1) **Each nasal cavity is subdivided by the projection of:**

A) Mucous membrane
B) Cartilage
C) Nasal septum
D) Bones

○ A ○ B ○ C ○ D

2) **Lungs are covered with double layered thin membranous sacs called _____ cavity:**

A) Pleura
B) Peritoneal
C) Coelomic
D) Scrotal

○ A ○ B ○ C ○ D

3) **Surfactant produced by secretory cells of epithelium is a mixture of:**

A) Nucleoproteins
B) Glycoproteins
C) Phospholipids
D) Lipoproteins

○ A ○ B ○ C ○ D

4) **The floor of the chest is made by:**

A) Pelvis
B) Stomach
C) Liver
D) Diaphragm

○ A ○ B ○ C ○ D

5) **Overlying the alveoli there is a:**

A) Network of neurons C) Cushion of fluid

5) **Overlying the alveoli there is a:**

A) Network of neurons
B) Network of capillaries
C) Cushion of fluid
D) Network of muscles

○ A ○ B ○ C ○ D

6) **Closure of _____ is probably never complete:**

A) Esophageal sphincter
B) Glottis
C) Internal nostrils
D) Mouth

○ A ○ B ○ C ○ D

7) **The epiglottis have a muscularly controlled:**

A) Lid like action
B) Hinge like action
C) Valve like action
D) Sphincter like action

○ A ○ B ○ C ○ D

8) **Each nasal cavity is subdivided into _____ passage ways:**

A) Two
B) Three
C) Four
D) Five

○ A ○ B ○ C ○ D

9) **Hemoglobin readily combines with oxygen to form:**

A) Purple red haemoglobin
B) Purple red oxyhemoglobin
C) Bright red haemoglobin
D) Bright red oxyhemoglobin

○ A ○ B ○ C ○ D

10) **The oxygen carrying capacity of blood is lowered by:**

A) Increasing pH of the blood
B) Lowering CO_2 concentration in the blood
C) Lowering pH of the blood
D) Increasing oxygen concentration in the alveoli

○ A ○ B ○ C ○ D

11) **Hundred milliliter of fully oxygenated blood will carry _____oxygen:**

A) 19.6 ml
B) 20 ml
C) 4 ml
D) 54 ml

○ A ○ B ○ C ○ D

12) **Myoglobin consists of just:**

A) One polypeptide chain
B) Two polypeptide chains
C) Three polypeptide chains
D) Four polypeptide chains

○ A ○ B ○ C ○ D

13) **Transpiration increases when guard cells of stomata become?**

A) Flaccid
B) Turgid
C) Collapsed
D) Ruptured

○ A ○ B ○ C ○ D

14) **In the roots apoplast pathway becomes discontinuous in the endodermis due to the presence of:**

A) Root hairs
B) Casparian strips
C) Pericycle
D) Cortex

○ A ○ B ○ C ○ D

15) **In symplastic pathways, sucrose (or sugar) move through _____ to the receiver cell:**

A) Vacuole
B) Plasmodesmata
C) Xylem
D) Phloem

○ A ○ B ○ C ○ D

16) **The force of attraction between water molecules is:**

A) Adhesion
B) Cohesion
C) Tensile
D) Imbibition

○ A ○ B ○ C ○ D

17) **Aerating openings formed in the bark through which exchange of gases takes place and water is lost in the form of vapors are:**

A) Hydathodes
B) Lenticels
C) Stomata
D) Guard cells

○ A ○ B ○ C ○ D

18) **Plants growing in severely dry conditions are:**

18) **Plants growing in severely dry conditions are:**

A) Halophytes
B) Hydrophytes
C) Mesophytes
D) Xerophytes

○ A ○ B ○ C ○ D

19) **The opening and closing of stomata is directly controlled by the:**

A) Gravity
B) Temperature
C) Light
D) Oxygen

○ A ○ B ○ C ○ D

20) **_____ cells are important in phloem tissue because they supply ATPs to sieve elements:**

