

minutes

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 allowed 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 option from the given choices to fill in the blanks.

1. The wearer knows where the shoe _____.
A. Pinch ☒ B. Pinches ☒ C. Is pinching ☒ D. Was pinching ☐
 2. It is no use casting pearls before _____.
A. Cow ☐ B. Pig ☐ C. Buffalo ☐ D. Swine ☒
 3. He _____ to college daily in time.
A. Go ☐ B. Goes ☐ C. Going ☐ D. Gone ☐
 4. We _____ fast lest you _____ miss the train.
A. May ☐ B. Should ☐ C. Must ☒ D. Ought to ☐
 5. A nod to the wise and _____ to the foolish.
A. Stone ☐ B. Arrow ☐ C. R. J ☐ D. Whip ☐
 6. She was yelling _____ her students.
A. Over ☐ B. ☒ C. For ☐ D. Against ☐
 7. She congratulated me _____ my success.
A. After ☐ B. On ☐ C. Upon ☐ D. At ☐
 8. She was brought _____ by her uncle.
A. Of ☐ B. On ☐ C. ☒ Up ☐ D. Upon ☐
 9. He _____ out five minutes ago.
A. Had gone ☐ B. Has gone ☐ C. Was going ☐ D. Went ☐
 10. She _____ ill for a week.
A. Is ☐ B. Was ☐ C. Had ☐ D. Has been ☒
 11. His house is adjacent _____ the mosque.
A. Of ☐ B. At ☐ C. With ☐ D. To ☒
 12. He laughs as if he _____ mad.
A. 's ☐ B. Was ☒ C. Been ☐ D. Were ☐
- Choose the correct answers to the words in underlined CAPITAL letters.
13. We were shocked by the BRUTALITY of the hooligans.
A. Eagerness ☐ B. Politeness ☐ C. Foolishness ☐ D. Cruelty ☒
 14. Some hotels have imposed a BAN on cigarette smoking.
A. Prohibition ☐ B. Restriction ☒ C. Guarantee ☐ D. Punishment ☐
 15. Finding the missing paper on Ali's CLUTTERED desk is almost impossible.
A. Refurbished ☐ B. Tarnished ☐ C. Well-organized ☐ D. Littered ☒
 16. Sometimes the most unlikely people manage to COLLABORATE successfully.
A. Stand together ☐ B. Work together ☒ C. Judge ☐ D. Put together ☐
 17. A CAREFUL teacher spends hours preparing for classes and correcting students papers.
A. Conscientious ☒ B. Skillful ☐ C. Leading ☐ D. Creative ☐
 18. A utistic people usually have unexpected and BIZARRE responses to their environment.
A. Inconspicuous ☐ B. Usual ☐ C. Ordinary ☐ D. Strange ☒
 19. The COLLAPSE of the stock market signaled the beginning of the economic crisis.
A. Revival ☐ B. Failure ☐ C. Rise ☐ D. Rebirth ☐
 20. The enemy's attempt at a BLOCKADE of the port was unsuccessful.
A. Expedition ☐ B. Opening ☐ C. Closure ☒ D. Landing ☐
 21. The hurricane that hit the city had a CATASTROPHIC effect.
A. Blowing ☐ B. Disastrous ☒ C. Catagories ☐ D. Frightening ☐
 22. We were asked to list the CHRONOLOGY of events on our history test.
A. Revolution ☐ B. Time sequence ☒ C. Catastrophe ☐ D. Disaster ☐

Stream 1: Eng, Phys

23. The monetarist CASE has been vividly expressed by Milton Friedman.
A. Strongbox B. Argument
24. A nursery school is a school CHIEFLY for three or four-year-old children.
A. Primarily B. Originally C. Certainly
25. Generally, our memories CLUSTER around certain topics.
A. Pilfer B. Bunch C. Flee
- PHYSICS**

(c) Nature of substance
Reaction:

