

(Std.9-STSE-1-)

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**ISO 9001-2008 Certified**

**SCIENCE TALENT SEARCH EXAMINATION  
SAMPLE PAPER**



**CLASS - IX**

**Please fill the following details immediately**

**Name:** \_\_\_\_\_

**Hall Ticket No.:** \_\_\_\_\_

**❖ 100 Questions ❖**

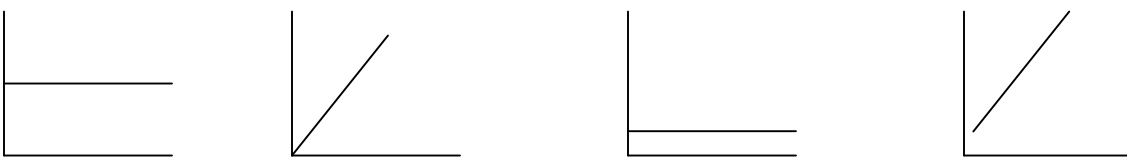
**❖ Time Allowed : 120 Minutes ❖**

- ❖ Do not open this question paper until the signal is given.**
- ❖ Please check the CLASS printed on the cover page and the inside is same when you open the booklet.**

## **General Instructions:**

- 1) All questions are compulsory and carry equal marks.
- 2) There is no negative marking.
- 3) There is only one correct answer hence write one choice only.
- 4) Please avoid cutting/overwriting etc.
- 5) Return the answer sheet to the invigilator at the end of the examination.
- 6) The question paper can be retained by the student.

## PHYSICS [30]

- 1) Units of uniform speed and non-uniform speed are  
a)  $m/s, m/s^2$                       b)  $m/s, m^2/s$   
c)  $m/s, m/s$                          d)  $m - s, m/s$
- 2) Depletion of ozone is mainly due to  
a) Chlorofluorocarbon compound      b) CO  
c) Methane                                         d) Pesticides
- 3) Velocity of a body is variable when  
a) only speed of the body changes  
b) only direction of the body changes  
c) both the speed and direction of the body changes  
d) either the speed or the direction or both change.
- 4) Which of the following graphs represent a uniformity accelerated motion?
- 
- a)                      b)                      c)                      **d)**
- 5) The particle is moving in a circular path of radius  $r$ . The displacement after half a circle would be  
a) zero                  b)  $\pi r$                   c)  $2 r$                   d)  $2 \pi r$
- 6) Momentum of a body of mass 4 kg is  $24 \text{ kg ms}^{-1}$ , Its velocity is  
a)  $96 \text{ m/s}$               b)  $6 \text{ m/s}$               c)  $24.4 \text{ m/s}$               d)  $28 \text{ m/s}$
- 7) The force of action and reaction  
a) always cancel each other      b) never cancel  
c) cancel same time                  d) cannot say
- 8) The numerical ratio of displacement to distance for a moving object is  
a) always less than 1                  b) always equal to 1  
c) always more than 1                 d) equal or less than 1
- 9) The function of mud guards is based on  
a) inertia of rest                         b) inertia of direction  
c) inertia of motion                         d) force

- 10) Rocket works on the principle of conservation of  
a) mass                      b) energy                      c) momentum                      d) velocity
- 11) Flying of rockets and jet planes is explained on the basis of  
a) Newton's 3<sup>rd</sup> law of motion  
b) principle of conservation of linear momentum  
c) either a or b  
d) neither a nor b
- 12) In a tug of war, when the rope does not move on any direction, the net force is  
a) 0                      b) Low                      c) High                      d) Very high
- 13) The SI unit of gravitational constant is  
a) N                      b) J                      c)  $m/s^2$                       d)  $Nm^2Kg^{-2}$
- 14) Total momentum of gun and bullet before firing is  
a) +ve                      b) -ve                      c) 0                      d) cannot say
- 15) The mass of a body on the surface of earth is 12 kg. if accelerative due to gravity on moon is  $1/6$  of acceleration due to gravity on earth, then its mass on moon will be  
a) 2 kg                      b) 72 kg                      c) 12 kg                      d) zero
- 16) The atmosphere is held to the earth by  
a) gravity                      b) wind  
c) clouds                      d) earth's magnetic field
- 17) When we hold a suitcase steady at some height  
a) weight of suitcase stops acting  
b) suitcase alone applies force  
c) suitcase is under the action of balanced forces  
d) suitcase applies pressure
- 18) When measuring automobile tire pressure what type of pressure is this  
a) gauge                      b) absolute  
c) relative                      d) all of the proceeding
- 19) The density of water is maximum at  
a)  $0^\circ C$                       b)  $4^\circ C$                       c)  $10^\circ C$                       d)  $100^\circ C$

