SAMPLE PAPER
GRADE – 9th

SECTION – A (English)

1. **Select the sentence where the definite article 'the' is used correctly as an adverb of comparison :**
   (A) He is the most brilliant strategist in the defense division.
   (B) The sooner the reconnaissance returns, the better our defensive stance will be.
   (C) The Pacific Ocean separates the two naval task forces.
   (D) The Himalayas provide a formidable northern frontier.
2. **Fill in the blank with the appropriate determiner :**
   'There was _____ hope of finding any survivors after the bunker collapsed under artillery fire, yet the medics refused to abandon the site.'
   (A) little (B) a little (C) the little (D) few
3. **Choose the modal auxiliary construction that expresses a logical deduction regarding an event in the past :**
   (A) The hostile aircraft must have penetrated the radar umbrella during the rainstorm.
   (B) The hostile aircraft should have penetrated the radar umbrella during the rainstorm.
   (C) The hostile aircraft would have penetrated the radar umbrella during the rainstorm.
   (D) The hostile aircraft could penetrate the radar umbrella during the rainstorm.
4. **Convert the following into indirect speech :**
   The General said to the battalion, 'Do not yield an inch of ground until the heavy artillery arrives!'
   (A) The General ordered the battalion not to yield an inch of ground until the heavy artillery arrived.
   (B) The General suggested the battalion to not yield an inch of ground until the heavy artillery arrives.
   (C) The General ordered that the battalion should not yield an inch of ground until the heavy artillery would arrive.
   (D) The General commanded the battalion that they did not yield an inch of ground until heavy artillery arrived.
5. **Supply the correct question tag :**
   'Scarcely any cadet managed to complete the obstacle course within the allotted time, _____ ?'
   (A) did they (B) didn't they (C) had they (D) haven't they
6. **Fill in the blank with the correct preposition :**
   'The decorated pilot was completely absolved _____ all charges of dereliction of duty.'
   (A) with (B) from (C) of (D) against
7. **Choose the phrasal verb meaning 'to withdraw or fall back under pressure' :**
   'When hostile fire overwhelmed the forward trench, the squad was instructed to _____ to secondary defensive positions.'
   (A) fall out (B) fall back
   (C) fall through (D) fall away

8. **What does the idiom 'to show the white feather' signify ?**
   (A) To declare peace through an official envoy
   (B) To display cowardice or surrender in the face of conflict
   (C) To initiate negotiations under a truce flag
   (D) To demonstrate outstanding marksmanship
9. **Identify the literary device employed in the phrase :**
   'The icy wind lashed angrily across the exposed observation post.'
   (A) Metaphor (B) Hyperbole (C) Personification (D) Oxymoron
10. **Identify the sentence that contains an error in Subject – Verb Agreement :**
   (A) The battalion commander, accompanied by three riflemen, has secured the perimeter.
   (B) Neither the radio operator nor the forward scouts were aware of the hostile movement.
   (C) Ten nautical miles are considered a manageable patrol distance for this vessel.
   (D) Every officer and every soldier is expected to maintain absolute operational discipline.

SECTION – B (Social Science)

