

IMPORTANT INSTRUCTIONS FOR THE CANDIDATES

The candidates are given the question paper sheets of their chosen subject stream along with an answer sheet (bubble sheet) carrying 100 bubbles in four groups i.e., 25 bubbles (squares) for each subject. They are required to DARK SHADE the correct choice CAREFULLY within the boundary of a BUBBLE. Calculator can be used but **MUST NOT** be shared with others. A candidate can leave the test hall after half time.

Please **DO NOT DETACH** the Bubble Sheet from the Question Paper

ENGLISH

COVID-19 SOPs will follow

Choose the correct answers to the words in underlined CAPITAL letters.

The boy must cultivate a poise and calm that SMOTHERS the fidgets.

- 1) a) Grow b) Enlarge
- 2) I shambled in and looked TIMIDLY round. c) Support
- 3) Muscles are destroyed and bones DEFORMED. d) Suppress
- 4) That was either RELEVANT or true. e) Fearfully
- 5) There are at least 500 kinds of fish that generate APPRECIABLE amounts of electricity. f) Twisted
- 6) The new manager's greatest ASSET was his reputation for honesty. g) Concerned
- 7) Many countries nowadays restrict the exportation of AUTHENTIC artifacts. h) Included
- 8) Many writers write satires that expose the ARROGANT nature of the newly-rich people. i) Negligible
- 9) River, valleys and coastal plains constitute APPROXIMATELY a third of the country. j) Deception
- 10) Teaching provides the chief means of CONVEYING knowledge. k) Tentative
- 11) Gardening is the CULTIVATION of plants, usually in or near home. l) Inferior
- 12) His selling a painting for 100,000 dollars has been the highest ATTAINMENT of his career. m) Minimally
- 13) The department chairmen refused to AUTHORIZE the requisition. n) Reviewing

Pick the correct option from the given choices to fill in the blanks.

- 14) If I _____ here, I shall come to you. o) Was p) Were
- 15) I am very much _____ to meet you. q) delighting r) Delighted
- 16) If I helped him, he _____ drowned. s) Will not have t) Would not have
- 17) That was _____ movie I have ever seen. u) Most worst v) bad
- 18) I have paid _____ it. w) For x) At
- 19) You may count _____ my help in this matter. y) from z) down
- 20) He remained deaf _____ his father's advice. aa) from ab) to
- 21) You have no sympathy _____ the poor. ac) upon ad) about
- 22) Necessity is the mother of _____. ae) Adventure af) None of these
- 23) _____ of everything is bad. ag) Excess ah) None of these

- 24) As the crow is so the _____ shall be.
 a) Eggs b) Children c) Embryo d) None of these
- 25) Hard work is the _____ to success.
 a) Lock b) Key c) Door d) Window

PHYSICS

- 26) Which uranium atoms undergo fission readily?
 (a) U^{238} (b) U^{235} (c) U^{233} (d) U^{234}
- 27) Hydrogen bomb is an example of:
 (a) Nuclear fission (b) Nuclear fusion (c) Chain reaction (d) Chemical reaction
- 28) Production of X-rays can be regarded as the inverse of:
 (a) Pair production (b) Compton effect (c) Photoelectric effect (d) Annihilation of matter
- 29) The energy of photon is given by:
 (a) $\frac{1}{2}mv^2$ (b) V_0e (c) m_0c^2 (d) hf
- 30) When angle between force and displacement is zero, the work done on a body is:
 (a) Zero (b) Maximum (c) Minimum (d) None of these
- 31) The device or circuit used to convert A.C. into D.C. is called:
 (a) An amplifier (b) Rectifier (c) Filter circuit (d) Transistor
- 32) The work done by friction is:
 (a) Positive (b) Negative (c) Zero (d) None of these
- 33) Mass attached to a spring executes:
 (a) Simple harmonic motion (b) Rotational motion (c) Non-harmonic motion (d) None of these
- 34) The diameter of a lens is called:
 (a) Focal length (b) Principle axis (c) Aperture (d) Radius of lens
- 35) The least distance of distinct vision for a normal eye is:
 (a) 25 cm (b) 25 cm (c) 30 cm (d) 40 cm
- _____ through a metallic conductor is due to the motion of:
 (a) Molecules (b) Molecules (c) Ions (d) Electrons
- _____ works as:
 (a) Conductor (b) Good insulator (c) Conductor (d) None of these
- _____ partially conductor and partially insulator (b) Good insulator (d) None of these
- Energy required by an electron to move from ground state to higher energy state is called:
 (a) Ionization potential (b) Excitation potential (c) Ionization energy (d) Excitation energy
- 39) S.I unit of frequency is:
 (a) Radian (b) ms^{-1} (c) Sine wave (d) Hertz
- 40) The time period of a second pendulum is:
 (a) 2 seconds (b) 4 seconds (c) 6 seconds (d) None of these
- 41) Kirchhoff's voltage rule is a way of stating conservation of:
 (a) Energy (b) Momentum (c) Charge (d) Angular momentum
- 42) Which materials should be inserted between the plates in order to increase the capacitance?
 (a) Copper (b) Mica (c) Iron (d) Tin
- 43) Capacitance of capacitor does not depend upon:
 (a) Distance between the plates (b) Area of plates (c) Electric field between plates (d) Medium between the plates
- 44) The fourth state of matter is called:
 (a) Gas (b) Plasma (c) Vaporization (d) None of these
- 45) The ability of a body to return to its original shape is called:
 (a) Elasticity (b) Elastic force (c) Stress (d) Plasticity
- 46) Which of the following are electromagnetic waves?
 (a) Sound waves (b) Water waves (c) Matter waves (d) Light waves
- 47) In the equation $PV = nRT$, the constant of proportionality R is known as:
 (a) Universal gas constant (b) Gas constant (c) Ideal gas factor (d) Gas index
- 48) Which of the following is the most suitable material for the core of a transformer?
 (a) Soft iron (b) Alnico (c) Steel (d) Cobalt
- 49) The number of terminals in semi-conductor diode are:
 (a) 2 (b) 3 (c) 4 (d) 5
- 50) In photovoltaic cell, the current is directly proportional to:
 (a) Wavelength of light (b) Intensity of light (c) Frequency of light (d) Energy

