) Fragmentation
 - 3) Budding
 - 4) Fission
- 49. Buds in Bryophyllum are known as buds:**
- 1) Terminal
 - 2) Apical
 - 3) Flower
 - 4) Epiphyllous
- 50. Curry leaf plant is propagated by:**
- 1) Suckers
 - 2) Root buds
 - 3) Leaf buds
 - 4) Nodes
- 51. Haploid plants are obtained commonly by introducing in culture media is:**
- 1) Pollen grains
 - 2) Embryoids
 - 3) Antipodals
 - 4) Synergids
- 52. Chrysanthemum propagates often by means of:**
- 1) Suckers
 - 2) Eyes
 - 3) Leaf buds
 - 4) Nodes
- 53. In layering, girdling is done around the base of the stem to :**
- 1) Increase downward movement of food
 - 2) Decrease downward movement of food
 - 3) Increase upward movement of water
 - 4) Decrease downward movement of water
- 54. Production or fusion of gametes does not take place in _____ kind of reproduction.**
- 1) Asexual
 - 2) Sexual
 - 3) Plumule
 - 4) Antipodals
- 55. New characters seen in the offspring which are not present in either of the parents is due to:**
- 1) Same genetic material of the parents in the offspring.
 - 2) Vegetative reproduction
 - 3) Recombination of chromosomes
 - 4) Planting cutting of a branch

HISTORY

- 56. Who built Brihadeswara temple located at Tanjore?**
- 1) Raja Raja Chola
 - 2) Kuluttonga Chola

1) Nationalism 2) Rationalism 3) Communism 4) Secularism

87. At _____ years of age an Indian gets the right to vote

1) 18 2) 21 3) 20 4) 16

88. A Right that safeguards Fundamental Rights is known as _____

1) Right to speech 2) Right to property

3) Right to Constitutional Remedies 4) Right to vote

89. India's Constitution was adopted in the year _____

1) 1949 2) 1946 3) 1947 4) 1945

90. _____ states are there in India at present.

1) 25 2) 28 3) 26 4) 27

*****ALL THE BEST*****