A) Sieve
B) Companion
C) Xylem
D) Parenchyma

○ A ○ B ○ C ○ D

21) **These are the extensions of epidermal cells of roots:**

A) Endodermises
B) Root hairs
C) Pericycles
D) Epidermides

○ A ○ B ○ C ○ D

22) **The casparian strips are present in the:**

A) Cortex
C) Pericycle

22) **The casparian strips are present in the:**

A) Cortex
B) Endodermis
C) Pericycle
D) Phloem

○ A ○ B ○ C ○ D

23) **The nasal cavity leads into the:**

A) Trachea
B) Larynx
C) Throat
D) Bronchi

○ A ○ B ○ C ○ D

24) **The voice box of man also known as:**

A) Epiglottis
B) Vocal cord
C) Larynx
D) Glottis

○ A ○ B ○ C ○ D

25) **Chest cavity is bounded by _____ and _____ on the sides:**

A) Ribs, muscles
B) Ribs, pleura
C) Diaphragm, muscles
D) Pleura, diaphragm

○ A ○ B ○ C ○ D

26) **Carbonic anhydrase presents in:**

A) RBC C) Thrombocyte

26) **Carbonic anhydrase presents in:**

A) RBC
B) WBC
C) Thrombocyte
D) Plasma

○ A ○ B ○ C ○ D

27) **It is a breakdown of alveoli:**

A) Emphysema
B) Tuberculosis
C) Asthma
D) Lung cancer

○ A ○ B ○ C ○ D

28) **The functional unit of human lung is:**

A) Alveoli
B) Air sac
C) Trachea
D) Bronchiole

○ A ○ B ○ C ○ D

29) **Sieve elements are characterised by:**

A) Sieve tubes
B) Sieve cells
C) Companion cells
D) Sieve areas

○ A ○ B ○ C ○ D

30) **Water and minerals move down their concentration gradient through plasmodesmata, to cells of cortex, endodermis, pericycle and then to sap in the xylem cells**

30) **Water and minerals move down their concentration gradient through plasmodesmata, to cells of cortex, endodermis, pericycle and then to sap in the xylem cells. This is also known as the:**

A) Symplastic pathway
B) Mineral absorption pathway
C) Vacuolar pathway
D) Apoplastic pathway

○ A ○ B ○ C ○ D

31) **Cohesion-tension theory was proposed by:**

A) Dixon
B) Ernst Minch
C) Sacks
D) Van Mohl

○ A ○ B ○ C ○ D

32) **It is involved in closing of stomata:**

A) Gibberellins
B) Ethene
C) Abscisic acid
D) Cytokinin

○ A ○ B ○ C ○ D

33) **The sucrose and other substances move in the sieve tube cells by:**

A) Solute pressure
B) Root pressure
C) Pressure potential
D) Hydrostatic pressure

○ A ○ B ○ C ○ D

34) **Respiratory distress syndrome is common especially in:**

A) Premature children
B) Mature children
C) Infants
D) Premature infants

○ A ○ B ○ C ○ D

35) **Tuberculosis of lungs is called:**

A) Respiratory tuberculosis
B) Pleural tuberculosis
C) Pulmonary tuberculosis
D) Alveolar tuberculosis

○ A ○ B ○ C ○ D

36) **Some of the minerals are taken in by:**

A) Osmosis
B) Bulk flow
C) Mass flow
D) Facilitated diffusion

○ A ○ B ○ C ○ D

37) **The uptake of water by imbibition is especially important in:**

A) Dormant seeds
B) Apical buds
C) Germinating seeds
D) Transpiration

○ A ○ B ○ C ○ D

38) **Pressure flow theory was proposed by:**

A) H-Van Mohl
B) Sack
C) Dixon
D) Earnst Munch

39) **Cuticle of _____ is thick, waxy and leathery:**

A) Halophytes
B) Xerophytes
C) Mesophytes
D) Hydrophytes

○ A ○ B ○ C ○ D

40) **The phloem constitutes the:**

A) Outer bark
B) Inner bark
C) Cork
D) Epidermis

○ A ○ B ○ C ○ D

41) **When water enters in roots due to diffusion, is termed as?**

A) Endocytosis
B) Osmosis
C) Active absorption
D) Passive absorption

○ A ○ B ○ C ○ D

42) **A single layered structure surrounded by blood capillaries is called:**

A) Air sac
B) Alveolus
C) Bronchiole
D) Bronchus

○ A ○ B ○ C ○ D

43) **Small amount of carbon dioxide is carried by corpuscles combined with:**

A) Hemoglobin
C) Sodium

43) **Small amount of carbon dioxide is carried by corpuscles combined with:**

A) Hemoglobin
B) Plasma protein
C) Sodium
D) Potassium

○ A ○ B ○ C ○ D

44) **Which one of the following has its stomata on lower surface of leaves in depression?**

A) Water lily
B) Brassica
C) Mango
D) Cactus

○ A ○ B ○ C ○ D

45) **Rate of transpiration doubles by every rise of _____ in temperature:**

A) 5 °C
B) 10 °C
C) 15 °C
D) 20 °C

○ A ○ B ○ C ○ D

46) **Type of transpiration which does not occur in all plants is:**

A) Cuticular
B) Stomatal
C) Lenticular
D) Epidermal

○ A ○ B ○ C ○ D

47) **Stomata open and close due to:**

B) Stomatal D) Epidermal

○ A ○ B ○ C ○ D

47) **Stomata open and close due to:**
A) Genetic clock
B) Pressure of water inside the leaves
C) Pressure of gases inside the leaves
D) Turgor pressure of guard cells

○ A ○ B ○ C ○ D

48) **Guard cells help in:**
A) Guttation
B) Transpiration
C) Fighting against infection
D) Protection against graining