- 20) When each side of a regular body is doubled
- a) its volume becomes two times
  - b) its volume becomes four times
  - c) its volume becomes eight times
  - d) its volume becomes sixteen times
- 21) A moving body cannot stop on its own. This is due to
- a) inertia of rest
  - b) inertia of motion
  - c) inertia of direction
  - d) inertia of velocity
- 22) The power of water pump is 2 KW. If  $g = 10 \text{ m/s}^2$ , the amount of water it can raise in 1 minute to a height of 10 m is
- a) 2000 litre
  - b) 1000 litre
  - c) 100 litre
  - d) 1200 litre
- 23) Mechanical waves can be
- a) longitudinal only
  - b) both longitudinal and transverse
  - c) transverse only
  - d) neither longitudinal nor transverse
- 24) When we change feeble sound to loud sound we increase its
- a) frequency
  - b) amplitude
  - c) velocity
  - d) wavelength
- 25) Relative density of a substance depends upon
- a) mass of the substance
  - b) shape of the substance
  - c) volume of the substance
  - d) material of the substance
- 26) When ice melts, its temperature
- a) remains constant
  - b) decreases
  - c) increases
  - d) changes
- 27) A body floats in a liquid if the buoyant force is
- a) zero
  - b) greater than its weight
  - c) less than the weight of liquid
  - d) equal to its weight
- 28) The temperature of dry ice is
- a) 373 k
  - b) between 373 k and 273 k
  - c) 273 k
  - d) between 273 and 0 k.
- 29) Waves used in sonography are
- a) infrared waves
  - b) microwaves
  - c) sound waves
  - d) ultrasonic waves

- 30) Mercury is used as a thermometric substance because
- a) it has uniform expansiveness
  - b) it has high boiling point
  - c) it has a fairly low freezing point
  - d) all of the above

**CHEMISTRY [30]**

- 31) What is the gram molecular mass of 1 mole nitrogen molecule?
- a) 14 g
  - b) 7 g
  - c) 28 g
  - d) 21 g
- 32) The process of evaporation causes \_\_\_\_\_.
- a) heating
  - b) cooling
  - c) temperature to rise
  - d) boiling
- 33) Which one of the following is expected to show Tyndall effect?
- a) A solution of common salt
  - b) Milk
  - c) Starch solution
  - d) A solution of sodium carbonate
- 34) The volume of one mole of a gas at standard temperature and pressure is
- a) 11.2 litres
  - b) 22.4 litres
  - c) 100 litres
  - d) 224 litres
- 35) The indivisibility of atom was proposed by
- a) Rutherford
  - b) Dalton
  - c) Bohr
  - d) Einstein
- 36) In helium atom, the number of electrons in the L shell is
- a) 0
  - b) 2
  - c) 8
  - d) 6
- 37) The number of neutrons in an atom of  ${}^{23}_{11}\text{A}$  is
- a) 23
  - b) 11
  - c) 12
  - d) 34
- 38) Sulphur dissolves in
- a)  $\text{CS}_2$
  - b)  $\text{CO}_2$
  - c)  $\text{SO}_2$
  - d)  $\text{NO}_2$
- 39) Two elements A and B have the same atomic mass but their atomic numbers are 19 and 20 respectively. A and B are
- a) isotopes
  - b) isobars
  - c) isomers
  - d) polymers

