

PART A – SCIENCE (40 Marks)

1. Which of the following quantities remains constant in uniform circular motion?
a) Velocity b) Acceleration c) Speed d) Displacement
2. An object is thrown upward with a velocity of 20 m/s. The maximum height it reaches is ($g = 10 \text{ m/s}^2$):
a) 10 m b) 15 m c) 20 m d) 30 m
3. A car accelerates uniformly from rest to 20 m/s in 10 s. The distance covered is:
a) 50 m b) 100 m c) 150 m d) 200 m
4. The unit of force is:
a) Watt b) Joule c) Newton d) Pascal
5. Which among the following is a mixture?
a) Sodium b) Carbon dioxide c) Air d) Sulphur
6. Metals are generally:
a) Ductile b) Brittle c) Non-conductors d) Non-malleable
7. Which of the following is a chemical change?
a) Melting of ice b) Boiling of water c) Rusting of iron d) Breaking of glass
8. Which subatomic particle determines the atomic number of an element?
a) Neutron b) Electron c) Proton d) Nucleus
9. Which organelle is called the “powerhouse of the cell”?
a) Nucleus b) Mitochondria c) Ribosome d) Golgi body
10. Which tissue transports food in plants?
a) Xylem b) Phloem c) Parenchyma d) Collenchyma

PART B – MATHEMATICS (40 Marks)

11. Simplify: $3x + 2x - 5x = ?$
a) $10x$ b) 0 c) x d) None
12. If $3x + 5 = 20$, then $x = ?$
a) 5 b) 10 c) 15 d) 20
13. The value of $(a + b)^2$ is:
a) $a^2 + b^2$ b) $a^2 + b^2 + 2ab$ c) $a^2 - 2ab + b^2$ d) $(a + b)/2$

14. The sum of the angles of a triangle is:
a) 90° b) 180° c) 270° d) 360°
15. The perimeter of a square of side 8 cm is:
a) 16 cm b) 24 cm c) 32 cm d) 64 cm
16. The area of a circle of radius 7 cm ($\pi = 22/7$) is:
a) 44 cm^2 b) 77 cm^2 c) 154 cm^2 d) 49 cm^2
17. The solution of $2x - 3 = 7$ is:
a) 2 b) 3 c) 5 d) 7
18. The ratio of 3 hours to 30 minutes is:
a) 1:6 b) 6:1 c) 3:1 d) 1:3
19. The HCF of 36 and 48 is:
a) 6 b) 8 c) 12 d) 18
20. A number is divisible by 3 if:
a) The last digit is even b) The last digit is 0
c) The sum of digits is divisible by 3 d) It ends in 3

PART C – MENTAL ABILITY (20 Marks)

21. Find the missing term: 2, 6, 12, 20, 30, ?
a) 40 b) 42 c) 48 d) 50
22. If CAT = 24, DOG = 26, then BAT = ?
a) 22 b) 23 c) 24 d) 25
23. In a code language, BOOK = 47, PEN = 35, then NOTE = ?
a) 49 b) 48 c) 47 d) 46
24. Find the odd one out: 3, 6, 9, 12, 15, 21
a) 6 b) 9 c) 21 d) 12
25. If $8 \times 3 = 66$ and $4 \times 2 = 24$, then $5 \times 3 = ?$
a) 30 b) 35 c) 40 d) 45
26. A cube has all its faces painted and is cut into 8 smaller cubes. How many small cubes will have 2 faces painted?
a) 0 b) 2 c) 4 d) 8

27. A clock shows 3:15. What is the angle between the hour and minute hands?
a) 7.5° b) 15° c) 37.5° d) 45°
28. If $7 = 56$, $6 = 42$, $5 = 30$, then $4 = ?$
a) 20 b) 24 c) 25 d) 22
29. Identify the odd pair:
a) Teacher – School b) Doctor – Hospital c) Pilot – Plane d) Chef – Hospital
30. If $A = 1$, $B = 2$, ... $Z = 26$, then find the sum of the letters in "STAARS".
a) 86 b) 89 c) 90 d) 91

Note to Parents and Students:

This is a model paper designed to give an idea about the pattern and structure of the STAARS Scholarship Test. The actual paper's standard and question distribution may vary slightly based on the final test design.