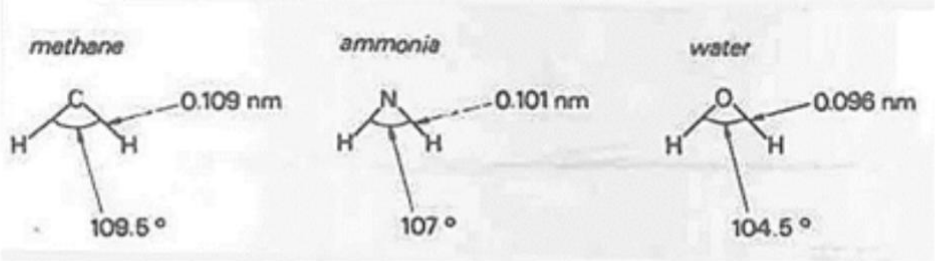
○ A ○ B ○ C ○ D

49) **Which one of the following gives the most valid explanation for stomatal movement?**
A) Starch hypothesis
B) Transpiration pull
C) Potassium influx and efflux
D) Ascent of sap

○ A ○ B ○ C ○ D

50) **_____ have the adaptations for reduced rate of transpiration:**
A) Halophytes
B) Xerophytes
C) Mesophytes
D) Hydrophytes

51) **The bond lengths and bond angles in the molecules of methane, ammonia and water may be represented as follows:**



What causes this trend in the bond angles shown?

I. Increasing repulsion between hydrogen atoms as the bond length decreases

II. The number of non-bonding electron pairs in the molecule.

III. A non-bonding electron pair having a greater repulsive force than a bonding electron pair

A) I only
B) II only
C) II and III
D) I, II and III

○ A ○ B ○ C ○ D

52) **Consider the following conditions for stable ionic bond:**

I. ΔiH (ionization enthalpy) of cation forming element should be low

II. ΔH_f (lattice enthalpy) should be low i.e. less negative

III. ΔeH (electron gain enthalpy) of anion forming element should be more negative

Which of the above statements is incorrect for stable ionic bond?

A) I only
B) II only
C) II and III
D) I, II and III

○ A ○ B ○ C ○ D

53) **Which of the following molecules has greater bond energy ($kJmol^{-1}$):**

A) N – N
B) F – F
C) H – H
D) O – O

○ A ○ B ○ C ○ D

54) **Polarity of a molecule is quantitatively measured in terms of dipole moment. The dipole moment may be defined as the product of the electric charge (q) and the distance between positive and negative centre (r). It is used to determine.**

A) Percentage ionic character of a bond only
B) Geometry of the molecule only
C) Both A and B
D) Neither A nor B

○ A ○ B ○ C ○ D

55) **Consider the following statements about Valence bond theory:**

I. A sigma bond is always stronger than a pi bond
II. Covalent bonds formed by the overlap of s-s and s-p orbitals are always sigma
III. Increasing strength of covalent bonds is in the order $\underset{\text{increasing bond strength}}{s\text{–}s<s\text{–}p<p\text{–}p}$
IV. All the hybrid orbitals form sigma bonds
Which of the above statements is/are correct?

A) I only
B) II only
C) III and IV
D) I, II, III and IV

○ A ○ B ○ C ○ D

56) **Ethene molecule is formed when two carbon atoms joined together to form a sigma bond only:**

A) s-sp overlap
B) sp-sp overlap
C) sp^2-sp^2 overlap
D) $2p_y$-$2p_y$ overlap

○ A ○ B ○ C ○ D

57) **Mark the incorrect statement about:**

$$H_3N^{+} \longrightarrow \bar{B}F_3$$

A) NH_3 before reaction is in the gaseous state
B) BF_3 before reaction is in the gaseous state
C) Adduct product is in the solid state
D) It involves ionic and covalent bond between NH_3 and BF_3

○ A ○ B ○ C ○ D

58) **Which of the following groups of elements forms ionic bond with each other?**

A) IA, IIA with VIA, VIIA
B) IIIA, IVA with VA, VIA
C) IA with IVA
D) IIA with VIIIA

○ A ○ B ○ C ○ D

59) **Consider the following statements:**

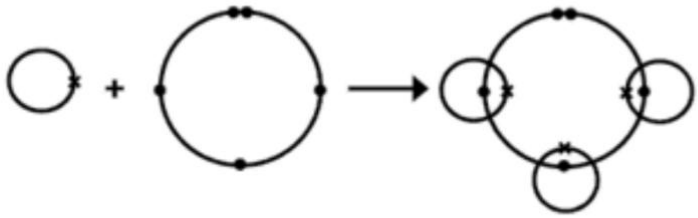
	Substance	Nature of bonding	Physical state	Boiling point (°C)
I	Ethanol molecules	H-bonding	Liquid	78.5
II	HCl molecules	Dipole-dipole forces	Gas	–85
III	n-Hexane molecules	London Dispersion forces	Liquid	68
IV.	Cesium fluoride	Ionic bond	Solid	1251

Which of the above statements is/are correct?

