KIPS | ENTRY TESTS PREPARATION

BIOLOGY MDCAT

UNIT-2 (A+ Series)

TOPICS:

- ✓ **Biological Molecules**
- ✓ **Enzymes**

Q.1 From the following options, identify the one which correctly describe the monomers?

1. Ribose
2. Glucose
3. Deoxyribose
4. Sucrose

A. 1, 2 and 3
B. 1, 2 and 4
C. 1, 3 and 4
D. 2, 3 and 4

Q.2 Which statement/s about triglycerides and phospholipids is/are correct?

1. Both have hydrophobic regions
2. Triglycerides are non-polar and phospholipids have polar end
3. Fatty acids in triglycerides may be saturated or unsaturated but in phospholipids they are always saturated

A. 1 and 2
B. 1 and 3
C. 2 only
D. 3 only

Q.3 Which property of water makes it suitable for transport medium in eukaryotic organisms?

A. Density
B. Ionization
C. Heat of vaporization
D. Solvent properties

Q.4 Water ascends in xylem vessel due to all of the following properties except:

A. Hydrophobic exclusion
B. Adhesion
C. Cohesion
D. Hydrogen bonding

Q.5 Which of the following enzyme hydrolyzes β-1,4 glycosidic linkages?

A. Sucrase
B. Amylase
C. Maltase
D. Cellulase

Q.6 All of the following are formed through condensation reaction/process except:

A. Galactose
B. Amylopectin
C. Insulin
D. Triglyceride

Q.7 Nitrogen is not found in the monomers of:

A. Glycogen
B. Chitin
C. Growth hormone
D. Hemoglobin

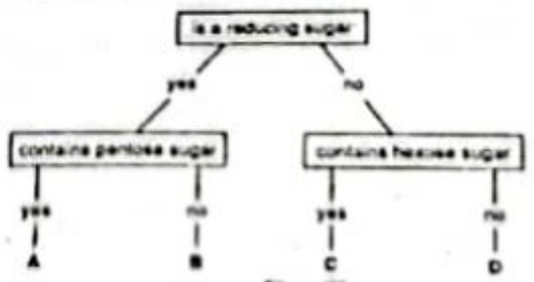
Q.8 All of the following are examples of disaccharides except:

A. Cellobiose
B. Dextrin
C. Sucrose
D. Lactose

Q.9 Which of the following has no free aldehyde or ketone group?

A. Lactose
B. Sucrose
C. Maltose
D. Mannose

Q.10 Which molecule in the key is 'sucrose'?



A. D
B. C
C. B
D. A

Q.11 Which type of glycosidic bond is found in fungal cellulose?

A. α-1,2
B. α-1,6
C. α-1,4
D. β-1,4

Q.12 A solution contains equal mass of amylose and amylopectin and is completely hydrolyzed. Which sugar will found after hydrolysis?

A. α-glucose only
B. Equal masses of α-glucose and β-glucose
C. β-glucose only
D. More α-glucose than β-glucose

Q.13 What is the maximum number of condensation reaction/s that occur when a triglyceride molecule is formed?

A. 1
B. 2
C. 3
D. 4

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Q.14 **A type of bond that holds together α-helix and β-plented sheet of a protein is:**
A. Disulfide
B. Hydrogen
C. Ionic
D. Peptide

Q.15 **Which bond is/are broken when glycogen is hydrolyzed?**
A. α-1, 4 and β-1, 4
B. α-1, 2 and β-1, 4
C. α-1, 4 and α-1, 6
D. β-1, 6 only

Q.16 **Which of the following is an example of complex or compound lipid?**
A. Waxes
B. Phospholipids
C. Steroids
D. Prostaglandins

Q.17 **Which level of organization of hemoglobin molecule is determined by the DNA molecule?**
A. Primary structure
B. Tertiary structure
C. Secondary structure
D. Quaternary structure

Q.18 **It provides support to connective tissue such as ligaments:**
A. Elastin
B. Myoglobin
C. Keratin
D. Myosin

Q.19 **Which molecule contains a carboxyl group?**
A. Amino acid and glycerol
B. Saturated fatty acid and unsaturated fatty acid
C. Amino acid, saturated fatty acid and unsaturated fatty acid
D. Glycerol, saturated fatty acid, unsaturated fatty acid

Q.20 **The diagram shows three hexose sugars.**

Which row correctly shows examples of carbohydrates in which these hexose sugars occur?

