



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – equity – empathy

Time: 2 Hours Computer Science Model Paper (Class X) Total marks: 75

SECTION-A

Marks: 37

Q.No.01 Choose the correct answer for each from the give options. Each MCQ carry 01 mark.

1. Purpose of Input Device is _____.
(a) Pass information (b) Filtration of information (c) Input information to C.P.U
2. Laser Printer & Ink jet printer are example of _____.
(a) Impact Printer (b) Line Printer
(c) Drum printer (d) Non Impact Printer
3. Screen Output is known is _____.
(a) Soft Copy (b) Hard Copy (c) Live wire (d) Software
4. RAM is _____ Memory.
(a) Volatile (b) Non- Volatile (c) live wire (d) none of them
5. 1 Byte have _____ Bits.
(a) 16 (b) 32 (c) 8 (d) 2
6. Modern ages of Computer are divided in _____ Generations.
(a) 3 (b) 5 (c) 8 (d) 2
7. C.P.U is stand for _____.
(a) Central processing unit (b) Control Unit
(c) Current Processing Unit (d) None of them
8. Dot Matrix Printer is _____ type printer.
(a) Impact Printer (b) Non Impact printer (c) laser Printer
9. _____ is known as Brain of Computer.
(a) A.L.U (b) Control Unit (c) Hard disk (d) Memory
10. Flow chart is a _____ of computer program.
(a) Pictorial representation (b) Soft copy (c) Data Type (d) Hard copy
11. Digital Computer measure _____ type of data.
(a) Discrete type (b) Physical Type (c) Non of them (d) Analog Type
12. Hard disk is a _____ type device.
(a) Primary Memory (b) Secondary Memory (c) volatile Memory
13. GWBASIC is a _____ Language.
(a) High Level (b) Low Level (c) Machine (d) Assembly
14. A _____ is a communication network that covers a wide geographically area like city or province
(a) Local area network (b) WAN (c) RAM (d) protocol
15. The two parts of an email are the user name and _____.
(a) protocol name (b) Domain name (c) country name (d) City name
16. The _____ translate whole high level program in the machine language at once.
(a) Interpreter (b) Compiler (c) Assembler (d) None of these
17. Flush drive/ USB is _____ device.
(a) Output (b) input (c) Internal (d) Networking
18. One mega byte (1 MB) is equal to _____.
(a) 100 bits (b) 1000 Nibbles (c) 1024 Bytes (d) 1024 Kilo Bytes
19. Windows is an _____.
(a) Application Software (b) System Software (c) User Software (d) Analog Computer

20. A plotter is an _____
 (a) A storage device (b) A character Device (c) Output Device (d) Input
21. Which of the following is applied to prevent unauthorized use of computer?
 (a) MS EXCEL (b) Password (c) MS WORD (d) USB
22. www. Stand for _____.
 (a) World war was (b) World wide Web
 (c) Word wide voice (d) World writer wait
23. Computer security mean _____ of information and hardware.
 (a) Protection (b) papers (c) human (d) Crime
24. _____ are people who gain illegal access to a computer system.
 (a) Hacker (b) Blocker (c) Engineer (d) Teacher
25. Laser beam technology is used for
 (a) Optical Disk (b) RAM (c) ROM (d) Terminal
26. Machine language is a language _____.
 (a) Understood directly by a computer (b) source file
 (c) High level (d) None
27. A bar code reader is an example of _____.
 (a) Firmware (b) Output device (c) Input Device (d) Display
28. Internet is an example of _____.
 (a) WAN (b) LAN (c) Global Area Network (d) None
29. ROM is abbreviation of
 (a) Random Access Memory (b) Read only Memory
 (c) Read on Memory (d) All of them
30. Data store in a _____ memory is lost if power goes off
 (a) Volatile (b) Non volatile (c) USB (d) Hard Disk
31. The processing speed of CPU is measure in _____.
 (a) KM/sec (b) MHz (c) joule (d) MB
32. A set of computer instruction known as _____.
 (a) Program (b) Record (c) File (d) Data
33. ASCII stand _____
 (a) All standard code for information interchange (b) American standard code
 (c) American static code for information (d) None of the above
34. The process of converting analog signal into digital signal is called _____.
 (a) Modulation (b) Demodulation (c) switching (d) Networking
35. Meaning and organized form of data is known as _____.
 (a) Program (b) BIT (c) Information (d) Server
36. _____ computer is combination of Analog and Digital Computer.
 (a) Network (b) LAN (c) Hybrid (d) Main frame
37. Cache memory is _____ than RAM.
 (a) Faster (b) Slower (c) Same (d) lower

The End



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – equity – empathy

Time: 2 Hours Computer Science Model Paper (Class XI) Total marks: 75

SECTION –B

Marks: 24

Note: Attempt any SIX questions. Each question carry 04 marks

1. Differentiate between Analog & Digital Computers?
2. What is Modem?
3. Define High level & Low Level Language?
4. Explain the term Hardware & software?
5. Define Scanner and its types?
6. What is the purpose of input and output device?
7. What is Operating System?
8. Define Classification of Digital Computers by size?
9. What is Truth Table in Boolean Algebra?
10. Differentiate between LAN & WAN give one example of each?

