



## SAMPLE PAPER

### GRADE– 9<sup>th</sup>

#### SECTION – A (English)

1. Identify the main (principal) clause in this complex sentence.

**'The candidate who performs best under pressure will be selected for the SSB interview, provided he clears the medical examination.'**

- (A) who performs best under pressure
- (B) The candidate will be selected for the SSB interview
- (C) provided he clears the medical examination
- (D) will be selected for the SSB interview

2. Which of the following uses a gerund (an '– ing' verb acting as a noun)?

- (A) He is planning to launch a new initiative.
- (B) The screaming engines deafened the crew.
- (C) Managing logistics requires acute attention to detail.
- (D) They have been running the drills all morning.

3. Tick the sentence where the subject and verb agree properly.

- (A) A multitude of challenges confront the new administration.
- (B) Neither the commander nor his subordinates was aware of the ambush.
- (C) The series of lectures on strategy were highly informative.
- (D) Bread and butter are his daily breakfast.

4. What is the correct passive form of this proverb?

**'One must endure what one cannot cure.'**

- (A) What cannot be cured must be endured.
- (B) What one cannot cure must be endured by one.
- (C) What is unable to be cured must be endured.
- (D) One must be endured by what cannot be cured.

5. Change to indirect speech.

**The tactician said, 'Had I known about the terrain, I would have deployed the snipers differently.'**

- (A) The tactician said that if he knew about the terrain, he would deploy the snipers differently.
- (B) The tactician stated that had he known about the terrain, he would have deployed the snipers differently.
- (C) The tactician said that he had known about the terrain and would deploy snipers differently.
- (D) The tactician exclaimed that knowing the terrain would change the deployment.

6. What kind of phrase is highlighted here?

'The officer, a man of immense integrity, refused the bribe.'

- (A) Adjective Phrase (B) Noun Phrase in Apposition  
(C) Adverb Phrase (D) Prepositional Phrase

7. Choose the best conjunction to connect this thought.

'\_\_\_\_\_ you comply with the standard operating procedures, your safety cannot be guaranteed.'

- (A) If (B) Provided (C) Unless (D) Until

8. Find the sentence that uses the **WRONG** preposition.

- (A) The tribunal consists of five senior members.  
(B) She bears a striking resemblance with her mother.  
(C) He was acquitted of all charges.  
(D) They agreed to the proposal.

9. Which sentence uses a 'to – verb' (infinitive) to show purpose?

- (A) To err is human. (B) She went to the armoury to fetch her gear.  
(C) To be honest, I am exhausted. (D) I like to read military history.

10. Which sentence smoothly shifts from a past ongoing action to a simple past event?

- (A) He had been monitoring the radar for hours before the blip appeared.  
(B) He has been monitoring the radar before the blip had appeared.  
(C) He was monitoring the radar when the blip had appeared.  
(D) He had monitored the radar before the blip was appearing.

## **SECTION – B (General Knowledge)**

11. A Money Bill can be introduced only in:

- (A) Rajya Sabha (B) Either House  
(C) Lok Sabha with President's recommendation (D) Joint Sitting

12. Which Constitutional Amendment added the words Socialist and Secular to the Preamble?

- (A) 24<sup>th</sup> (B) 42<sup>nd</sup> (C) 44<sup>th</sup> (D) 52<sup>nd</sup>

13. Kudremukh is famous for the mining of:

- (A) Copper (B) Iron Ore (C) Gold (D) Bauxite

14. Which mineral is called "Brown Gold" in India?

- (A) Lignite (B) Bauxite (C) Copper (D) Mica

15. The Neyveli mines in Tamil Nadu produce:

- (A) Bituminous Coal (B) Lignite (C) Petroleum (D) Uranium

16. Thomas Babington Macaulay is famous for his:

- (A) Vernacular Education Policy (B) Minute on Indian Education (1835)  
(C) Wood's Despatch (D) Hunter Commission

17. Macaulay wanted to create a class of people who were:

- (A) Indian in blood and English in taste (B) English in blood and Indian in taste  
(C) Indian in language only (D) British citizens

18. After the Revolt, the East India Company was abolished by:

- (A) Charter Act 1853 (B) Government of India Act 1858  
(C) Indian Councils Act 1861 (D) Regulating Act 1773

19. Who became the first Viceroy of India after the Revolt?

- (A) Lord Dalhousie (B) Lord Canning (C) Lord Elgin (D) Lord Mayo

20. Which Mughal emperor granted trading rights to the English East India Company in Bengal?

- (A) Akbar (B) Aurangzeb (C) Farrukhsiyar (D) Shah Jahan

## **SECTION – C (General Science)**

- 21. An unlabeled 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<sub>2</sub>O (B) C<sub>2</sub>H<sub>4</sub>O  
(C) C<sub>2</sub>H<sub>4</sub>O<sub>2</sub> (D) C<sub>3</sub>H<sub>6</sub>O

- 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 an action.
  - (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)  $\pi R$
  - (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  $g = 10 \text{ m/s}^2$ )**
- (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, GVV, 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'.