11. **Which of the following is the main source of rainfall in most parts of India ?**
   (A) North – East Trade Winds (B) South – West Monsoon Winds
   (C) Local Winds (D) Polar Winds
12. **Which type of natural vegetation is commonly found in areas of heavy rainfall ?**
   (A) Thorn Forests (B) Tropical Evergreen Forests
   (C) Desert Vegetation (D) Tundra Vegetation
13. **Which is the most populous state of India according to Census 2011 ?**
   (A) Rajasthan (B) Maharashtra (C) Uttar Pradesh (D) Bihar
14. **In which year did the French Revolution begin ?**
   (A) 1776 (B) 1789 (C) 1815 (D) 1848
15. **Who led the Bolshevik Revolution in Russia in 1917 ?**
   (A) Joseph Stalin (B) Adolf Hitler (C) Vladimir Lenin (D) Napoleon Bonaparte
16. **Which political party was led by Adolf Hitler in Germany ?**
   (A) Nazi Party (B) Labour Party
   (C) Liberal Party (D) Communist Party of India
17. **Which of the following is an essential feature of democracy ?**
   (A) Rule by a hereditary king
   (B) Elections in which people can choose their representatives
   (C) Rule by the military
   (D) No political opposition
18. **When was the Constitution of India adopted by the Constituent Assembly ?**
   (A) 15 August 1947 (B) 26 January 1950
   (C) 26 November 1949 (D) 2 October 1948
19. **Why is education important for human resources ?**
   (A) It reduces knowledge
   (B) It improves skills and productivity
   (C) It increases unemployment in every case
   (D) It eliminates the need for healthcare
20. **Which government system helps provide food grains to people at subsidised prices in India ?**
   (A) Public Distribution System (PDS) (B) Banking System
   (C) Election Commission (D) Judiciary

SECTION – C (Science)

21. An unlabelled cellular organelle is isolated in a laboratory. Biochemical analysis reveals that it contains its own circular DNA and 70S ribosomes, and it actively produces adenosine triphosphate (ATP) via aerobic pathways. Which organelle has been isolated ?

(A) Lysosome (B) Golgi apparatus

(C) Mitochondrion (D) Smooth Endoplasmic Reticulum

22. While examining a permanent plant tissue slide under a light microscope, a student notices living cells with localized pectin accumulations thickening the corners of the cell walls. The tissue appears to provide flexibility to young green stems. Identify this tissue.

(A) Parenchyma (B) Collenchyma (C) Sclerenchyma (D) Aerenchyma

23. When fresh rheo leaf epidermal cells are treated with a highly concentrated sodium chloride solution, the protoplast gradually shrinks away from the rigid cell wall. What is this cytological phenomenon called ?

(A) Endosmosis (B) Plasmolysis (C) Deamination (D) Autolysis

24. Vascular bundles are complex permanent tissues responsible for translocation. Which specific component of the phloem is living, elongated, and primarily responsible for the vertical conduction of synthesized food materials through perforated end walls ?

(A) Phloem fibres (B) Xylem vessels (C) Sieve tubes (D) Tracheids

25. The inner lining of blood vessels and the alveoli of the lungs require an extremely thin, flat, and delicate membrane to facilitate the rapid diffusion of gases and nutrients. Which tissue forms this barrier ?

(A) Stratified squamous epithelium

(B) Simple cuboidal epithelium

(C) Simple squamous epithelium

(D) Columnar epithelium

26. Which of the following statements is correct regarding the process of evaporation ?

(A) Evaporation causes cooling and occurs only at the boiling point of the liquid.

(B) Evaporation causes cooling and can occur at all temperatures below the boiling point.

(C) Evaporation causes heating and occurs only at the surface of the liquid.

(D) Rate of evaporation decreases with increase in surface area and wind speed.

27. A mixture of two liquids can be separated by fractional distillation if :

(A) They have the same boiling points.

(B) They have a large difference in their boiling points (more than 25°C).

(C) They form a homogeneous mixture.

(D) One of them is soluble in water.

28. The molecular mass of a compound is 60 u. If the compound contains 40% carbon, 6.67% hydrogen and the rest oxygen by mass, its molecular formula is : (Atomic masses : C = 12, H = 1, O = 16)

(A) CH_2O (B) C_2H_4O (C) $C_2H_4O_2$ (D) C_3H_6O

29. An atom of an element has 11 protons, 12 neutrons and 11 electrons. Which of the following is correct ?

(A) Atomic number = 11, Mass number = 23, It is a cation.

(B) Atomic number = 11, Mass number = 23, It is a neutral atom of sodium.

(C) Atomic number = 12, Mass number = 23, It is an anion.

(D) Atomic number = 11, Mass number = 11, It is a neutral atom.

30. Assertion (A) : Isotopes of an element have the same chemical properties.

Reason (R) : Isotopes have the same number of protons and electrons but different number of neutrons.