SECTION-C

Marks: 14

Note: Attempt any Two questions from this section (Each 07 Marks)

11. Define AND Gate, NOR & NOT gates with the help of 2 input variable truth table?
12. List and briefly describe the component of the CPU. What is each part responsible?
13. Write short on any Two of the following
(a) Non-Impact printer (b) Application Software (c) Computer Virus (d) RAM

The End



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence-Equity-Empathy
CHEMISTRY-I MODEL PAPER

Time: 02:00 hrs

Class: XI

Marks: 85

SECTION-A

Marks: 43

MULTIPLE CHOICE QUESTION (MCQ'S)

- Q1. Attempt all MCQ's each MCQ carries equal marks.
- How would you write 3800000 to only 4 significant figures?
(a) 3.800×10^6 (b) 3800.000 (c) 3800 (d) 3.8×10
 - Simplest formula that gives us information about the simple ratio of atoms in a compound is called?
(a) Structural formula (b) Molecular formula (c) Empirical formula (d) Moral ratio
 - When 0.01kg of CaCO_3 is decomposed the CO_2 produced occupies a volume at S.T.P?
(a) 2.2414 dm^3 (b) 22.414 dm^3 (c) 22414 dm^3 (d) 224014 dm^3
 - All of the following are empirical formulas except?
(a) $\text{N}_2 \text{O}_4$ (b) $\text{C}_3 \text{H}_8$ (c) $\text{Al}_3 (\text{SO}_4)_2$ (d) $\text{Na}_2 \text{SO}_4$
 - The volume is inversely proportional to the pressure if temperature is constant, this statement belongs to:
(a) Dalton's Law of partial pressure (b) Boyle's law
(c) Charle's law (d) N.O.T
 - Which gas will show highest and lowest diffusion?
(a) He and H_2 (b) H_2 and CH_4 (c) CH_4 and SO_2 (d) SO_2 and H_2
 - The resistance to flow of a liquid is called:
(a) Vapour pressure (b) Surface tension (c) Viscosity (d) Evaporation
 - Existence of an element in more than one form is known as:
(a) Allotropy (b) Isomorphism (c) Isotropy (d) None of these
 - The amount of heat required to vaporize one mole of a liquid at its boiling point is called:
(a) Molar heat of vaporization (b) Molar heat of fusion
(c) Latent heat of fusion (d) Molar heat of sublimation
 - In the Bohr's model of atom the electron in an energy level emits or absorbs energy only when it:
(a) Remains in the same energy level (b) Dies out
(c) Changes its energy level (d) Jumps away
 - Bohr's model of atom is contradicted by:
(a) Planck's quantum theory (b) Pauli exclusion principle
(c) Heisenberg uncertainty principle (d) Aufbau principle
 - The neutron was discovered by:
(a) Faraday (b) Eugene Goldstein (c) Rutherford (d) Chadwick
 - The methane molecule has _____ type of hybridization:
(a) SP^3 (b) SP^2 (c) SP^1 (d) dSP^2
 - Mass of electron is:
(a) $9.1 \times 10^{-31} \text{ kg}$ (b) $9.109 \times 10^{-32} \text{ gm}$ (c) $8.1 \times 10^{-31} \text{ g}$ (d) $9.1 \times 10^{-31} \text{ mg}$
 - Which of the following molecules has a pyramidal structure:
(a) CH_4 (b) NH_3 (c) H_2O (d) C_2H_4
 - The attractive force that holds atoms together in a molecule is called:
(a) Force of attraction (b) Electrostatic force (c) Chemical bond (d) A.O.T
 - The sigma bond is formed by:
(a) Parallel overlapping of orbital (b) Linear overlapping of orbital
(c) Both a & b (d) None of these
 - Dipole moment of H_2O is:
(a) 1.85 (b) 1.82 (c) 1.87 (d) 1.83
 - The minimum amount of energy required to break a bond is called:
(a) Bond energy (b) Atomic energy (c) Activation energy (d) Threshold energy
 - Pi-bond is a _____ bond:
(a) Stronger (b) Weaker (c) Both a & b (d) A.O.T
 - The net heat changes in a chemical reaction is same whether, it is brought about in two or more different ways in one or several steps known as:
(a) Henry's law (b) Joule's principle
(c) Hess's law (d) Law of conservation of energy

22. For a given process, the heat change at pressure (q_p) and constant volume (q_v) are related to each other as:
 (a) $q_p = q_v$ (b) $q_p < q_v$ (c) $q_p > q_v$ (d) $q_p = \Delta E$
23. Anything which is under observation is called:
 (a) Surrounding (b) Universe (c) System (d) N.O.T
24. There are _____ types of system:
 (a) 2 (b) 3 (c) 4 (d) 5
25. $\Delta E = q + w$ is known as:
 (a) Hess's Law (b) 1st law of thermodynamics
 (c) 2nd law of thermodynamics (d) N.O.T
26. Law of mass action was presented by:
 (a) Henderson (b) Lewis (c) Guldberg and Waage (d) Arrhenius
27. When pressure is applied to given equilibrium between ice and water which of the following will happen:
 (a) More ice will be formed (b) More water will be formed
 (c) Equilibrium will not be disturbed (d) Water will formed
28. The law of mass action was given by:
 (a) Eugene Goldstein (b) Galileo (c) C.M Guldberge and Wagge (d) NOT
29. The active mass means:
 (a) The effective concentration taking part in a chemical reaction
 (b) The ineffective concentration taking part in a chemical reaction
 (c) The effective volume taking part in a chemical reaction
 (d) The ineffective volume taking part in a chemical reaction
30. What can affect the magnitude of equilibrium constant K_p of are versible gaseous reaction:
 (a) Temperature (b) Pressure (c) Catalyst (d) None of above
31. Hydrolysis of potassium acetate produces:
 (a) Acidic solution (b) Neutral solution (c) Basic solution (d) None of these
32. The oxidation number of supher in SO_4^{2-} is:
 (a) -6 (b) +6 (c) +2 (d) -2
33. The term hydration means:
 (a) Reaction of water molecules with central atom
 (b) Removal of water molecules from central metal atom
 (c) Surrounding of water molecules around central metal atom
 (d) N.O.T
34. The Phenolphthalein indicator in basic solution is:
 (a) Pink (b) Yellow (c) Colorless (d) Orange
35. The compound which acts itself as indicator is:
 (a) $K_2Cr_2O_7$ (b) KCl (c) $KMnO_4$ (d) N.O.T
36. The oxidation of number of a neutral atom or compound is:
 (a) Zero (b) 0/1 (c) 0/2 (d) All of them
37. The rate of reaction:
 (a) Increases as the reaction proceeds (b) Decreases as the reaction proceeds
 (c) Remains the same as the reaction proceeds (d) May decrease or increase as the reaction proceeds
38. A substance which alters the rate of reaction is called:
 (a) Inhibitor (b) Catalyst (c) Promoter (d) Auto catalyst
39. Instantaneous rate of a chemical reaction is:
 (a) Rate of reaction in the beginning (b) Rate of reaction at the red
 (c) Rate of reaction at a given instant (d) rate of reaction b/w two specific time intervals
40. When temperature of reacting gases is raised to 10K, the rate of reaction becomes:
 (a) Remain same (b) Double (c) Triple (d) Increase four times
41. Which scientist gave the name of electron to the cathode rays?
 (a) Plank (b) Einstein (c) Stoney (d) Bohr
42. The mass number of an element is equal to:-
 (a) Number of electrons in an atom
 (b) Number of protons and neutrons in the nucleus
 (c) Number of protons in the nucleus
 (d) Number of neutrons in the nucleus
43. 32 grams O_2 contains _____ of molecules?
 (a) 6.02×10^{23} (b) 12.04×10^{23} (c) N.O.T (d) A.O.T