A) I only
B) II only
C) III and IV
D) I, II, III and IV

○ A ○ B ○ C ○ D

60) **Consider the following dot-and-cross diagram of a molecule:**



Choose the right molecule which follows dot-and-cross diagram:

A) CH_3
B) CO
C) H_2O
D) NH_3

○ A ○ B ○ C ○ D

61) **Which one of the following compounds has both covalent and ionic bond?**

A) NaCl
B) CaO
C) NaOH
D) KI

○ A ○ B ○ C ○ D

62) **Which of the following molecules has permanent dipole-dipole forces?**

A) Solid iodine molecules
B) Solid ice
C) $CHCl_3$ molecules
D) Liquid noble gases

○ A ○ B ○ C ○ D

63) **Which one of the following is not drawback of valence bond theory?**

A) The formation of coordinate covalent bond
B) The formation of odd electron molecules or ions

63) **Which one of the following is not drawback of valence bond theory?**

A) The formation of coordinate covalent bond
B) The formation of odd electron molecules or ions
C) The paramagnetic behaviour of oxygen molecule
D) The formation of a covalent bond and shape of a molecule

○ A ○ B ○ C ○ D

64) **The distance between the nuclei of two atoms forming a covalent bond is called:**

A) Atomic radius
B) Bond length
C) Covalent radius
D) van der Waal's radius

○ A ○ B ○ C ○ D

65) **In which of the following molecules the bond angle has the greatest value?**

A) CO_2
B) BF_3
C) CH_4
D) SO_2

○ A ○ B ○ C ○ D

66) **No electrovalent bond is 100% ionic in nature. This is because of:**

A) Highest ionic character is present in CsF only
B) Sharing of electrons takes place to some extent only
C) When cations and anions approach each other, polarizability increases only

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B) Sharing of electrons takes place to some extent only
C) When cations and anions approach each other, polarizability increases only
D) Both B and C

○ A ○ B ○ C ○ D

67) **All of the following statements are correctly matched EXCEPT:**

Options	Molecules	Structural formula	Orbital hybridization	Geometry	Bond angle
A)	Methane	CH_4	sp^3	Tetrahedral	109.5°
B)	Ethene	$H_2C = CH_2$	sp^2	Trigonal planar	120°
C)	Ethyne	$HC \equiv CH$	sp	Linear	180°
D)	Propene	CH_3-$HC = CH_2$	sp^2	Trigonal planar	120°

○ A ○ B ○ C ○ D

68) **Which one of the following factors does not increase bond energy:**

A) Greater bond order
B) Greater electronegativity difference
C) Smaller size
D) Greater bond length

○ A ○ B ○ C ○ D

69) **According to VSEPR theory, which of the following statements is not correctly matched:**

Options	Type	Bond pair	Lone pair	Geometry	Example
A)	AB_4	4	0	Tetrahedral	NH_4^+
B)	AB_3E	3	1	Trigonal pyramidal	PH_3
C)	AB_2E_2	2	2	V-shaped	H_2O

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C)	AB_2E_2	2	2	V-shaped	H_2O
D)	ABE_3	1	3	Linear	$BeCl_2$

○ A ○ B ○ C ○ D

70) **Which one of the following characteristic properties is not shown by ionic compounds?**

A) They are soluble in polar solvents
B) They conduct electricity in the molten state
C) They are in the solid state
D) They show isomerism

○ A ○ B ○ C ○ D

71) **In 'H-F' bond electronegativity difference is 1.9. What is the type of this bond?**

A) pi (π) bond
B) Non-polar covalent bond
C) Polar covalent bond
D) Co-ordinate covalent bond

○ A ○ B ○ C ○ D

72) **Metallic solids involve metallic bonding and have all of the following properties EXCEPT:**

A) Basic constituent of metallic solid is atom
B) Are soluble in liquid metal and also in polar solvent
C) Metals are good conductor of electricity due to free electrons
D) They are hard, malleable and ductile

73) Mark the incorrect statement according to VSEPR:

Opt.	Example	Orbitals on the central atom	No. of bond pair (n)	No. of lone pair (m)	VSEPR molecule	Bond angle	Geometry
A)	$BeCl_2$	2	2	0	AX_2	180°	Linear
B)	BF_3	3	3	0	AX_3	120°	Trigonal planar
C)	SO_2	3	3	0	AX_3	120°	Linear
D)	NH_3	4	3	1	AX_3E	107.5°	Pyramidal

○ A ○ B ○ C ○ D

74) **Which one of the following ionic compounds has maximum percentage of ionic character?**

A) NaCl
B) CsF
C) KBr
D) LiF

○ A ○ B ○ C ○ D

75) **Which of the following bonds is the most polar?**

A) Cl – Cl
B) N – F
C) C – F
D) O – F

○ A ○ B ○ C ○ D

76) **All of the following molecules involve hydrogen bonding EXCEPT:**

A) Water
B) Ethanoic acid
C) Ethanal
D) Ethanol

○ A ○ B ○ C ○ D

77) **All of the following statement are correctly matched for ionic and covalent bonds EXCEPT:**

Opt.	Ionic bond (Electrovalent bond)	Covalent bond (Electron pair bond)
A)	It is formed by complete transfer of electron/electrons from one atom of element to the other	It is formed by mutual sharing of electrons between two atoms
B)	The migrated electron/electrons belongs to only one of the two bonded atoms	The shared electrons pair belongs to both the bonded atoms
C)	It is directional bond	It is non-directional bond
D)	It is shown by positive and negative charges on the bonded atoms (+ , -)	It is shown by small line (–) drawn between the two bonded atoms