(A) Both A and R are true and R is the correct explanation of A.

(B) Both A and R are true but R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

31. An object moves along a circular path of radius *R*. What is its displacement after completing half a revolution ?

(A) πR (B) 2R (C) Zero (D) $2\pi R$

32. A constant force acts on an object of mass 5 kg for a duration of 2 seconds. It increases the object's velocity from 3 m/s to 7 m/s. Find the magnitude of the applied force.

(A) 5 N (B) 10 N (C) 15 N (D) 20 N

33. The value of gravitational acceleration *g* on the surface of the Earth depends on which of the following variables ?

(A) Mass of the object falling freely

(B) Only the radius of the Earth

(C) Both the mass of the Earth and the radius of the Earth

(D) The volume of the object

34. A girl of mass 40 kg climbs a vertical staircase of height 5 meters in 10 seconds. Calculate the power expended by the girl. (Take $g = 10\ m/s^2$)

(A) 200 W (B) 400 W (C) 2000 W (D) 40 W

35. A sonar device on a submarine sends out a signal and receives an echo 3 seconds later. If the speed of sound in water is 1500 m/s, how far away is the underwater cliff ?

(A) 4500 m (B) 2250 m (C) 3000 m (D) 1125 m

SECTION – D (Reasoning)

36. In a certain code language, "CAN" is written as "20" and "ARE" is written as "26". How is "WIN" written in that code language ?

(A) 48 (B) 46 (C) 45 (D) 49

37. Five girls Anjali, Beena, Chintu, Diksha and Shruti are of different ages. Anjali is younger than only Diksha and Shruti. Shruti is younger to Diksha. Chintu is youngest. Who is the fourth oldest ?

(A) Beena (B) Chintu (C) Diksha (D) Shruti

38. Which of the following letter clusters will replace the question mark (?) in the given series to make it logically complete ?

DSB, GVY, JYV, MBS, ?

(A) PEP (B) PDP (C) PEO (D) PEQ

39. Select the set in which the numbers are related in the numbers of the following sets.

(33, 11, 66)

(45, 15, 90)

(A) (51, 19, 102) (B) (51, 17, 104)

(C) (51, 17, 102) (D) (53, 19, 102)

40. Select the number from the given options that can replace the question mark (?) in the following series.

24, 21, 16, 13, 8, ?

(A) 2 (B) 5 (C) 7 (D) 3

41. Six numbers 1, 2, 3, 4, 5 and 6, are written on the different faces of a dice. Three different positions of the same dice are shown (Figure 1 – 3). Find the number on the face opposite to the face showing '4'.

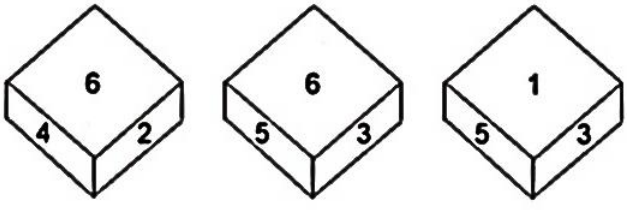
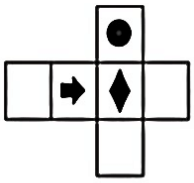


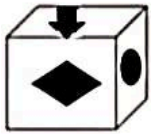
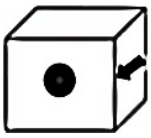
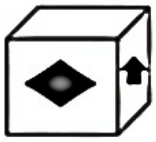
Figure 1 Figure 2 Figure 3

(A) 1 (B) 2 (C) 3 (D) 5

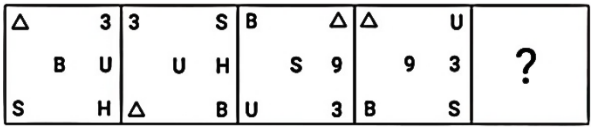
42. Choose the dice from the given options that is similar to the dice formed from the given sheet of paper (X) :

