

**IMPORTANT INSTRUCTIONS FOR THE CANDIDATES**

Candidates are given the question paper sheets of their chosen subject stream along with an answer sheet (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 is 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**

- Who opposed Gorgios in creating the post of court acrobat ?  
 A) his wife B) his son C) many people D) his friend
- What would be the effect of court acrobat ? It would \_\_\_\_\_  
 A) strengthen the soldiers B) earn money C) amuse people D) delight the king
- Who was selected as a court acrobat?  
 A) Gorgios B) James C) Manana D) Terbut
- Now truly she was furious  
 A) angry B) shocked C) afraid D) humble
- The girl shrieked hysterically  
 A) ran B) screamed C) looked D) sang
- I ground my teeth in disgust  
 A) happiness B) sadness C) loathing D) gloom
- I told the parents that it was entirely up to them.  
 A) partially B) swiftly C) completely D) tiringly
- She was as strong as a heifer appearance.  
 A) young cow B) young sheep C) young goat D) young camel
- What is the endearing primitive trait of the earth people?  
 A) pride B) friendship C) prejudice D) enmity
- Who goes to look at the ship ?  
 A) Splendid B) John C) AIDs D) Ellen
- Whom could Kreton tell about his solar system?  
 A) an optician B) a mathematician C) a chemist D) an engineer
- Water \_\_\_\_\_ at 100 C.  
 A) Boiling B) Boils C) Boil D) Is boil
- He \_\_\_\_\_ when the door bell rang  
 A) Sleep B) Was sleeping C) Slept D) sleeps
- Mr. Steward will \_\_\_\_\_ you at 8.00 P.M.  
 A) call off B) call to C) call for D) call on
- What is the title Mr. Chips is given upon his retirement?  
 A) Headmaster B) Professor C) Chairman D) Dean
- Which subject does Mr. Chips consider his favorite to teach?  
 A) Latin B) Mathematics C) History D) Literature
- She walked \_\_\_\_\_ the park.  
 A) through B) To C) Onto D) From
- We'll meet \_\_\_\_\_ 6 o'clock.  
 A) At B) On C) In D) By
- The book is \_\_\_\_\_ the shelf.  
 A) above B) under C) In D) between
- They waited \_\_\_\_\_ the bus stop for over an hour.  
 A) In B) On C) At D) By
- The concert was canceled \_\_\_\_\_ bad weather.  
 A) For B) By C) Because D) Due to
- She always sits \_\_\_\_\_ the front row in class.  
 A) In B) On C) At D) By
- The store is located \_\_\_\_\_ the corner of Elm Street \_\_\_\_\_ Main Street.  
 A) In B) on...or C) in...but D) between...and
- A) at...and
- 24) Choose the correctly structured sentence:  
 A) We is playing soccer in the field. B) We am playing soccer in the field. C) We are playing soccer in the field. D) We be playing the field.
- 25) Which sentence is written correctly?  
 A) The children is playing outside. B) The children are playing outside. C) The children am outside. D) The children be outside.