○ A ○ B ○ C ○ D

78) **1,3-Butadiene has number of sigma and pi bonds:**

A) 7 sigma bonds and 1 pi bond
B) 9 sigma bonds and 2 pi bonds
C) 8 sigma bonds and 2 pi bonds
D) 6 sigma bonds and 1 pi bond

○ A ○ B ○ C ○ D

79) **It has been observed that the chemical reactivity of elements depend upon their:**

A) Atomic number
B) Relative atomic mass
C) Electronic configuration
D) Fractional atomic mass

○ A ○ B ○ C ○ D

80) **Which one of the following substances is polar in nature?**

A) CCl_4
B) CO_2
C) SO_3
D) $CHCl_3$

○ A ○ B ○ C ○ D

Which of the following is not limitation of VSEPR theory?

81) **Which of the following is not limitation of VSEPR theory?**

A) It cannot be applied to ionic compounds
B) It is not useful for predicting the geometry of transition metal complexes
C) It fails to predict the extent of distortions in irregular geometries
D) It does not take into account the bond pair of electrons

○ A ○ B ○ C ○ D

82) **The bond energy is the average energy which is required to break all the bonds of particular type in one mole of the substance. There are four applications of bond energy, which one is the most important:**

A) Comparing the strength of bond
B) Estimating the enthalpy changes in a reaction
C) Understanding structure and bonding
D) Understanding mechanism of reaction

○ A ○ B ○ C ○ D

83) **Which of the following is incorrect statement about orbital hybridization?**

A) Atomic orbitals taking part in orbital hybridization have smaller energy difference
B) Unhybridized p-atomic orbitals determine geometry of the molecule
C) Number of atomic orbitals mixed = number of hybrid orbitals
D) Hybrid orbitals have electron density concentrated on one side of the nucleus i.e. it has one lobe larger in size than other

○ A ○ B ○ C ○ D

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○ A ○ B ○ C ○ D

84) **Which of the following bonds has smaller bond length (pm)?**

A) C = O
B) C = C
C) C ≡ C
D) C – C

○ A ○ B ○ C ○ D

85) **The gecko, a small lizard, can climb up a smooth glass window. The gecko has millions of microscopic hairs on its toes and each hair has thousands of pads at its tip. The result is that the molecules in the pads are extremely close to the glass surface on which the gecko is climbing. What is the attraction between the gecko's toe pads and the glass surface?**

A) Co-ordinate covalent bonds
B) van der Waal's forces
C) Ionic bonds
D) Covalent bonds

○ A ○ B ○ C ○ D

86) **An object of mass 10 g is whirled in a horizontal circle of radius 2.5 m at a constant speed of 4 m s^{-1}. The work done on the object during one revolution is:**

A) 0 J
B) 10 J
C) 40 J
D) 25 J

○ A ○ B ○ C ○ D

87) **A particle is acted upon by a conservative force $\vec{F} = (14\hat{i} + 12\hat{j})N$. The work done by the force when the particle moves from origin (0, 0) to the position (-6, 8) is given by (coordinates of the final position are in metre):**

A) 12 J
B) 10 J
C) -45 J
D) -180 J

○ A ○ B ○ C ○ D

88) **You lift a heavy book from the floor of the room and put it in the book shelf having a height 4 m. In this process you take 10 second. The work done by you will depend upon:**

A) Mass of the book and time taken
B) Weight of book and height of shelf
C) Height of shelf and the time taken
D) Mass of the book, height of shelf and time taken

○ A ○ B ○ C ○ D

89) **A body travels a displacement of 10 m by force of 30 N. If work done is 260 J, then angle between $\vec{F}$ and $\vec{d}$ is:**

89) **A body travels a displacement of 10 m by force of 30 N. If work done is 260 J, then angle between $\vec{F}$ and $\vec{d}$ is:**

A) 0°
B) 45°
C) 30°
D) 60°

○ A ○ B ○ C ○ D

90) **The power of a pump which can pump 50 kg of water to a height of 50 m in 10 s is:**

A) 2.5 kW
B) 20 kW
C) 10 kW
D) 5 kW

○ A ○ B ○ C ○ D

91) **The consumption of energy by 80-watt bulb in 5 sec is:**

A) 120 J
B) 400 J
C) 16 J
D) 800 J

○ A ○ B ○ C ○ D

92) **If the momentum of a body decreases by 10%, the percentage decrease in K.E will be:**