The End



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

**Excellence-Equity-Empathy
CHEMISTRY-I MODEL PAPER**

Class: XI

Marks: 85

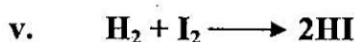
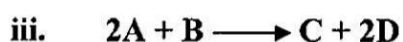
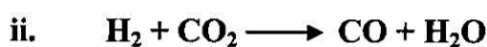
SECTION-B

Marks: 24

Section-B (Short Questions)

Note: Attempt any SIX questions each question carries 04 marks.

- Q2. Define term stoichiometry with its applications.
Q3. Derive the general gas equation with the help of three gas laws?
Q4. Calculate the radius of orbit, $n = 2$ for hydrogen atom?
Q5. Differentiate between sigma and pi-bond?
Q6. Write equilibrium constant expression for the following reactions?



- Q7. Differentiate between hydration and hydrolysis.
Q8. What are slow and fast reactions?
Q9. Define rate of reaction.
Q10. Define molecular formula.

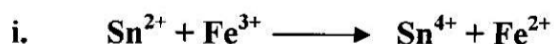
SECTION-C

Marks: 18

(Long Questions)

Note: Attempt any TWO questions each question carries equal marks.

- Q11. Balance the following equation by ion electro method.



- Q12. What is the temperature of one mole of CH_4 gas that occupies 20.0 L at 1.00 atm pressure in Kelvin?
Q13. Calculate the energy of electron when it is revolving in fourth orbit ($n = 4$) of hydrogen atom?

The End



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – Equity – Empathy

Time: 2 Hrs

PHYSICS MODEL PAPER (XI)

Total Marks: 85

SECTION-A

Marks /43

MULTIPLE CHOICE QUESTIONS (MCQ's)

Q.No. 1 Choose the correct answer for each from the given options:-

1. $ML^{-3}T^0$ is the dimensions for
(a) Surface tension (b) Density (c) Viscosity (d) Weight
2. A vector in space contains, components.
(a) 1 (b) 2 (c) 3 (d) All of these
3. If $\vec{A} \times \vec{B}$ lies in positive y-axis then Vector $\vec{A} \times \vec{B}$ are in
(a) x – y plane (b) x – z plane (c) y – z plane (d) All of these
4. The magnitude of $\hat{i} \cdot (\hat{j} \times \hat{k})$ is
(a) \hat{i} (b) 1 (c) -1 (d) none of these
5. If no unbalanced force applied on a body then
(a) It remains at rest (b) move with constant speed
(c) No acceleration produces in it (d) All of them
6. The force of 10^8 dynes is equal to
(a) 10N (b) 100N (c) 1000N (d) 10000N
7. The ball slides down with $a = 4.9m/s^2$ on the inclined plane the angle will be
(a) 45° (b) 60° (c) 30° (d) 90°
8. The velocity of 32 ft/s is equal to
(a) 98m/s (b) 9.8m/s (c) 10m/s (d) 15m/s
9. Two long jumpers have the same velocity, but the one has _____ angle will jump more.
(a) 30° (b) 60° (c) 45° (d) 55°
10. The average density of earth is
(a) $2.5 \times 10^3 \text{ Kg/m}^3$ (b) $3.5 \times 10^3 \text{ Kg/m}^3$
(c) $5.5 \times 10^3 \text{ Kg/m}^3$ (d) $10.5 \times 10^3 \text{ Kg/m}^3$
11. The dimensions of angular acceleration are
(a) $M^0L^0T^{-1}$ (b) $M^0L^{-1}T^0$ (c) $M^0L^0T^{-2}$ (d) $M^{-2}L^0T^{-2}$
12. 2 radian is equal to
(a) 57.3° (b) 114.6° (c) 120° (d) 135°
13. $\frac{2}{3}\pi$ radian is equal to
(a) 57.3° (b) 30° (c) 120° (d) 135°
14. The work done by centripetal force is
(a) maximum (b) $\frac{mv^2}{r} \cdot d$ (c) positive (d) zero
15. Which component of velocity does not change during projectile motion
(a) horizontal (b) Vertical (c) resultant (d) N.O.T
16. At which angle $V_{ox} = V_{oy}$
(a) 30° (b) 45° (c) $\pi/4$ rad (d) both b & c
17. ML^2T^{-2} are the dimensions of
(a) Angular momentum (b) force (c) torque (d) Power
18. if $\epsilon\tau = 0$, body will be in
(a) Translation equilibrium (b) rotational equilibrium
(c) Complete equilibrium (d) N.O.T