**PHYSICS**

- 26) Travel time of light from moon to earth is  
A) 1 min 20 sec B) 8 min 20 sec C) 5 hour 20 sec D) None of these
- 27) 1 femto is equal to  
A)  $10^{15}$  B)  $10^{18}$  C)  $10^{12}$  D)  $10^9$
- 28) According to Einstein 1kg mass is converted to energy  
A)  $9 \times 10^8$  J B)  $9 \times 10^{16}$  J C)  $9 \times 10^{15}$  J D)  $9 \times 10^{17}$  J
- 29) 3 J of work is done in 3 sec then power is  
A) 6W B) 3W C) 18 W D) 1W
- 30) Escape velocity is independent of  
A) Mass B) Momentum C) Radius D) Force
- 31) If a body of mass 5kg is raised vertically through a distance of 1m, then work done is  
A) 49 J B) 4.9 J C) 490 J D) 0.49 J
- 32) A stream of air passing over a tube dipped in a liquid will cause the liquid to rise in tube/capillary action is used in  
A) Perfume bottles B) Paint sprayer C) Both A&B D) None of these
- 33) A chimney works best when it is  
A) Small B) Large C) Tall D) None of these
- 34) Carburetor of a car uses --- to feed the correct mix of air and petrol to the cylinders  
A) Small pipe B) Venture duct C) Gas D) None of these
- 35) Bats navigate and find food by  
A) Echo location B) flow of blood C) Size of flow of blood D) None
- 36) The distance between compression and adjacent rarefaction  
A)  $\lambda/2$  B)  $\lambda/4$  C)  $\lambda$  D)  $2\lambda$
- 37) A 2m long pipe is open at both ends. What is its harmonic frequency?  
A) 42.5 Hz B) 220 Hz C) 85 Hz D) None of these
- 38) The image of an object placed inside the focal length of a convex lens will be largest and clearest when it is at the  
A) Less than 25 cm B) Greater than 25 cm C) Near point D) Infinity
- 39) In Young's Double Slit Experiment, if the distance between slits and screen is doubled, then fringe spacing becomes  
A) Zero B) Doubles  $\Delta y \propto L$  C) One D) Half
- 40) The unit of electric field intensity is  
A) Newton B) Coulomb C) Joule/coulomb D) Newton/coulomb
- 41) If the distance between two charges is half then force becomes  
A) Half B) One fourth C) Two times D) Four times
- 42) An ECG records, between points on human skin generated by electrical process in the heart  
A) Current B) Voltage C) Resistance D) Capacitance
- 43) SI unit of strength of electric field is  
A) J/C B) C/V C) N/C D) None of these
- 44) Kirchoff first rule is  
A)  $\sum V=0$  B)  $\sum I=0$  C)  $\sum R=0$  D)  $\sum B=0$
- 45) Heat sensitive resistor is called  
A) Resistor B) Capacitor C) Thermistor D) Inductor
- 46) The potential difference between head and tail of electric eel is  
A) 400 V B) 500V C) 600V D) 700V
- 47) A current of 1 A ampere passes through a wire in 1 min, charge flowing  
A) 60C B) 30C C) 1 c D) 0.016 C
- 48) SI unit of emf is  
A) Newton B) Pascal C) Volt D) Ampere
- 49) If a step up transformer were 100% efficient, the primary and secondary windings would have same  
A) Current B) Power C) voltage D) Direction
- 50) SI unit of energy density of electric field is  
A) J/C B) J/V C)  $J/m^3$  D)  $J/F^3$

- Periodic table has been divided into four blocks, which blocks contain highest elements:
- a) s b) p c) d d) f
- The division of elements into blocks in the modern periodic table is based on:
- a) Shell b) Sub-shell c) Orbital d) All
- Keeping in view the size of atoms, which order is the correct one:
- a)  $Mg > Sr$  b)  $Ba > Mg$  c)  $Lu > Ce$  d)  $Cl > I$
- Mosley concluded by the X-ray studies of the elements that physical and chemical properties of elements depend upon:
- a) Atomic mass b) Atomic no. c) Mass no. d) All
- Beryllium metal is as hard as:
- a) Fe b) Cu c) Zn d) Diamond
- One of the following alkali metals is the most reactive which is that:
- a) Cs b) K c) Na d) Li
- Which of the following does not give flame test:
- a) Zn b) Ba c) Sr d) Ca
- Sodium metal cannot be stored in:
- a) Toluene b) Alcohol c) Benzene d) Kerosene oil
- Dolomite is a carbonate of:
- a) Ca and Ba b) Mg and Al c) Ca and Mg d) Na
- Which of the following has zero dipole moment:
- a) 2-methyl-1-propene b) 1-butene c) Trans-2-butene d) Cis-2-butene
- Fractional distillation of petroleum yields only about -----% of gasoline.
- a) 40% b) 20% c) 70% d) 10%
- Which of the following compounds will exhibit cis-trans isomerism):
- a) Butanal b) 2-butyne c) 2-butanol d) 2-butene
- Preparation of vegetable ghee involves:
- a) Halogenation b) Hydrogenation c) Hydroxylation d) Dehydrogenation
- Which type of reactions are given by alkanes:
- a) Polymerization b) Elimination c) Addition d) Substitution
- Which one of the following will be present at the position of letter B
- $$C_2H_5Br \xrightarrow[\text{Alcohol}]{KOH} A \xrightarrow{H_2/Pt} B$$
- a) Ethyl alcohol b) Acetaldehyde c) Ethene d) Ethane
- In unimolecular reactions, the reaction completes in:
- a) One step b) Two steps c) Three steps d) None of these
- Grignard's reagent reacts to form alkane with:
- a) Water b) Ammonia c) Ethanol d) All of these
- The compound 'B' is:
- a) Acetic acid b) Propanoic acid c) Ethyl alcohol d) Propionaldehyde
- Which of the following will react with both ethanol and ethanoic acid at room temperature:
- a)  $CaCO_3$  b)  $CuO$  c) Na-metal d)  $CH_3OH$
- Which one of the following is not an amino acid:
- a) Alanine b) Glycine c) Aspartic acid d) Aniline
- Which one of the following metal can evolve hydrogen from acetic acid:
- a) Na b) Fe c) Al d) Cu
- The decrease in Atomic size is not much prominent across rows containing elements of:
- a) s-Block b) p-Block c) d-Block d) f-Block
- Dolomite is the ore of:
- a) Strontium b) Mg c) Ba d) K
- Which of the following element is the best conductor of electricity:
- a) Zn b) Cu c) Fe d) Ag