	Sucrose	Cellulose	Amylopectin
A.	1	2	3
B.	1	3	2
C.	2	3	1
D.	3	2	1

Q.21 **It is found in fruits, grains, seeds, and tubers:**
A. Starch
B. Peptidoglycan
C. Glycogen
D. Chitin

Q.22 **Which carbohydrate gives brick red color when heated with Benedict's solution?**
A. Cellulose
B. Fructose
C. Glycogen
D. Sucrose

Q.23 **All of the following bio-elements are essential for all amino acids except:**
A. Carbon
B. Sulphur
C. Nitrogen
D. Oxygen

Q.24 **Which of the following is not an example of polyunsaturated fatty acid?**
A. Oleic acid
B. Linoleic acid
C. Linolenic acid
D. Arachdonic acid

Q.25 **A phosphatidic acid molecule contains all of the following except:**
A. Glycerol
B. Phosphate group
C. Fatty acids
D. Choline

Q.26 **Relation between nucleotide and nucleic acid is similar to the one found between _____ and _____, respectively.**
A. Protein, amino acid
B. Nucleoside and nucleotide
C. Fatty acid, lipids
D. Glucose, dextrin

Q.27 **Among the following, the one molecule which has lowest molecular weight is:**
A. NAD^+
B. Chitin
C. Histone
D. Murein

Q.28 **Which of the following is an example of trace element found in human protoplasm?**
A. Na^+
B. Cu^{2+}
C. Ca^{2+}
D. K^+

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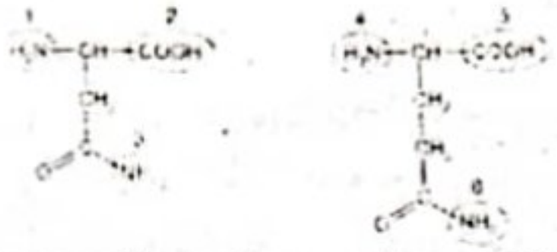
Q.29 The diagram shows structure of two amino acids, each of which has two amine groups.



A peptide bond is formed between these two amino acids. Which groups could form the peptide bond?

A. 1 and 4
B. 5 and 1
C. 2 and 6
D. 3 and 5

Q.30 All of the following are examples of homopolysaccharides except:

A. Chitin
B. Cellulose
C. Glycogen
D. Agar

Q.31 Which of the following carbohydrate has maximum 1, 6-glycosidic linkages?

A. Amylose
B. Glycogen
C. Amylopectin
D. Cellulose

Q.32 Proteins have catalytic activity. Which other biomolecules can also have catalytic activity?

A. DNA
B. Lipids
C. Carbohydrates
D. RNA

Q.33 Nucleotide contains a nitrogenous base, which is attached to the _____of pentose sugar.

A. 5′ carbon
B. 3′ carbon
C. 1′ carbon
D. 4′ carbon

Q.34 DNA is more stable than RNA; the most important reason is:

A. DNA is double stranded while RNA is not
B. 2′ carbon of sugar is deoxygenated
C. Uracil is present in DNA instead of thymine
D. Cytosine pairs with adenine

Q.35 Identify the name of the scientist who first time determined the sequence of amino acids in the insulin molecule:

A. J. Watson
B. F. Miescher
C. F. Sanger
D. E. Fischer

Q.36 Which of the following enzyme is fully functional at pH 5.50?

A. Arginase
B. Enterokinase
C. Sucrase
D. Pepsin

Q.37 Which protein also show enzymatic activity besides playing other role?

A. Collagen
B. Myosin
C. Actin
D. Keratin

Q.38 An enzyme which is involved in the formation of fumaric acid is:

A. Succinic dehydrogenase
B. Histidine decarboxylase
C. Malonic dehydrogenase
D. Fumaric dehydrogenase

Q.39 What is the range of amino acids which can be present in active site of enzymes?

A. 3-50
B. 10-15
C. 3-12
D. 10-80

Q.40 Integrity of plasma membrane is maintained due to which property of water?