19. If the magnitude of masses and distance is same then
 (a) $F_g = 2G$ (b) $F_g = \frac{1}{2}G$ (c) $F_g = G$ (d) $F_g = 0$
20. The dimensions of acceleration is
 (a) $M^0L^{-1}T^{-2}$ (b) M^0LT^{-2} (c) $M^{-2}L^{-1}T$ (d) M^2LT^{-2}
21. The value of 'g' on the surface of moon is
 (a) $9.8m/s^2$ (b) $1.62m/s^2$ (c) $1.8m/s^2$ (d) $16.2m/s^2$
22. If the acceleration of a body is uniform then what is wrong in the following.
 (a) Speed is uniform (b) direction is uniform
 (c) velocity uniform (d) N.O.T
23. The nature of gravitational force is
 (a) repulsive (b) reactive (c) impulsive (d) attractive
24. When speed of body reduces two times K.E becomes
 (a) Twice (b) Half (c) 4 times (d) $\frac{1}{4}$ th
25. Which can be used to distinguish between different musical instrument of the same frequency.
 (a) quality (b) intensity (c) Speed (d) Pitch
26. Time period of a simple pendulum at a planet where $g = 39.2 \text{ m/s}^2$ is
 (a) $\frac{1}{2} T$ (b) T (c) $2T$ (d) $4T$
27. The S.I Unit of electric current is _____
 (a) Coulomb (b) Farad (c) ampere (d) volt
28. Which is only vector among the following _____
 (a) Distance (b) Force (c) Speed (d) Work
29. Dot product of two vectors is zero at an angle _____.
 (a) 90° (b) 60° (c) 45° (d) 0°
30. At which angle of the following motion of an object upon a friction less incline surface is maximum.
 (a) 0° (b) 30° (c) 45° (d) 60°
31. Which of the following is time independent in projectile motion _____.
 (a) Horizontal distance (b) Horizontal velocity
 (c) Vertical velocity (d) Vertical distance
32. Radian is SI unit of _____.
 (a) Displacement (b) angular acceleration
 (c) angular displacement (d) angular velocity
33. Torque produces _____ is in object.
 (a) Linear motion (b) rotation motion (c) rest (d) both A & B
34. If no linear or angular acceleration is produced in an object then it is in _____ equilibrium.
 (a) Rotational (b) Translational (c) both a and b (d) N.O.T
35. Average mass of earth is
 (a) $5.98 \times 10^{22} \text{ Kg}$ (b) $5.98 \times 10^{23} \text{ Kg}$ (c) $5.98 \times 10^{24} \text{ Kg}$ (d) $5.98 \times 10^{25} \text{ Kg}$
36. Value of "g" at a depth equal to radius of earth will be _____.
 (a) $9.8m/s^2$ (b) 4.9 m/s^2 (c) $2.45m/s^2$ (d) zero
37. Power is the _____ product of force and velocity. '
 (a) Dot (b) Cross (c) Simple (d) N.O.T
38. In S.H.M acceleration is directly proportional to _____.
 (a) Force applied (b) Displacement (c) Velocity (d) both A & B
39. The sound of intensity $10w/m^2$ has intensity level of _____.
 (a) 50db (b) 60db (c) 70db (d) 80 db
40. Frequency of second pendulum is _____.
 (a) 1 Hz (b) 2 Hz (c) 0.5 Hz (d) Zero
41. The distance through which moveable mirror of Michelson's interferometer always moves _____.
 (a) $\lambda/2$ (b) $\lambda/4$ (c) λ (d) 2λ
42. Young's double slit experiment is the experimental evidence of _____ of light
 (a) Interference (b) Reflection (c) refraction (d) Dispersion
43. The unit of power of lens is _____.
 (a) Meter (b) Dipoters (c) Debye (d) Rydberg

(THE END)



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – Equity – Empathy

Time: 2 Hrs

PHYSICS MODEL PAPER (XI)

Total Marks: 85

SECTION – B

Marks /24

SHORT QUESTION

Note:-Attempt any SIX of the following question. Each question carries equal marks.

Q2 Find the unit vector parallel to the vector

$$\vec{A} = 7\hat{i} - 4\hat{j} + 4\hat{k}$$

Q3 Find the acceleration in the masses hanging vertically by string passing over pulley if one mass is one third the other?

Q4 Find the speed of locust which jumps to 70 cm when launched itself at 45°?

Q5 Prove that (i) $V = R \omega$ (ii) $a = R\alpha$?

Q6 Can work be negative? Explain it with example?

Q7 If speed of sound at 0° C is 332 m/s, find it at 37° C?

Q8 Give a brief description about any two applications of Doppler's effect in our life?

Q9 If Screen of double slit experiment is 80 cm away find the fringe spacing for light of 589 nm. Slit are 1.5 mm away from each other?

Q10 If 50 gm bullet is fired from 5 Kg gun with speed 200 m/s find the speed of recoil of gun?

SECTION-C

Marks /18

Descriptive Part

Note: Attempt any TWO of the following questions. Each question carries equal marks.

Q11 Explain law of conservation of linear momentum and prove $m_1u_1 + m_2u_2 = m_1v_1 + m_2v_2$

Q12 What is simple pendulum? Find the equation for its time period?