A) 36%
B) 44%
C) 19%
D) 28%

○ A ○ B ○ C ○ D

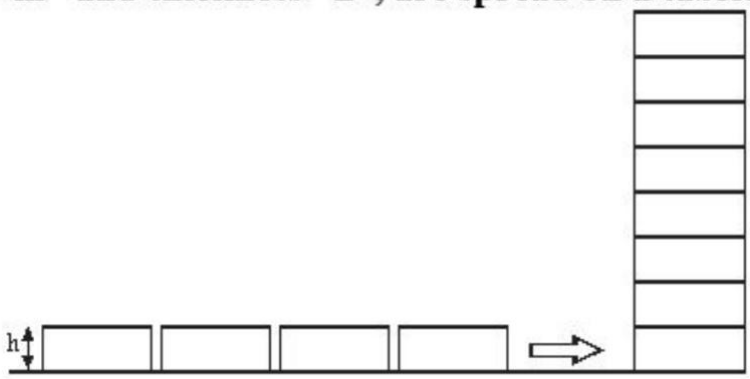
93) **A ball of mass 8 kg and another of mass 10 kg are dropped together from a 90 feet tall building. After a fall of 60 feet each towards earth, their respective K.Es**

93) **A ball of mass 8 kg and another of mass 10 kg are dropped together from a 90 feet tall building. After a fall of 60 feet each towards earth, their respective K.Es are in ratio of:**

A) 5:4
B) 4:5
C) $2:\sqrt{5}$
D) $\sqrt{5}:2$

○ A ○ B ○ C ○ D

94) **Initially, eight identical uniform blocks, each of mass "m" and thickness "h", are spread on a table.**



How much work is done on the blocks in stacking them top of one another?

A) 28mgh
B) 45mgh
C) 36mgh
D) 21mgh

○ A ○ B ○ C ○ D

95) **A 10 kg body is thrown vertically upward from the ground with a velocity of 15 m s^{-1}. Its kinetic energy just before hitting the ground is:**

A) 625 J
B) 1125 J
C) 1050 J
D) 1275 J

96) **Two objects P and Q have the same momentum, Q has lesser kinetic energy than P if it:**

A) Weighs more than P
B) Weighs same as P
C) Is moving faster than P
D) Is moving slower than P

○ A ○ B ○ C ○ D

97) **Two identical balls are projected, one vertically up and the other at an angle of 30° with the horizontal, with same initial speed. The potential energy at the highest point is in the ratio:**

A) 4:3
B) 4:1
C) 3:4
D) 1:4

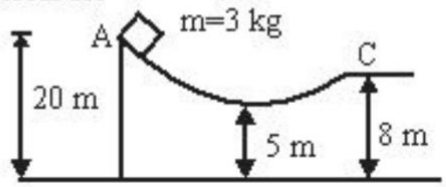
○ A ○ B ○ C ○ D

98) **A block of mass 2 kg slides from rest through a distance of 20 m down a frictionless slope, inclined at 30° with horizontal. What is the K.E of the block at the bottom of the slope?**

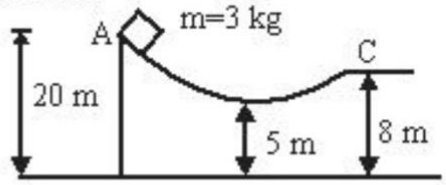
A) 20 J
B) 40 J
C) 200 J
D) 400 J

○ A ○ B ○ C ○ D

99) **A block of mass 3 kg slides down a rough curved path from point A as shown. If it stops at C, the work done by friction is:**



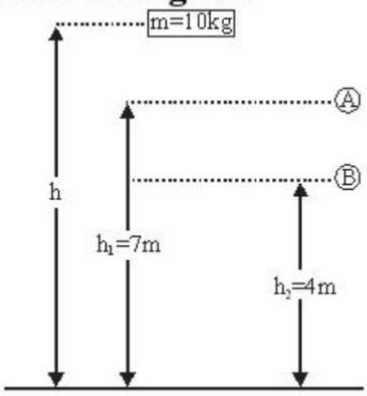
99) **A block of mass 3 kg slides down a rough curved path from point A as shown. If it stops at C, the work done by friction is:**



A) -360 J
B) -240 J
C) -600 J
D) -450 J

○ A ○ B ○ C ○ D

100) **An object of mass m=10 kg is dropped from height h=10 m as shown in the figure:**



The object reaches at "A", "B" and then finally to ground during its free fall. The ratio of P.E at "B" point to P.E at "A" is:

A) 2:1
B) 7:4
C) 4:7
D) 1:2

○ A ○ B ○ C ○ D

101) **Two bodies are thrown vertically upwards with their**

101) **Two bodies are thrown vertically upwards with their initial speeds in the ratio 3:2, then the ratio of the maximum heights attained by them is:**

A) 2:3
B) 3:2
C) 4:9
D) 9:4

○ A ○ B ○ C ○ D

102) **Two cars of masses m_1 and m_2 are moving along the circular path of radius r_1 and r_2. They take one round in the same time. The ratio of angular velocity of the two cars will be:**

A) $m_1:m_2$
B) 1:1
C) $r_1:r_2$
D) $m_1r_1:m_2r_2$

○ A ○ B ○ C ○ D

103) **The centripetal force required to keep the body in circular path is F_1. What would be centripetal force if radius becomes half keeping same angular velocity:**