A. Polarity
B. Specific heat capacity
C. Hydrophobic exclusion
D. Hydrogen bonding

Q.41 The type of reaction that justify formation of terpenoids from its isomer:

A. Condensation
B. Hydrolysis
C. Dehydration synthesis
D. Oxidation

Q.42 The most abundant organic molecule present in the protoplasm of bacterial cells is:

A. Carbohydrates
B. Lipids
C. Nucleic acid
D. Protein

Q.43 All enzymes work best in:

A. Acidic medium
B. Neutral medium
C. Alkaline medium
D. Aqueous medium

Q.44 Specific properties of tail in a lecithin molecule is due to:

A. Glycerol
B. Phosphoric acid
C. Fatty acids
D. Nitrogenous base

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Q.45 All of the following are true about fibrous proteins except:

A. Exists in fibril form
B. Insoluble in water
C. Inelastic in nature
D. Form structures

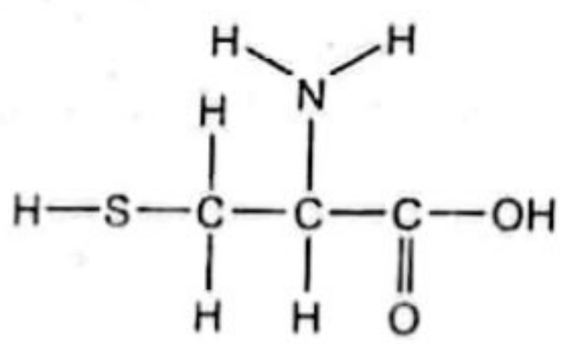
Q.46 If a polypeptide chain has 150 amino acid then what will be the length of mRNA including stop codon that code for this polypeptide chain?

A. 150
B. 453
C. 450
D. 153

Q.47 Which statement about enzyme is incorrect?

A. Increase rate of reaction
B. Specific in action
C. Change equilibrium of the reaction
D. Lowers the activation energy

Q.48 The diagram shows the structure of an amino acid (cysteine).



When two such amino acids join together by 'R-groups' then which bond/s is/are formed?

A. Disulfide only
B. Disulfide and peptide
C. Hydrogen, disulfide, and peptide
D. Peptide only

Q.49 Optimum temperature for the enzymes involved in spermatogenesis is:

A. 37^0C
B. Greater than 37^0C
C. Less than 37^0C
D. 25^0C

Q.50 Which of the following plays an important role in regulation of gene expression?

A. Glycoproteins
B. Nucleohistones
C. Glycolipids
D. Lipoproteins

Q.51 An enzyme which follow lock and key model is:

A. Hexokinase
B. Carbonic anhydrase
C. Urease
D. Phosphofructokinase

Q.52 Which of the following molecule acts as raw material in photosynthesis?

A. Glucose
B. Glyceraldehyde
C. Water
D. Ribulose bisphosphate

Q.53 Anti-codon is present on:

A. mRNA
B. tRNA
C. rRNA
D. dsRNA

Q.54 Cyanides are potent poisons because they can kill organism by inhibiting:

A. Cytochrome oxidase
B. Phosphofructokinase
C. Acetylcholinesterase
D. Adenylate cyclase

Q.55 Which of the following property of water enable it to circulate in living bodies and to act as transport medium?

A. High specific heat capacity
B. Cohesion
C. High heat of vaporization
D. Hydrophobic exclusion

Q.56 At freezing point, enzymes of human body may be:

A. Inhibited
B. Inactivated
C. Saturated
D. Denatured

Q.57 What is the minimum number of carbon atoms found in an amino acid?

A.1
B. 2
C. 3
D. 4

Q.58 Which type of bond is involved in primary structure of nucleic acid molecule?

A. Hydrogen
B. Phosphodiester
C. Glycosidic
D. Ionic

Q.59 _____ acts as raw material for the synthesis of NAD^+.

A. Metal ions
B. Porphyrin ring
C. Vitamins
D. Protein

Q.60 Which one of the following act as the source of energy in living organisms?

A. Waxes
B. Triacylglycerol
C. Hormones of steroid nature
D. Vitamins

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Cell obtiose
↳ 2 Ribose.