Q13 Write notes on any One of the following

(A) Centripetal acceleration

(B) Newton's law of gravitational

(C) Scalar product of two vectors

(THE END)



BOARD OF INTERMEDIATE & SECONDARY EDUCATION HYDERABAD
Excellence – Equity - Empathy
MATHEMATICS MODEL PAPER (CLASS XI)

Time: 2 Hours

M. Marks: 100

- Note: (i) Attempt all questions. Each question carries one mark.
(ii) Write only the answer in full on the first specified page of answer copy with choice (A, B, C & D)

SECTION "A"

Marks: 50

MULTIPLE CHOICE QUESTIONS (MCQS)

Q.No.1 Choose the correct answer for each from the given options:

- 1) If A and B be sub sets of set U such that $A \cup B = U$ then set A and B are called _____ sets.
(a) Cells (b) Exhaustive (c) Difference (d) N.O.T
- 2) The imaginary part of $(x + 2yi)^2$ is _____.
(a) $4xy$ (b) $-4xy$ (c) $x^2 - 4y^2$ (d) N.O.T
- 3) The roots of the equation $2x^2 + 5x - 1 = 0$ are:
(a) Equal and real (b) Imaginary (c) Rational (d) Irrational
- 4) If the terms of A.p decrease in magnitude then common difference must be:
(a) -1 (b) 0 (c) +ve (d) -ve
- 5) The intersection fo two overlapping set is _____.
(a) Empty (b) Non-Empty (c) Equal (d) Real
- 6) The sum of the first n even natural number is _____.
(a) $n(n+1)$ (b) $\frac{1}{2}(n+1)$ (c) $\frac{1}{2}n(n+1)$ (d) $2n$
- 7) If $\sin x = \frac{1}{2}$ then $x =$ _____.
(a) $\frac{\pi}{6}, 5\frac{\pi}{6}$ (b) $-\frac{\pi}{6}, 5\frac{\pi}{6}$ (c) $-\frac{\pi}{6}, -5\frac{\pi}{6}$ (d) $\frac{\pi}{3}, 2\frac{\pi}{3}$
- 8) The point of intersection of right bisector of the sides of triangle is know as:
(a) in-circle (b) E-circle (c) Circum Centre
(d) Circumference of triangle
- 9) Product of any non-zero complex numbers with its conjugates is a:
(a) Real number (b) Complex number (c) 0 (d) 1
- 10) For sequence $\{a_n\}$ the quotient $\frac{a_n}{a_{n-1}}$ is called _____.
(a) Common difference (b) Common Ratio (c) G.M (d) H.M
- 11) An arrangements of finite number of object some or all at a time is called a _____.
(a) Combination (b) Permutation (c) Set (d) N.O.T
- 12) A gentlemen has 6 rooms for guests. In how many ways can be accommodate 3 guests.
(a) 3 (b) 18 (c) 120 (d) 240
- 13) The value of $(i)^{400}$ is _____.
(a) I (b) -i (c) 1 (d) -1
- 14) Which one is a factor of $9x^2 + 25y^2$
(a) $2x + 5y$ (b) $3x - 5y$ (c) $3x + 5iy$ (d) $3ix - 5iy$
- 15) Let P(n) be a proposition which is true for $n=1$ and its true for $n=k$ implies its trueness for $n=k + 1$ then P(n) is true for all:
(a) real n (b) rational n (c) integral n (d) natural n
- 16) The measure of three angles of triangle are in ration 1:2:3 the triangle is _____.
(a) Right angled (b) Equilateral (c) Isosceles (d) N.O.T
- 17) In the binomial expansion of $(x + y)^n$ the coefficient of first and last term are:
(a) irrational (b) complex (c) equal (d) unequal
- 18) $\sin^2 \frac{\pi}{6} + \cos^2 \frac{\pi}{6} =$ _____.
(a) $\frac{\sqrt{3}}{2}$ (b) $\frac{1}{2}$ (c) 1 (d) 2
- 19) An arc of unit length of circle of unit radius makes a central angle of:
(a) Zero radian (b) 1 degree (c) 1 radian (d) N.O.T
- 20) $\sin^2 \theta =$ _____.
(a) $1 - \cos^2 \theta$ (b) $\frac{1 - \cos 2\theta}{2}$ (c) both a and b (d) N.O.T
- 21) If $A = \{1, 2, 3\}$, $B = \{1, 2\}$ then which of the following relation is correct.
(a) $A \cap B \subseteq A$ (b) $A \cap B \subseteq A \cup B$ (c) $A \cup B \subseteq A$ (d) All of these
- 22) The set of complex number is defined as:
(a) $\{x \mid x \in \mathbb{R}\}$ (b) $\{(a, b) \mid a \in A, b \in B\}$ (c) $\{(a, b) \mid a, b \in \mathbb{R}\}$ (d) N.O.T
- 23) If ω is complex root of unity and $\omega^n = \omega^2$ then n is:
(a) 1 (b) $3K, K \in \mathbb{N}$ (c) $3K + 1, K \in \mathbb{N}$ (d) $3K + 2, K \in \mathbb{N}$