- 40) Tear gas contains  
a) cyclohexane                      b) benzene chloride  
c) benzene carbonate                d) toluene
- 41) The acid used to write and draw on the glass  
a) HCl                                    b) hydrofluoric acid  
c) HNO<sub>3</sub>                                d) sulphuric acid
- 42) Plumbum is the Latin name of  
a) Tin                      b) mercury    c) lead                d) gold
- 43) The element used to make solar cell  
a) silicon                b) carbon    c) lead                d) zinc
- 44) Smelling salt is  
a) ammonium chloride                b) ammonium carbonate  
c) ammonium nitrate                  d) ammonium fluoride
- 45) The salt of which element gives blue colour to glass is  
a) Cobalt                b) Potassium    c) Arsenic    d) Molybdenum
- 46) What is milk of lime ?  
a) Calcium oxide                      b) Calcium hydroxide  
c) Calcium carbonate                d) Calcium Sulphate
- 47) Which fuel is used in spirit lamp ?  
a) Methyl alcohol                      b) Ethyl alcohol  
c) Butyl alcohol                        d) LPG
- 48) Wax dissolves in  
a) carbon tetra chloride                b) toluene  
c) benzene                                d) carbon disulphide
- 49) Which is the most malleable of all metals?  
a) Iron                      b) Cobalt    c) Gold                d) Calcium
- 50) Identify the pure substance from the following.  
a) Steel                                    b) Magnalium  
c) Ammonia                                d) Gunpowder
- 51) What is the smallest constituent of a matter that retains its chemical identity?  
a) Atom                      b) Molecule    c) Ion                d) Radical

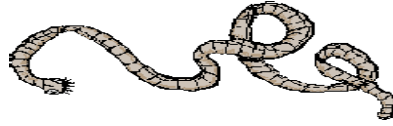
- 52) On which of the following factors, molecular arrangement of a substance depends?  
a) Temperature and pressure  
b) Concentration and temperature<sup>o</sup>  
c) Temperature, pressure, concentration  
d) Volume and pressure
- 53) Which of the following has highest kinetic energy ?  
a) Particles of ice at 0 °c      b) Particles of water at 0 °c  
c) Particles of water at 100 °c    d) Particles of steam at 100 °c
- 54) On converting 25 ° c, 38 ° c and 66 ° c to Kelvin scale, the correct sequence of temperature will be  
a) 298 K, 311 K, 339 K      b) 298 K, 300 K, 338 K  
c) 273 K, 278 K, 543 K      d) 298 K, 310 K, 338 K
- 55) Which of the following does not affect the rate of evaporation?  
a) Wind speed      b) Surface area  
c) Temperature      d) Insoluble heavy impurities
- 56) Fog is an example of  
a) Sol      b) Gel      c) aerosol      d) foam
- 57) Diamond is lustrous because  
a) it is colourless      b) it is hard  
c) it is pure      d) it has high reactive index
- 58) If we burn graphite,  
a) residue will be left      b) no residue will be left  
c) it will not burn      d) it will change into liquid
- 59) Pure copper sulphate can be obtained by  
a) evaporation      b) distillation  
c) crystallization      d) fractional crystallization
- 60) Which of the following is a solid and melts into a liquid in the palm?  
a) Hg      b) Ga      c) Br<sub>2</sub>      d) Na



## BIOLOGY [30]

- 61) Poultry Farming is undertaken for  
a] egg and feather production    b] egg and chicken meat  
c] feather and chicken meat    d] milk and egg
- 62) Which of the following is not a weed?  
a] cow pea    b] parthenium    c] motha    d] xanthium
- 63) Find out the correct sentence.  
(1) Hybridization means crossing between genetically dissimilar plants.  
(2) Cross between two varieties is called inter specific hybridization.  
(3) Introducing genes of deserved character into a plant gives genetically modified crop.  
(4) Cross between plants of two species is called hybridization.  
a] 1, 3    b] 2, 4    c] 2, 3    d] 3, 4
- 64) Which food sample you will select to test the presence of starch?  
a] grape fruit    b] gram seed  
c] coconut oil    d] potato tuber
- 65) Chromosomes are made up of  
a] DNA    b] RNA    c] Protein    d] DNA and Protein
- 66) \_\_\_\_\_ can be made into crystal.  
a] A bacterium    b] An amoeba  
c] A virus    d] A sperm
- 67) Which of the following are covered by a single membrane?  
a] Mitochondria    b] Ribosome  
c] Lysosome    d] Plastid
- 68) In plant cell, cell wall is  
a] dynamic and living    b] rigid and non-living  
c] dynamic and non - living    d] rigid and living
- 69) Girth of the stem increases due to  
a] apical meristem    b] vertical meristem  
c] lateral meristem    d] intercalary meristem