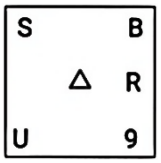
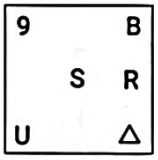
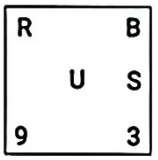


(X)

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

43. Which figure should replace the question mark (?) in the following series to continue the pattern ?



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

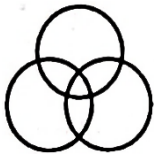
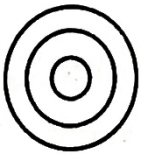
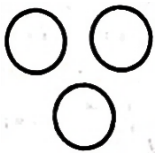
44. Select the correct mirror image of the given figure when the mirror is placed at PQ as shown below.



(A) #!@#W₹^&+*_ (B) #!@#M₹^&*+_

(C) #!@#W₹^&*+_ (D) #!@#W^₹&*+_

45. Iron, Lead, Nitrogen

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

SECTION – E (Mathematics)

46. If $x = 2 + \sqrt{3}$, find the value of $x + \frac{1}{x}$.

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

47. Express $0.363636\ldots(0.\overline{36})$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

(A) $\frac{4}{11}$ (B) $\frac{36}{99}$ (C) $\frac{2}{5}$ (D) $\frac{36}{100}$

48. If $x + 1$ is a factor of $x^3 + ax^2 - 2x + b$ and $a + b = 4$, find the values of a and b.

(A) $a = 2, b = 2$ (B) $a = 1, b = 3$ (C) $a = 3, b = 1$ (D) $a = 0, b = 4$

49. What is the remainder when $p(x) = x^3 - 3x^2 + 4x - 5$ is divided by $(x - 2)$?

(A) -1 (B) 3 (C) -3 (D) 5

50. If two supplementary angles are in the ratio 2 : 7, then the measure of the smaller angle is :

(A) 40° (B) 50° (C) 20° (D) 140°

51. In △ABC, the side BC is produced to D. If ∠ABC = 50° and ∠ACD = 110°, then ∠BAC is equal to :

(A) 50° (B) 60° (C) 70° (D) 80°

52. If the altitudes from two vertices of a triangle to the opposite sides are equal, then the triangle is :

(A) Scalene (B) Equilateral (C) Isosceles (D) Right – angled

53. In △PQR, if ∠P = 70° and ∠Q = 50°, which side of the triangle is the longest ?

(A) PQ (B) QR (C) PR (D) Both QR and PR

54. A box contains 5 red marbles, 8 white marbles, and 4 green marbles. One marble is taken out of the box at random. What is the probability that the marble taken out is not white ?

(A) $\frac{8}{17}$ (B) $\frac{4}{17}$ (C) $\frac{5}{17}$ (D) $\frac{9}{17}$

55. If the angles of a quadrilateral are in the ratio 3 : 5 : 9 : 13, the quadrilateral is a :

(A) Parallelogram (B) Trapezium (C) Kite (D) Rhombus

56. AB and CD are two equal chords of a circle with center O, such that ∠AOB = 60°. If chord CD is at a distance of 4 cm from the center, find the radius of the circle.

(A) 4 cm (B) 8 cm (C) $4\sqrt{3}$ cm (D) $2\sqrt{3}$ cm

57. ABCD is a cyclic quadrilateral such that ∠A = 80°. Find the measure of ∠C.

(A) 80° (B) 100° (C) 120° (D) 90°

58. Find the area of a triangular field whose sides are 50 m, 78 m, and 112 m.

(A) 1200 m² (B) 1680 m² (C) 1560 m² (D) 1800 m²

59. If the radius of a sphere is doubled, the ratio of the volume of the original sphere to the volume of the new sphere is :

(A) 1 : 2 (B) 1 : 4 (C) 1 : 8 (D) 1 : 16

60. The mean of 5 observations $x, x + 2, x + 4, x + 6$ and $x + 8$ is 11. Find the value of x.

(A) 5 (B) 6 (C) 7 (D) 8