- 24) A sequence every term of which after first term is obtained by adding a fixed number in the preceding term is called.
 (a) G.P (b) H.P (c) A.P (d) N.O.T
- 25) If A and B are disjoint then $O(A \cup B) = ?$
 (a) $O(A) \cdot O(B)$ (b) $O(A) + O(B)$ (c) $O(A) - O(B)$ (d) N.O.T
- 26) Sum of the cubes of the first n natural numbers $1^3 + 2^3 + 3^3 + \dots + n^3 = \underline{\hspace{2cm}}$.
 (a) $\frac{n(n+1)}{2}$ (b) $\frac{n(n+1)(2n+1)}{6}$ (c) $\frac{n^2(n+1)^2}{4}$ (d) $n(n+1)$
- 27) 1 radian is equal to:
 (a) $57^\circ 17' 45''$ (b) 1° (c) 0.01745° (d) 180°
- 28) If in triangle ABC $S(S-a) = (S-b)(S-c)$ then $\alpha = ?$
 (a) $\bar{\Lambda}$ (b) $\bar{\Lambda}/2$ (c) $\bar{\Lambda}/3$ (d) $\bar{\Lambda}/4$
- 29) If the middle term in expansion of $(\frac{a}{2} + 2)^8$ is 1120 then a = ?
 (a) 2 (b) -3 (c) 1 (d) 0
- 30) In how many ways a cricket eleven be chosen out of 14 player's so that a particular player is included.
 (a) 286 (b) 364 (c) 78 (d) N.O.T
- 31) The harmonic mean of $\frac{1}{x}$ and $\frac{1}{y}$ is:
 (a) $\frac{x+y}{2xy}$ (b) $\frac{2(x+y)}{xy}$ (c) $\frac{2xy}{x+y}$ (d) $\frac{2}{x+y}$
- 32) The solution set of the system $x + y = 7$ and $x^2 - xy + y^2 = 13$ is:
 (a) $\{(-4, 3), (-3, -4)\}$ (b) $\{(4, 3), (3, 4)\}$
 (c) $\{(4, 3), (-3, -4)\}$ (d) $\{(-4, -3), (3, -4)\}$
- 33) If $\text{Re}(z + 2) = -1$ where $Z = x + iy$ then $x = \underline{\hspace{2cm}}$.
 (a) -3 (b) -1 (c) 1 (d) 4
- 34) For what value of x is $(x - 3, 3) = (-5, 3)$
 (a) -5 (b) -7 (c) -2 (d) -8
- 35) If in triangle $a=300$ $b=120$ and $r=150^\circ$ then its area is:
 (a) 18000 (b) 6000 (c) 900 (d) 9000
- 36) If $i = \sqrt{-1}$ then $\frac{1+i}{i} = ?$
 (a) -i (b) -1 + i (c) 1 - i (d) -1-i
- 37) If sum and product of the roots of quadratic equation are $\frac{b}{a}$ and $\frac{c^2}{a}$ respectively the equation is:
 (a) $x^2 - b^2x + ac^2 = 0$ (b) $abx^2 - b^2x + ac^2 = 0$
 (c) $abx^2 - x + ac^2 = 0$ (d) $ax^2 + bx + c = 0$
- 38) How many terms of series $10+8+6+\dots$ will make a sum zero.
 (a) 8 (b) 9 (c) 10 (d) 11
- 39) How many signals can be made with 3 flags of different colour by hosting 1 or 2 or 3 one above the other.
 (a) 15 (b) 20 (c) 25 (d) 30
- 40) If n is a positive integer $2^{n+1} > (2n+3)$ is term for all.
 (a) $n \geq 4$ (b) $n \geq 5$ (c) $n \geq 3$ (d) N.O.T
- 41) The sum of cube roots of -64 is?
 (a) w (b) w^2 (c) 1 (d) Zero
- 42) Which of the following is incorrect.
 (a) 60^{th} part of 1 degree is equal to 1 minute
 (b) 60^{th} part of 1 minute is equal to 1 second
 (c) An acute angle is always less than 90°
 (d) An obtuse angle lies b/w 90° and 270°
- 43) $\frac{\sin \alpha}{a} = \frac{\sin \beta}{b} = \frac{\sin \gamma}{c}$ is named as:
 (a) Law of sine (b) Laws of cosines (c) Law of tangent (d) Hero's formula
- 44) In G.P of negative numbers the common ratio must be.
 (a) Zero (b) Positive Number (c) Negative Number (d) A.O.T
- 45) A complex number whose additive and multiplicative inverse are equal.
 (a) i (b) -i (c) both a and b (d) N.O.T
- 46) The discriminant of the quadratic equation $ax^2 + bx + c = 0$ is:
 (a) $b^2 - 4ac$ (b) $\sqrt{4ac - b^2}$ (c) $\sqrt{b^2 + 4ac}$ (d) both b and c
- 47) If the number of elements in set A is n number of elements in $P(A) = \underline{\hspace{2cm}}$.
 (a) n (b) 2^n (c) 3^n (d) N.O.T
- 48) $\sin(180^\circ + \theta) \sin(90^\circ - \theta) =$
 (a) $\sin \theta \cos \theta$ (b) $-\sin \theta \cos \theta$ (c) $\sin^2 \theta$ (d) $\cos^2 \theta$
- 49) A set which contains all the under consideration is called _____ set.
 (a) Finite (b) Infinite (c) Universal (d) Super
- 50) An angle is said to be positive if rotation is:
 (a) Clockwise (b) Horizontal (c) Vertical (d) Anti Clockwise



BOARD OF INTERMEDIATE & SECONDARY EDUCATION HYDERABAD
Excellence – Equity - Empathy
MATHEMATICS MODEL PAPER (CLASS XI)

Time: 2 Hours

M. Marks: 100

SECTION "B"

Marks: 30

Note: Solve any SIX of the following questions. Each Question Carries 05 Marks.