25. Generally, out of the following, which is not a physical property?
(a) Melting point (b) Density (c) Solubility (d) Chemical reactivity
26. Half life of a radioactive substance depends upon:
(a) Amount of substance (b) How old the substance is (c) Nature of substance (d) All of these
27. Which of the following quantities does not remain conserved during pair production:
(a) Momentum (b) Mass (c) Energy (d) Charge
28. Mass can be converted into
(a) Energy (b) Momentum (c) Force (d) Acceleration
29. Which of the following have the highest thermal conductivities?
(a) Liquids (b) Gases (c) Metals (d) Solids other than metals
30. The average distance that a molecule moves before colliding with another molecule is called:
(a) Mean free path (b) Path allowance (c) Compacting factor (d) Molecular space
31. The value of the universal gas constant in kJ/kmol K.....
(a) 10.73 (b) 86.4 (c) 8.314 (d) 1545
32. Ability to do work is called:
(a) Power (b) Energy (c) Work (d) None of these
33. Current passes through a P-N junction when it is:
(a) Forward biased (b) Reverse biased (c) No bias at all (d) None of these
34. The branch of Physics primarily dealing with heat and work is called:
(a) Thermodynamics (b) Mechanics (c) Physics (d) Electromagnetic
35. Calorie is a measure of:
(a) Specific heat (b) Quantity of heat (c) Thermal capacity (d) Entropy
36. The efficiency of a Carnot engine depends on:
(a) Working substance (b) Design of engine (c) Size of engine (d) Temperatures of source and sink
37. The dimensions of Planck's constant are similar to:
(a) Power (b) Angular momentum (c) Intensity (d) Momentum
38. An ideal black body is:
(a) Bad absorber of heat (b) Good emitter of heat (c) Perfect absorber of heat (d) Both (b) and (c)
39. If a body moves with the velocity of light, its mass becomes:
(a) Equal to its rest mass (b) Zero (c) Double to rest mass (d) Infinite
40. Resistance of an ideal insulator is:
(a) Zero (b) Infinite (c) Finite (d) None of these
41. When white light passes through a prism, it splits into:
(a) 7 colors (b) 3 colors (c) 5 colors (d) None of these
42. Majority carriers in a p-type semiconductor are:
(a) Protons (b) Electrons (c) Atoms (d) None of these
43. A device based on photoelectric effect is called:
(a) Photodiode (b) Resistor (c) Capacitor (d) None of these
44. What are the dimensions of stress?
(a) MLT^{-2} (b) $ML^{-2}T^{-1}$ (c) $ML^{-1}T^{-2}$ (d) MLT^{-1}
45. Materials that undergo plastic deformation before breaking are called:
(a) Brittle (b) Ductile (c) Amorphous (d) Polymers
46. Bernoulli's equation is obtained by applying law of conservation of:
(a) Mass (b) Momentum (c) Fluid (d) Energy
47. In a p-n-p transistor, n region is called:
(a) Collector (b) Emitter (c) Base (d) None of these
48. Transformer works on the principle of:
(a) Lenz's law (b) Faraday's law (c) Hook's law (d) Mutual induction
49. Neutron and proton are commonly known as:
(a) Nucleons (b) Mesons (c) Bosons (d) Quarks
50. Charge on an electron was determined by:
(a) Millikan (b) Ampere (c) Maxwell (d) None of these

CHEMISTRY

51. The velocity of photon is
(a) independent of its wavelength
(b) depends on its wavelength
(c) equal to square of its amplitude
(d) depends on its source

Group-II Stream 1: Eng, Phys, Chem, Biol.

- a spectrum of light is formed by the radiation given off by a substance called
 (a) line spectrum (b) continuous spectrum (c) emission spectrum (d) absorption spectrum
- When an electron creates a magnetic field
 (a) magnetic field (b) electric field (c) quantum field (d) none of these
- Distillation under very reduced pressure is called
 (a) Fractional distillation (b) distillation (c) quantum field (d) none of these
- Crystalline solids are generally
 (a) hard (b) soft (c) unstable (d) stable
- When the 6d orbital is complete the entering electron goes into
 (a) 7s (b) 7p (c) 7p (d) 7d
- Which of the following colours has the longest wavelength in the visible spectrum of light
 (a) red (b) blue (c) violet (d) green
- Relative atomic mass is the mass of an atom of an element as compared to the mass of
 (a) oxygen (b) hydrogen (c) nitrogen (d) carbon
- 27 grams of Al will react completely with how much mass of O_2 to produce Al_2O_3
 (a) 8 gm of oxygen (b) 16 gm of oxygen (c) 32 gm of oxygen (d) 24 g of oxygen
- Science of the chemical characterization stands under the heading of
 (a) industrial chemistry (b) experimental chemistry (c) analytical chemistry (d) physical chemistry
- The comparative rates at which the solutes move in paper chromatography depend on
 (a) the size of paper used (b) R_f values of solutes (c) size of the chromatographic tank used
- Gases are ideal at
 (a) low pressure and high temperature (b) low temperature and high pressure (c) high pressure and high temperature (d) low pressure and low temperature
- The weakest intermolecular force for a
 (a) dipole-dipole force (b) electrostatic force between ions (c) ion-dipole force (d) dipole-induced dipole force
- Which of the following organic compound does not show position as well as functional group isomerism
 (a) Pentanal (b) Butanoic acid (c) Pentanone (d) Butanol
- Biosphere includes
 (a) Atmosphere (b) Hydrosphere (c) Lithosphere only (d) All of these
- Which of the following statement is not correct
 (a) sigma bond is weaker than a pi bond (b) sigma bond is stronger than a pi bond (c) double bond is stronger than a single bond (d) double bond is shorter than a single bond
- Select the atom with the largest ionization energy in the following atoms
 (a) N (b) P (c) As (d) Sb
- Shielding effect across the periods are
 (a) Increases (b) Decreases (c) Cannot be predicted (d) Remain constant
- Li metal is used
 (a) for refining of metals (b) in paper industry (c) as dehydrating agents (d) all of these
- f-Block elements are also called
 (a) Normal transition elements (b) Non-typical transition elements (c) Outer transition elements (d) All of these
- Which compound has most acidic hydrogen?
 (a) Butane (b) 1-Butyne (c) 2-Butyne (d) 1-Butene
- Sabatier-Sender's reaction can be used to prepare
 (a) Alkynes (b) Alkenes (c) Alkanes (d) All of these
- Aromatization of n-heptane gives
 (a) Naphthalene (b) Benzene (c) Methyl cyclohexane (d) Toluene
- When alcohol is made to react with alkyl magnesium halide, the product is
 (a) Epoxide (b) Alkane (c) Alkene (d) All of these
- Methyl ketones are characterized by
 (a) Tollen's reagent (b) Grignard reagent (c) Iodoform Test (d) Fehling Solution