A) $2F_1$
B) $\frac{F_1}{2}$
C) $4F_1$
D) $\frac{F_1}{4}$

○ A ○ B ○ C ○ D

104) **The force required to move a body of mass 1 kg with velocity 100 m s^{-1} along a circular path of radius 100 m is:**

A) 100 N
B) 1000 N
C) 1 N
D) Zero

○ A ○ B ○ C ○ D

105) **A car moving on a horizontal road may be roll over from the road in taking a turn:**

A) By the gravitational force
B) Due to the rolling friction force
C) Due to lack of proper centripetal force
D) Due to the reaction of ground

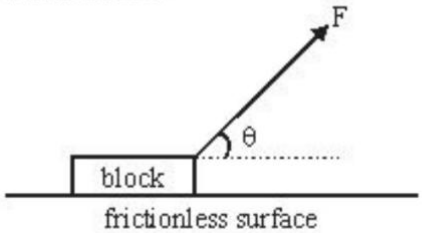
○ A ○ B ○ C ○ D

106) **The height of geo-stationary orbit from the surface of earth:**

A) 4.24×10^3 km
B) 4.2×10^4 km
C) 3.6×10^4 km
D) 2.42×10^4 km

○ A ○ B ○ C ○ D

107) **A block of a given material is dragged a horizontal distance x along a frictionless surface by a force F inclined at an angle θ to the horizontal. What is the work done?**



A) Fx
B) Fx cos θ
C) Fx sin θ
D) $\frac{Fx}{\cos\theta}$

○ A ○ B ○ C ○ D

108) **A bullet moving horizontally at a speed v is stopped by**

108) **A bullet moving horizontally at a speed v is stopped by sand in its path. If the mass of the bullet is m and it penetrates a distance x before coming to a stop, what is the average retarding force acting on the bullet?**

A) mg

B) $\frac{mv^2}{2x}$

C) $\frac{mv^2}{x}$

D) $\frac{2mv^2}{x}$

○ A ○ B ○ C ○ D

109) **A block of mass 2 kg is lifted through a chain. When block moves through 2 m vertically the velocity becomes 4 m s^{-1}. Work done by chain force until it moves 2 m is:**

A) 40 J

B) 56 J

C) 24 J

D) 68 J

○ A ○ B ○ C ○ D

110) **A body constrained to move in y-direction is subjected to a force given by $\vec{F} = \left(-2\vec{i} + 15\vec{j} + 6\vec{k}\right)$ N. The work done by this force in moving the body a distance of 10 m along the y-axis is:**

A) 20 J

B) 150 J

C) 60 J

D) 190 J

○ A ○ B ○ C ○ D

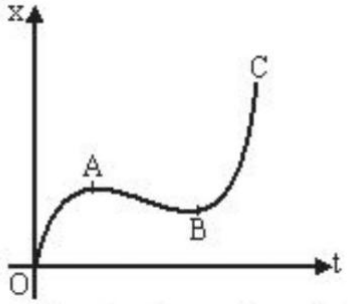
111) **A bicyclist comes to a skidding stop in 10 m. During this process, the force on the bicycle due to the road is 200 N and is directly opposed to the motion. The work done**

111) **A bicyclist comes to a skidding stop in 10 m. During this process, the force on the bicycle due to the road is 200 N and is directly opposed to the motion. The work done by road force on cycle is:**

A) +2000 J
B) -2000 J
C) Zero
D) -20000 J

○ A ○ B ○ C ○ D

112) **The displacement-time (x-t) graph of a body acted upon by some forces is shown. Which of the following is correct?**



A) From O to A, the total work done by all the forces together is negative
B) From O to B acceleration is negative
C) From O to B velocity is first positive, then negative
D) Both A and C

○ A ○ B ○ C ○ D

113) **A 2 kg stone at the end of a string 1 m long is whirled in a vertical circle. The speed of the stone at lower most point of circle is 4 m s^{-1}. The tension in the string at this point is:**

A) 20 N
B) 32 N
C) 40 N
D) 52 N

114) The angular velocity of a wheel increases from 1200 rpm to 4500 rpm in 10 s. The number of revolutions made during this time is:

A) 950
B) 475
C) 118.75
D) 237.5

○ A ○ B ○ C ○ D

115) Starting from rest, a particle rotates in a circle of radius $R = \sqrt{2}$ m with an angular acceleration $\alpha = (\pi/4)$ rad s^{-2}. The magnitude of average velocity of the particle over the time it rotates a quarter circle is:

A) 1.0 m s^{-1}
B) 1.5 m s^{-1}
C) 2.5 m s^{-1}
D) 2.0 m s^{-1}

○ A ○ B ○ C ○ D

PREVIOUS FINISH TEST NEXT

116) **Directions: Some segments of each sentence are underlined. Your task is to identify that underlined segment of the sentence which contains the mistake that needs to be corrected. Fill the circle corresponding to that letter under the segment in the MCQ Response form.**

Tabinda sent (A) in her application and (B) wasn't sure whether (C) there would be a response or not (D).

○ A ○ B ○ C ○ D

117) We must learn to (A) accept not (B) only our (C) weaknesses but (D) our strengths.