- 78) Removal of environmental pollutants by living organisms  
 (a) Bioinfection (b) Bioremediation (c) Cloning (d) Bacteriophage
- 79) Total species of organisms are  
 (a) 2.5 millions (b) 2.0 millions (c) 2.3 millions (d) 2.13 millions
- 80) Specie of insects in total organisms are  
 (a) 17.6% (b) 53.1% (c) 19.9% (d) 9.4%
- 81) Size of parvovirus is.  
 (a) 300nm (b) 250nm (c) 20nm (d) 200nm
- 82) Study of viruses is called  
 (a) Mycology (b) Parasitology (c) Virology (d) Microbiology
- 83) Capsid is made up of protein subunits known as.  
 (a) Core (b) Capsomere (c) Nucleocapsid (d) Envelope
- 84) Number of capsomeres in capsid of herpes virus.  
 (a) 162 (b) 152 (c) 262 (d) 252
- 85) The volume of phage is about ..... of the host.  
 (a) 1/10 (b) 1/100 (c) 1/1000 (d) 1/10000
- 86) The endospermic tissue of angiospermae is.  
 (a) Triploid (b) Diploid (c) Tetraploid (d) Haploid
- 87) An example of gymnosperms is.  
 (a) Ginkgo (b) Lycopodium (c) Horsetail (d) Rose
- 88) Wuthin ovule of pinus are produced four.  
 (a) Eggs (b) Teliospore (c) Microspore (d) Megaspore
- 89) Which is the central requirement in the maintenance of an organism?  
 (a) Osmoregulation (b) Homeostasis (c) Thermoregulation (d) Excretion
- 90) Which of the following act as homeostatic thermostat in humans?  
 (a) Thalamus (b) Hypothalamus (c) Cerebrum (d) Hypodermis
- 91) Detection of change and signaling the effector's response to control system is a:  
 (a) Negative feedback (b) Inter-coordination (c) Positive feedback (d) Feedback
- 92) A diluted solution compared to cell concentration is termed as:  
 (a) Hypertonic (b) Hypotonic (c) Isotonic (d) Paratonic
- 93) \_\_\_\_\_ did not have the adaptations to remove the flooding of their cells in fresh water  
 (a) Hydrophytes (b) Mesophytes (c) Halophytes (d) Xerophytes
- 94) Interstitial cells secrete  
 (a) Testosterone (b) Corticosteroids (c) Estrogen (d) Aldosterone
- 95) Which hormone is chemically steroid?  
 (a) Thyroxine (b) Corticosterone (c) Cortisol (d) Both b and c
- 96) Excess melanin stimulating hormone is secreted in:  
 (a) Parkinson disease (b) Alzheimer disease (c) Addison disease (d) Both a and c
- 97) Which of the following hormone suppresses ovulation?  
 (a) Testosterone (b) Estrogen (c) Progesterone (d) All of these
- 98) Antidiuretic hormone is also called:  
 (a) Testosterone (b) Estrogen (c) Progesterone (d) Vasopressin
- 99) ABO blood group system was discovered by:  
 (a) Karl Landsteiner (b) Johannsen (c) De-varies (d) Carl Correns
- 100) Individual have ..... blood group and is called universal recipient:  
 (a) A (b) AB (c) AB (d) O