- Q.No.2 Verify $Cx(A-B) = (CxA) - (CxB)$ when $A = \{0,1\}$, $B = \{1,2\}$ and $C = \{a,b\}$?
- Q.No.3 If α, B are the roots of $ax^2 + bx + c = 0$, $a \neq 0$ form the equation whose roots are α^3, B^3 ?
- Q.No.4 If in a G.P the fifth term is 9 times the third term and its second term is 6 find G.P?
- Q.No.5 Obtain the simplified form the coefficient of "y" in the expansion $(y^2 + \frac{b^3}{y})^5$
- Q.No.6 A belt 24.75 meters long passes around a 1.5cm diameter pulley. As the belt makes two complete revolution in a minute how many radians does the wheel turn in one second?
- Q.No.7 Solve the equation: $\sqrt{x^2 + 3x + 2} + \sqrt{x^2 + 3x + 8} = 3$
- Q.No.8 prove that $1^2 + 2^2 + 3^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6} \forall n \in \mathbb{N}$
- Q.No.9 Without tables find the value of $\sin \frac{7\pi}{12}$
- Q.No.10 Solve $\sin 3\theta - \sin \theta = 0$

SECTION "C"

Note: Solve any TWO of the following question: Each question (6+4=10) Marks.

- Q.No.11 (a) Prove that the roots of equation are real $y^2 - 2y \left(m + \frac{1}{m}\right) + 3 = 0 \forall m \in \mathbb{R}$
- (b) In how many ways can party of 3 students and 2 teacher formed out of 15 students and 4 teachers?
- Q.No.12 (a) A piece of plastic 1 meter long is bent to form an isosceles triangle with 95° as of its largest angle find the length of the sides?
- (b) Find the 8th term in the expansion of $\left(\frac{x}{3} - \frac{y}{3}\right)^{12}$
- Q.No.13 (a) Solve the systems of equation: $2x^2 + xy = 2$
 $x^2 + 2xy + y^2 = 1$
- (b) Solve the triangle ABC, with $a = 200$ cm, $b = 100$ cm, $c = 150$ cm

THE END



BOARD OF INTERMEDIATE & SECONDARY EDUCATION, HYDERABAD

Excellence – Equity – Empathy

Time: 1:30 Hours

BOTANY-I MODEL PAPER (CLASS XI)

Marks: 43

SECTION "A"

/22

MULTIPLE CHOICE QUESTIONS (MCQ's)

Q1: Choose the correct answer for each from the given options.
Each MCQ having 01 mark.

- (i) Tobacco Mosaic Virus is a type of helical virus having _____ shape.
(a) Spherical (b) Rod (c) Thread (d) Both b & c
- (ii) Bryophytes lacks all except _____.
(a) True Leaves (b) Vascular Tissues (c) Thalloid Body (d) Dominant Sporophyte
- (iii) Phloem loading occurs through _____.
(a) Imbibition (b) Diffusion (c) Osmosis (d) Active Transport
- (iv) Fungi can tolerate wide range of pH from _____.
(a) 2 – 4 (b) 2 – 5 (c) 2 – 7 (d) 2 – 9
- (v) The first group of plants having true leaves and roots are _____.
(a) Bryophyta (b) Psilopsida (c) Lycopsida (d) None of these
- (vi) Sexual reproduction of Ulva is _____ type.
(a) Anisogamous (b) Isogamous (c) Oogamous (d) Heterogamous
- (vii) The Grass family has the name of:
(a) Solanaceae (b) Poaceae (c) Graminae (d) Both a & b
- (viii) Un-enveloped plus – strand RNA viruses are:
(a) Lacking Envelop (b) Directly act as mRNA (c) Infectious agent (d) All of these
- (ix) Parasitic Fungi use _____ hyphae for food absorption.
(a) Rhizoids (b) Haustaria (c) Root hairs (d) Both a & b
- (x) Sarcina is an example of:
(a) Cocci (b) Bacilli (c) Spirilla (d) Vibrio
- (xi) Where do sperm and egg fertilization occur in a flower?
(a) Pollen Tube (b) Stigma (c) Embryo Sac (d) Style
- (xii) Coenocytic hyphae of Fungi is _____.
(a) Multinucleated (b) Uni-nucleated (c) Septate (d) Both b & c
- (xiii) The gelatinous mass of ball like structure having filaments of Nostoc are:
(a) Heterocyst (b) Hormogonia (c) Coenobium (d) Chlorobium
- (xiv) Inactive phase of growth in which Bacteria prepare themselves for division.
(a) Lag Phase (b) Log phase (c) Stationary phase (d) Decline phase
- (xv) Slime Molds having following similar characters with fungi except;
(a) Non-Chlorophyllous Cells (b) Body made up to Hyphae
(c) Presence of cell wall (d) Presence of Chitin
- (xvi) During photosynthesis, water splits and provides _____ for the reduction steps leading assimilation of CO₂.
(a) O & H⁺ (b) H⁺ & e⁻ (c) ½O₂ & e⁻ (d) only ½O₂
- (xvii) Which one is not a way of Heterotrophic mode of nutrition in plants?
(a) Parasitic (b) Chemotrophic (c) Saprophytic (d) Carnivorous
- (xviii) During photophosphorylation _____ protons are required for the production of one ATP molecule.
(a) 02 (b) 03 (c) 04 (d) None of these
- (xix) Sub-Class is a taxonomic rank between _____.
(a) Class & Family (b) Class & Order (c) Class & Phylum (d) Class & Genus
- (xx) ATP synthesis in the presence of light is called:
(a) Oxidative Phosphorylation (b) Reductive Phosphorylation
(c) Carboxylation (d) Photophosphorylation
- (xxi) In wood plants, gaseous exchange in woody stem takes place through _____.
(a) Stomata (b) Epidermis (c) Lenticles (d) Vessels
- (xxii) _____ serves as "SOURCE" during translocation.
(a) Tracheids (b) Root hairs (c) Mesophyll cells (d) Vessels

----- THE END -----



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Time: 1:30 Hour

BOTANY-I MODEL PAPER (CLASS XI)

Marks: 43

SECTION "B"

/12

NOTE: Answer any FOUR of the following questions. Each carries 02 marks.