○ A ○ B ○ C ○ D

118) They inched forward, one behind the other (A), hands at their sides else (B) they rub the slime of the rock walls that (C) wept on either side (D).

○ A ○ B ○ C ○ D

119) They are devoid of (A) the (B) basic amenities of life however (C) they fight over petty possessions and (D) social fame.

○ A ○ B ○ C ○ D

120) "Good night! Behave yourself (A), boy!" she said, looking (B) out into the (C) street like he (D) went down the steps.

○ A ○ B ○ C ○ D

121) The soldier took a sigh of relief once the enemy was out of sight, however, the danger was still lurking

A (A) B (B) C (C) D (D)

122) No sooner had she finished one project then she started working on the next..

A (A) B (B) C (C) D (D)

123) Wetherby restored Brookfield's fortunes somewhat, so its subsequent history never raised it to front-rank status.

A (A) B (B) C (C) D (D)

124) You're such a remarkable old boy whom one never knows.

A (A) B (B) C (C) D (D)

125) Public oratory is much a matter of bliss as a domain of confidence and body language.

A (A) B (B) C (C) D (D)

126) **Directions: In each of the following questions, four alternative sentences are given. Choose the correct one and fill the Circle corresponding to that letter in the MCQ Response Form.**

126) **Directions: In each of the following questions, four alternative sentences are given. Choose the correct one and fill the Circle corresponding to that letter in the MCQ Response Form.**

A) Because he is intelligent Therefore he gets good marks.
B) Because he is intelligent so he gets good marks.
C) Because he is intelligent, he gets good marks.
D) Since he is intelligent and he gets good marks.

○ A ○ B ○ C ○ D

127) A) I saw The Wizard of Oz on television, and the movie was filmed in 1939.
B) I saw The Wizard of Oz on television. The movie was filmed in 1939.
C) I saw The Wizard of Oz on television unless and the movie was filmed in 1939.
D) I saw The Wizard of Oz on television. Though the movie was filmed in 1939.

○ A ○ B ○ C ○ D

128) A) There is nothing such shameful as to be called a liar.
B) There is nothing so shameful as to called a lair.
C) There is nothing so shameful that to be called a liar.
D) There is nothing so shameful as to be called a liar.

○ A ○ B ○ C ○ D

129) A) On the whole, the problem that the college dean faces calls for about the same diagnostic ability so the physician's.
B) On the whole, the problem that the college dean faces calls for about the same diagnostic ability as the physician's.
C) On the whole, the problem that the college dean faces calls for about the same diagnostic ability that the physician's.
D) On the whole, the problem that the college dean faces calls for about the same diagnostic ability like the physician's.

○ A ○ B ○ C ○ D

A) Mustafa Kamal inaugurated great development moreover construction schemes

130)

A) Mustafa Kamal inaugurated great development moreover construction schemes.
B) Mustafa Kamal inaugurated great development yet construction schemes.
C) Mustafa Kamal inaugurated great development and construction schemes.
D) Mustafa Kamal inaugurated great development though construction schemes.

○ A ○ B ○ C ○ D

131)

A) Both his parents as well as siblings have turned against him.
B) Both his parents between his siblings have turned against him.
C) His both the parents or siblings have turned against him.
D) both his parents and siblings have turned against him.

○ A ○ B ○ C ○ D

132)

A) Asif has neither accepted nor rejected the proposal.
B) Asif has accepted neither rejected nor the proposal.
C) Asif neither has neither accepted nor rejected the proposal.
D) Neither Asif has accepted nor rejected the proposal.

○ A ○ B ○ C ○ D

133)

A) The game wasn't cancelled because it was raining, but because the pitch was wet.
B) The game wasn't cancelled, because it was raining but because the pitch was wet.
C) The game was cancelled because it was raining, but because the pitch was wet.
D) The game was cancelled though it was raining and the pitch was wet.

○ A ○ B ○ C ○ D

134)

A) And my parents could never afford which all my early childhood I longed desperately for a tricycle.
B) All my early childhood I longed desperately for a tricycle, although my parents could never afford,
C) Because my early childhood I longed desperately for a tricycle, that my parents could never afford.
D) All my early childhood I longed desperately for a tricycle, which my parents could never afford.

○ A ○ B ○ C ○ D

134)

A) And my parents could never afford which all my early childhood I longed desperately for a tricycle.
B) All my early childhood I longed desperately for a tricycle, although my parents could never afford,
C) Because my early childhood I longed desperately for a tricycle, that my parents could never afford.
D) All my early childhood I longed desperately for a tricycle, which my parents could never afford.

○ A ○ B ○ C ○ D

135)

A) During our early childhood Lionel, Sylvia and I never had anything to spend for ourselves
B) Sylvia and I never had anything to spend for ourselves: and it was during our early childhood Lionel,
C) During our early childhood Lionel, Sylvia but I never had anything to spend for ourselves
D) During our early childhood Lionel, Sylvia because I never had anything to spend for ourselves

○ A ○ B ○ C ○ D

PREVIOUS FINISH TEST