- 70) Intercalated disc is present in  
a) cardiac muscle                      b) striated muscle  
c) smooth muscle                      d) both [a] & [c]
- 71) Carbohydrates are mainly stored in plants as  
a) glycogen    b) starch            c) sucrose        d) glucose
- 72) Cell theory was given by  
a) Schleiden and Schwann    b) Virchow  
c) Hooke                      d) Haeckel
- 73) Some parts of the plants are flexible due to the presence of  
a) parenchyma                      b) collenchyma  
c) meristematic tissue            d) sclerenchyma
- 74) Areolar connective tissue is found  
a) around blood vessels and nerves    b) in the bone marrow  
c) between skin and muscles            d) all the above
- 75) Bone matrix is rich in  
a) fluoride and calcium            b) calcium and phosphorus  
c) calcium and potassium        d) phosphorus and potassium
- 76) In desert plants, rate of water loss gets reduced due to the presence of  
a) cuticle            b) stomata            c) lignin            d) suberin
- 77) Dendrites are found in  
a) striated muscle                      b) cardiac muscle  
c) neuron                              d) non striated muscle
- 78) The basic unit of classification is  
a) Family            b) Genus            c) Species            d) Order
- 79) \_\_\_\_\_ connects one bone to another bone.  
a) Ligament    b) Tendon            c) Nerve            d) Areolar Tissue
- 80) Eukaryotic and multicellular body designs are not found in  
a) Monera            b) Fungi            c) Plantae            d) Animalia
- 81) Elephantiasis is caused by  
a) Wuchereria                      b) Pinworm  
c) Planarians                      d) Liver Flukes



82) Identify this organism

- a) Male Ascaris
- b) Female Ascaris
- b) Tape Worm
- d) Nereis

83) Pteridophytes do not have

- a) root
- b) stem
- c) flower
- d) leaves

84) Plants with hidden reproductive organs are excluded in

- a) Gymnosperms
- b) Angiosperms
- c) Phanerogames
- d) Cryptogams

85) Whale belongs to the class

- a) Pisces
- b) Amphibia
- c) Reptilia
- d) Mammalia

86) Karl Von Linne was involved with which branch of science?

- a) Morphology
- b) Taxonomy
- c) Physiology
- d) Medicine

87) Meena and Hari observed an animal in their garden. Hari called it an insect while Meena said it was an earthworm. Choose the character from the following which confirms that it is an insect.

- a) Bilateral symmetrical body
- b) Body with jointed legs
- c) Cylindrical body
- d) Body with little segmentation

88) Sepals and petals of typical flower are

- a) reproductive whorls
- b) accessory whorls
- c) Both reproductive and accessory
- d) Neither reproductive nor accessory

89) Which of the following is an artificial ecosystem?

- a) Pond
- b) Crop field
- c) Lake
- d) Forest

90) Oxygen is harmful for

- a) Ferns
- b) Nitrogen fixing bacteria
- c) Henna
- d) Mango tree

## GENERAL KNOWLEDGE [10]

- 91) What is the full form of MOM?  
a) Mars Orbitor Mission      b) Mars Observation Mission  
c) Mars Oscillation Mission      d) Multi Observation Mission
- 92) Goldman Environmental Prize in 2014 was awarded to  
a) Ramesh Gupte      b) Ramesh Agarwal  
c) Ram Singh      d) Vijay Seshadri
- 93) What does 'Niti' in Niti Aayog Stands for?  
a) National Institution For Transforming India  
b) National Institution For Trading in India  
c) National Institute for Technology in India  
d) National Institution for Trueking in India
- 94) Who is the author of "Ashtanga Hrudaya" ?  
a) Chanakya      b) Vagbhata  
c) Vishnu Sharma      d) R.K. Narayan
- 95) Gayatri Mantra is in  
a) Rigveda      b) Samaveda  
c) Yajurveda      d) Atharvaveda
- 96) 1 horse power = \_\_\_\_\_ Watt.  
a) 745      b) 748      c) 746      d) 750
- 97) 'Tamasha' is the dance form of which state?  
a) Punjab      b) Madhyapradesh  
c) Maharashtra      d) Assam
- 98) Which town is known as Silcon valley of India  
a) Bangalore      b) Delhi  
c) Kolkota      d) Mumbai
- 99) The red ring in the Olympic circles represents \_\_\_\_\_ continent.  
a) America      b) Africa      c) Asia      d) Europe
- 100) Who described Vivekananda as the Spiritual Father of modern nationalist movement?  
a) Gandhiji      b) Jawaharlal Nehru  
c) Subhash Chandra Bose      d) Rajendra Prasad