- Q.2** Why Bacterial cell membrane acts as a respiratory structure?
- Q.3** How Fungi are useful in increasing soil fertility?
- Q.4** Why viruses cannot live without host?
- Q.5** Differentiate between any one of the following in tabulated form.
- (i) Multicellular Algae & Plants
 - (ii) Respiration & Photorespiration
- Q.6** Define any two of the following:
- (i) Toad stools
 - (ii) Hepatitis
 - (iii) Viroids
 - (iv) Heterospory
- Q.7** Why Gametophyte generation is dominant in the life cycle of Bryophyta?
- Q.8** How Slime molds resembles to plants?

SECTION "C"

/09

NOTE: Attempt any ONE from the following. Each question carries 09 marks.

- Q.9** What re spermopsida? How they are adapted to life on land?
- Q.10** Define Aerobic Respiration. Explain the Electron Transport System.

----- THE END -----



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Excellence – equity – empathy

Time: 01.30

Zoology Model Paper XI (Pre-Medical)

Total marks: 42

SECTION-A

Multiple Choice Questions (MCQ's)

Marks: 22

Q1. Choose the correct answer.

1. Substance that in low concentration inhibit the growth of microorganism are called:
(a) Antibiotics (b) Vaccine (c) Drugs (d) Antigen
2. The protein present in microtubules is:
(a) Keratin (b) Tubulin (c) Myosin (d) Actin
3. The enzyme which contain both protein & non-protein parts in called:
(a) Proteoenzyme (b) Apoenzyme (c) Holoenzyme (d) Co-enzyme
4. Role of breathing is increased due to increase in concentration of _____ in the blood:
(a) CO₂ and H⁺ (b) O₂ and H₂ (c) CO₂ and Urea (d) CO₂ and O₂
5. These are irregular, nulleated cells and are destroyed within few (20-30) hours:
(a) Leucocytes (b) Erythrocytes (c) Platelets (d) All of these
6. Groups of several species living and interacting in the same area form a:
(a) Population (b) Community (c) Ecosystem (d) Biosphere
7. These are abundant in cells that are metabolizing alcohol and are believed to help in detoxification of alcohol:
(a) Peroxysome (b) Dictyosome (c) Lysosome (d) Glyoxysome
8. Systole refer to the contraction of the:
(a) S.A nod (b) Major arteries (c) Atria & ventricle (d) A.O.T
9. Glycolipids & Lipoprotein are important components of:
(a) Protein (b) Nucleic acid (c) Bone marrow (d) Cellular membrane
10. Nucleic acid which also serve as enzymes are:
(a) Nucleo protein (b) Ribozyme (c) Ribosome (d) Co-enzyme
11. The nucleic acid consist of _____ carbohydrates:
(a) Triose (b) Hexose (c) Pentose (d) N.O.T
12. Cholesterol, sex hormone, vit-A are examples of:
(a) Steroids (b) Carotenoids (c) Terpenoids (d) N.O.T
13. When _____ bond is present b/w carbon atoms, such types of compounds are saturated compounds:
(a) Double (b) Triple (c) Single (d) N.O.T
14. The study of structure, function and composition of cell is called _____:
(a) Genetic engineering (b) Anatomy (c) Cell biology (d) Histology
15. The intelligent guess of a scientist in form of statement is called _____:
(a) Theory (b) Hypothesis (c) Deduction (d) N.O.T
16. Prokaryotic cell do not contain _____:
(a) Ribosome (b) Nucleus
(c) Membrane bound nucleus (d) Histology
17. The number of chamber in heart of frog _____:
(a) Five (b) Two (c) Three (d) Four
18. Closely related species are grouped together into _____:
(a) Order (b) Family (c) Genus (d) N.O.T
19. Multi-cellular organisms having no cell wall and no chlorophyll are _____:
(a) Plants (b) Animals (c) Fungi (d) Bacteria
20. Tuberculosis is caused by _____:
(a) Virus (b) Bacteria (c) Worm (d) All of them
21. The winter sleep of frog is known as _____:
(a) Aestivation (b) Hibernation (c) Both (d) N.O.T
22. Nucleic acid which also serve as enzymes are:
(a) Co-enzyme (b) Nucleo protein (c) Ribozyme (d) Ribosome

THE END



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Zoology Model Paper XI (Pre-Medical)

Total marks: 42

SECTION-B
Short Questions

Marks: 12

Note: Attempt any FOUR questions. Each question carries 03 marks.

- Q2. Distinguish between any one.
(a) Prokaryote & Eukaryote (b) Plasma memb: & cell wall
- Q3. What is fluid mosaic model?
- Q4. Define any two
(a) Cinocytosis (b) Hydrolysis
(c) Nucleotide (d) Molecular Biology
- Q5. At a certain high substance concentration the reaction of enzyme slow down or stop why?
- Q6. In which type of cells S.E.R is found mostly and what are its function?
- Q7. Describe the groups of protein associated with plasma membrane.
- Q8. Why sac like gut is considered as incomplete?

SECTION-C
Long Questions

Marks: 08

Note: Attempt any ONE question each question carries marks (Part-A 5 marks and Part-B 3 marks).

- Q10(a) Which phylum has water vascular system? Give characteristics and affinities of phylum?
- Q10(b) What are mammals? Define sub classes of mammals?
- Q11(a) What are the components of cytoskeleton? What are their structure and function?
- Q11(b) How second line of defense works after invasion of micro organism?

The End