CHEMISTRY

- 51) The number of atoms present in a molecule determine its
 (a) molecularity (b) basicity (c) acidity (d) atomicity
- 52) Mass spectrometer separates different positive isotopic ions on the basis of their
 (a) mass value (b) m/e value (c) e/m value (d) change value

- Percentage of oxygen in H_2O is
 (a) 80% (b) 88.8% (c) 8.8% (d) 9.8%
- Three elements needed for the healthy growth of plants are:
 (a) N, S, P (b) N, Ca, P (c) N, P, K (d) N, K, C
- Reagent used to reduce a carboxylic group to an alcohol is:
 (a) H_2/Ni (b) H_2/Pt (c) $NaBH_4$ (d) $LiAlH_4$
- Acetic acid is manufactured by:
 (a) Distillation (b) Fermentation (c) Ozonolysis (d) Esterification
- 57) Ketones are prepared by the oxidation:
 (a) Primary alcohol (b) Secondary alcohol (c) Tertiary alcohol (d) Aldehyde
- 58) Boiling point is low for liquid with
 (a) high vapour pressure at given temperature (b) low vapour pressure at a given temperature
 (c) very high vapour pressure (d) very low vapour pressure
- 59) Crystal lattice of substance can be categorised into
 (a) five types (b) seven types (c) six types (d) none of these
- 60) Orbitals having same energy are called
 (a) hybrid orbitals (b) valence orbitals (c) degenerate orbitals (d) d-orbitals
- 61) Alpha particles are identical to
 (a) hydrogen atoms (b) helium atoms (c) helium nuclei (d) fast moving electrons
- 62) Laughing gas is chemically:
 (a) NO (b) N_2O (c) NO_2 (d) N_2O_4
- 63) Which element belongs to group IVA of periodic table?
 (a) Barium (b) Iodine (c) Lead (d) Oxygen
- 64) Chile saltpeter has the chemical formula:
 (a) $NaNO_3$ (b) KNO_3 (c) $Na_2B_4O_7$ (d) $Na_2CO_3 \cdot H_2O$
- 65) Mark the correct statement:
 (a) M.P. of halogen decreases down the group (b) M.P. of halogen increases down the group (c) M.P. of halogen remains the same through out the group (d) M.P. of halogen first increase and then decrease down the group
- 66) Synthetic rubber is made by polymerization of:
 (a) Chloroform (b) Acetylene (c) Divinyl acetylene (d) Chloroprene
- 67) Most of the elements are
 (a) Crystalloids (b) Metalloids (c) Metals (d) Non-Metals
- 68) The total number of elements in S-block is
 (a) 24 (b) 14 (c) 34 (d) 04
- 69) Which of the following has highest melting point?
 (a) Aluminium (b) Sulphur (c) Silicon (d) Phosphorus
- 70) Which noble gas is present on the earth due to radioactive decay?
 (a) Rn (b) Xe (c) Kr (d) Ar
- 71) The Raney nickel is prepared by treating _____ with NaOH
 (a) Ni-Pb (b) Ni-Al (c) Ni-Ag (d) Ni-Cu
- 72) Which of the following compound reacts slower than benzene in electrophilic substitution?
 (a) Phenol (b) Aniline (c) Nitro Benzene (d) Toluene
- 73) The group that deactivates the benzene ring for electrophilic substitution?
 (a) Amino (b) Methyl (c) Chlorine (d) Hydroxy
- 74) Aldol Condensation occur between
 (a) two aldehydes (b) two ketones (c) an aldehyde & an ketone (d) all of these
- 75) Which part of the atmosphere is near to earth
 (a) Mesosphere (b) Troposphere (c) Stratosphere (d) Thermosphere

BIOLOGY

- 76) The formulation of hypothesis where we move from general reasoning to specific
 a) Inductive reasoning b) Deductive reasoning c) Conducive reasoning d) Progressive reasoning
- 77) Removal of environmental pollutants or toxic metals by living organisms like bacteria and plants
 a) Phytoremediation b) Bioreclamation c) Detoxification d) Bioremediation
- 78) The "Lock and Key Model" of enzyme activity was proposed by
 a) Emil Fisher b) Koshland c) Erwin Chargaff d) Rosalind Franklin
- 79) The idea that new cells originate from pre-existing cells was proposed by
 a) Robert Brown b) Rudolph Virchow c) Louis Pasteur d) August Weismann
- 80) The spherical or tubular membranes of Endoplasmic reticulum are called
 a) Cristae b) Thylakoid c) Matrix d) Cisternae
- 81) The chromosome number in potato
 a) 48 b) 46 c) 23 d) 50
- 82) In five kingdom classification, all unicellular prokaryotes are placed in the kingdom
 a) Protista b) Plantae c) Monera d) Eukaryote