BIOLOGY

- Which of the following organism is found in the gut of termite and help in the digestion of wood
 (a) *Entamoeba histolytica* (b) *Trichonympha* (c) *Trypanosoma* (d) *Paramecium*
- Which of the followings is a type of asexual spores in fungi
 (a) Ascospores (b) Basidiospores (c) Conidia (d) None of these
- The main plant body in Hepaticopsida is
 (a) Gametophyte (b) Sporophyte (c) Archegonia (d) Protonema
- A large regional community primarily determined by climate
 (a) Biome (b) Biosphere (c) Biota (d) Ecosystem

80. The penetration of virus in the host cell is facilitated by release of
 a) Lysosomes b) Ribozymes c) Sugars d) Nucleic acid
81. A type of bacteria stained purple with gram stain
 a) Gram negative b) Gram neutral c) Gram purple d) Gram positive
82. In bacteria, the phase of inactive growth where bacteria prepare themselves for division
 a) L phase b) Log phase c) Stationary phase d) Death/decline phase
83. Most ciliates exchange genetic material through the process of
 a) Crossing over b) Binary fission c) Conjugation d) Mitosis
84. The most abundant carbohydrate in nature is
 a) Glucose b) Fructose c) Starch d) Cellulose
85. Which of the following nucleotides is found only in RNA
 a) A b) T c) U d) G
86. The synthesis of RNA from DNA
 a) Transcription b) Replication c) Translation d) Transduction
87. The optimum pH for pepsin is
 a) 4.50 b) 2.00 c) 7.60 d) 9.00
88. The path of returning electrons from primary acceptor to cytochrome complex through Fd is
 a) Cyclic phosphorylation b) Non-cyclic phosphorylation c) Electron transport chain d) Krebs' cycle
89. Organisms feeding on dead or decaying organic matter
 a) Parasites b) Symbiotic c) Omnivores d) Saprophytes
90. The theory that all living cells are of common origin
 a) Robert Brown b) Rolf Virchow c) Louis Pasteur d) August Weismann
91. A group of ribosomes attached to the mRNA is called
 a) Polysome b) Lysosome c) Peroxisome d) Glyoxysome
92. The region of the prokaryotic cell housing the DNA
 a) Nucleus b) Nucleolus c) Nucleoid d) Nuclein
93. All grasses are placed in family
 a) Rosaceae b) Solanaceae c) Umbelliferae d) Poaceae
94. A condition where male sexual cells develop earlier than female cells
 a) Protogynous b) Hermaphrodite c) Protandrous d) Sexual reproduction
95. The animals laying eggs to protect young embryos
 a) Viviparous b) Oviparous c) Marsupials d) Asexually reproducing organisms
96. The light-drive ATP synthesis is known as
 a) Oxidative phosphorylation b) Photo-phosphorylation c) Photo-oxidation d) Chemiosmosis
97. The entry point of CO₂ in the leaves is
 a) Epidermis b) Mesophyll Cells c) Stomata d) Cortex
98. In Alzheimer's disease is characterized by a decline in the function of:
 a) Heart b) Brain c) Kidney d) Liver
99. A sudden change in the genetic material is called
 a) Transformation b) Crossing over c) Mutation d) Replication
100. Which of the following is a stop codon
 a) UAG b) UUU c) AUG d) GCC