



**IMPORTANT INSTRUCTIONS :**

All Questions are compulsory. Each correct answer carries 4 marks. No negative marks, No mark is deducted if not attempted. All are single correct answers only.

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**Total No.of Questions : 45. Time duration : 90 M Max.Marks :180M**

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**Syllabus:**

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**MATHEMATICS : Surds**

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**PHYSICS : Sound**

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**CHEMISTRY : Metals & Non-metals**

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**MATHEMATICS**

- 1.
- 2.
- 3.
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- 14.
- 15.

## PHYSICS

- 16. Wave transfer from one place to another only**  
A) mass                      B) particles                      C) energy                      D) medium
- 17. Vibrating bodies produce \_\_\_\_\_.**  
A) Sound                      B) heat                      C) light                      D) none of these
- 18. The instrument used in the laboratory to produce sound of a fixed frequency is**  
A) simple pendulum    B) tuning fork    C) thermometer    D) meter scale
- 19. A sound of wavelength 68 cm travels 850m in 2.5s calculate (i) the velocity of sound (ii) the frequency of sound.**  
A) 320m/s, 600 Hz                      B) 340 m/s , 500 Hz  
C) 330 m/s , 400 Hz                      D) 325m/s, 300 Hz
- 20. A sound wave travelling in air has wavelength of  $1.6 \times 10^{-2}$ m. If the velocity of sound is 320m/s, calculate the frequency of sound.**  
A) 10,000Hz    B) 20,000 Hz    C) 15,000 Hz    D) 25,000 Hz
- 21. The frequency of a source of sound is 100 Hz. How many times it vibrates in a minute?**  
A) 5000                      B) 6000                      C) 5400                      D) 5500
- 22. Clapping of our hands produces**  
A) transverse waves                      B) light waves  
C) periodic waves                      D) pulse
- 23. The number of cycles in one second is called \_\_\_\_\_ of the wave.**  
A) wavelength    B) velocity    C) frequency    D) time period



## CHEMISTRY

- 31. The second most abundant non metal in earth's crust is:**  
A) phosphorus    B) sulphur    C) silicon    D) oxygen
- 32. Metals react with mineral acids to form**  
A) Salt + Water    B) Salt + Hydrogen  
C) Salt + HCl    D) All
- 33. Science of extracting metal from their ore is \_\_\_\_\_.**  
A) Ductility    B) Malleability    C) Sonoirty    D) Metallurgy
- 34. Metal which occur in free state as well as in combined state is \_\_\_\_.**  
A) Copper    B) Silver    C) Gold    D) Platinum
- 35. Identify the metalloid from the following:**  
A) arsenic    B) antimony    C) germanium    D) All
- 36. The natural materials in which the metals or their compounds are found in earth's crust are called:**  
A) Ores    B) Sulphides    C) Minerals    D) Carbonates
- 37. Most abundant element upon the earth is \_\_\_\_\_.**  
A) Nitrogen    B) Oxygen    C) Silicon    D) Carbon
- 38. The metal that occurs in free state in the earth's crust is:**  
A) gold    B) silver    C) platinum    D) all the above
- 39. Aluminium is good conductor of heat, so it used in**  
A) Duralumin    B) Paint    C) Electric wire    D) All the above
- 40. Which metal is used in thermiet process –**  
A) C    B) Co    C) Al    D) A & B
- 41. The constituent of haemoglobin is –**  
A) Iron    B) Sodium    C) Copper    D) Magnesium
- 42. Cinnabar is an ore of –**  
A) Mercury    B) Copper    C) Calcium    D) Lead

43. Which metal does not react with oxygen –  
A) Cu                      B) Au                      C) A and B                      D) Fe
44. Non-metal generally form –  
A) Anions                      B) Cations                      C) Ions                      D) None of these
45. The non-metal which is a liquid at room temperature–  
A) Oxygen                      B) Fluorine                      C) Sulphur                      D) Bromine

### MENTAL ABILITY

46. If 42572 stands for WORLD, then 7252 stands for –  
A) DOLR                      B) ROLD                      C) LORD                      D) OLRD
47. If 87654 stands for GREAT, then 754 stands for –  
A) GET                      B) TEA                      C) EAT                      D) RAT
48. If GROWTH stands for 579312, then THROW stands for –  
A) 12793                      B) 21793                      C) 21973                      D) 21379
49. If SLIGHT stands for 426875, then GIST stands for –  
A) 6845                      B) 8645                      C) 4568                      D) 4586
50. If EARTH = 12347, TRACE = 43251, FARCE = 92351, what is FACT?  
A) 9254                      B) 9524                      C) 9245                      D) 9425

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	Q.NO MENTAL ABILITY	KEY
	46	C
	47	D
	48	A
	49	B
	50	A

## CHEMISTRY

32. Metal + Mineral acid  $\longrightarrow$  Salt + Hydrogen