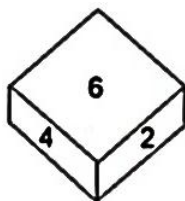


Figure 1

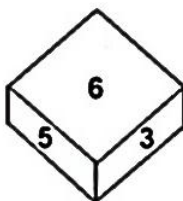


Figure 2

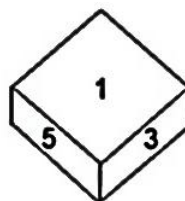
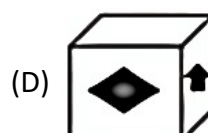
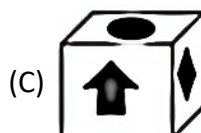
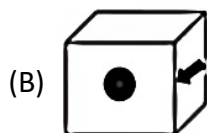
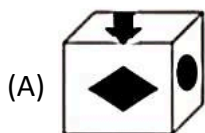
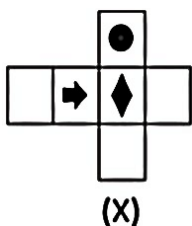


Figure 3

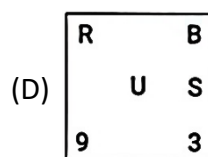
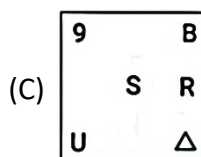
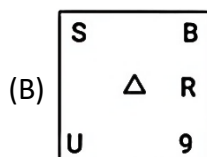
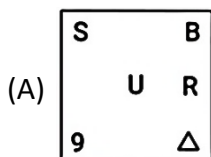
- (A) 1 (B) 2  
(C) 3 (D) 5

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



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

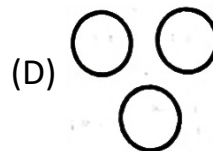
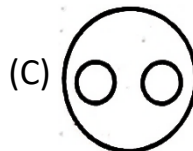
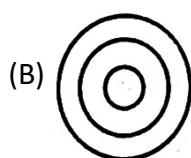
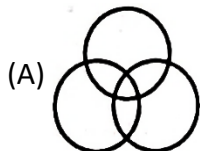
|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| △ | 3 | 3 | S | B | △ | △ | U |   |
| B | U |   | U | H | S | 9 | 9 | 3 |
| S | H | △ | B | U | 3 | B | S | ? |



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



45. Iron, Lead, Nitrogen



## 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  $0.363636\dots (0.\overline{36})$  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)  $40^\circ$  (B)  $50^\circ$  (C)  $20^\circ$  (D)  $140^\circ$
51. In  $\triangle ABC$ , the side BC is produced to D. If  $\angle ABC = 50^\circ$  and  $\angle ACD = 110^\circ$ , then  $\angle BAC$  is equal to:  
(A)  $50^\circ$  (B)  $60^\circ$  (C)  $70^\circ$  (D)  $80^\circ$
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  $\triangle PQR$ , if  $\angle P = 70^\circ$  and  $\angle Q = 50^\circ$ , which side of the triangle is the longest?  
(A) PQ (B) QR (C) PR (D) Both QR and PR
54. The diagonals of a rhombus are 12 cm and 16 cm. Find the length of each side of the rhombus.  
(A) 8 cm (B) 9 cm (C) 10 cm (D) 12 cm
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  $\angle AOB = 60^\circ$ . 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  $\angle A = 80^\circ$ . Find the measure of  $\angle C$ .  
(A)  $80^\circ$  (B)  $100^\circ$  (C)  $120^\circ$  (D)  $90^\circ$
58. Find the area of a triangular field whose sides are 50 m, 78 m, and 112 m.  
(A)  $1200 \text{ m}^2$  (B)  $1680 \text{ m}^2$  (C)  $1560 \text{ m}^2$  (D)  $1800 \text{ m}^2$
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