60/60

KIPS PREPARATIONS

Class Tes

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SUBJECT: Biology CH/UNIT# 2 (A+)

NAME: Fateh Alam

R. NO. (IN WORDS): Twenty five

CLASS: 54 SESSION: PP

SIGN: Fateh Ali DATE:

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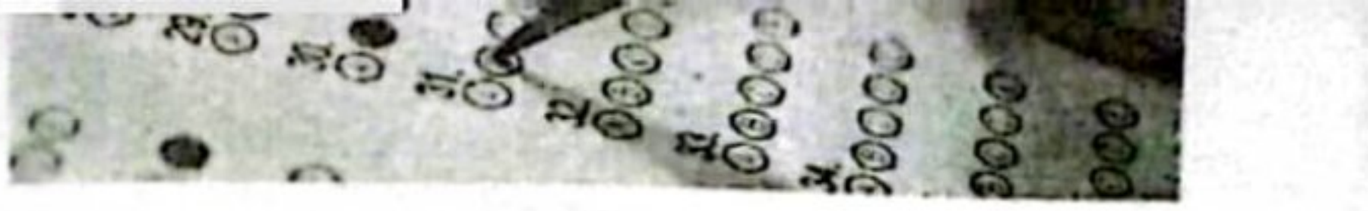


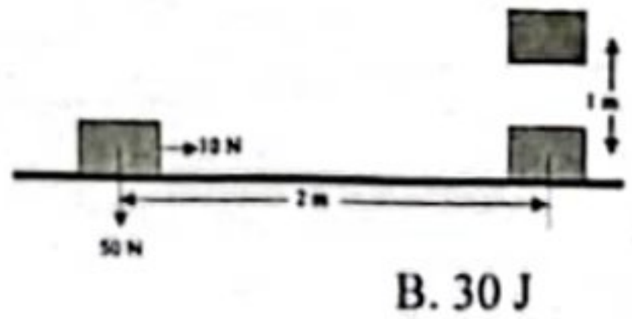
PHYSICS MDCAT

UNIT–2 (A+ SERIES)

TOPICS:

✓ **Work and Energy**

Q. 1 A box of weight 50 N is pulled 2 m along a horizontal floor by a force of 10 N and then the box is lifted vertically through a height of 1 m. What is the total work done on the box?



A. 20 J
B. 30 J
C. 70 J
D. 50 J

Q. 2 An engine develops 10 kW of power. How much time will it take to lift a mass of 200 kg to a height of 40 m

A. 4 sec
B. 10 sec
C. 8 sec
D. 5 sec

Q. 3 An applied force F accelerates an object from rest to a velocity v. How much work is done by the applied force F?

A. mgh
B. mFd
C. ½ mv^2
D. Zero

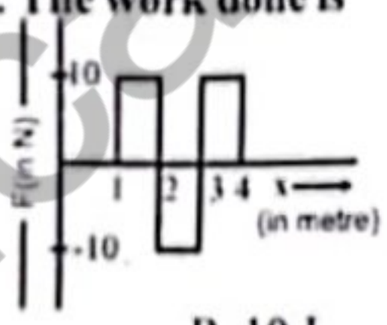
Q. 4 A 80 N Crate slides with constant speed a distance of 5.0m downward along a rough slope that makes an angle of 30° with the horizontal. The work done by the force of gravity is

A. 400 J
B. 210 J
C. 69 J
D. 200 J

Q. 5 What is the formula of work done?

A. Work done = (force) (displacement)
B. Work done = (pressure) (displacement)
C. Work done = (force) (velocity)
D. Work done = (mass) (acceleration)

Q. 6 Fig. shows F-x graph of a particle. The work done is



A. 0 J
B. 10 J
C. 20 J
D. 30 J

Q. 7 If momentum is increased by two times K.E increases by

A. Two times
B. 3 times
C. Four times
D. Remains

Q. 8 Which of the followings is an example of work done against force?

A. Getting up with the stairs
B. Walking on the flat ground
C. Get down with the stairs
D. Dropping any object down from the top

Q. 9 When the speed and mass of a body are doubled, K.E of body

A. Become 4 times
B. Becomes double
C. Become 8 times
D. Unchanged

Q. 10 If power of 1 kW is maintained for 1 sec than work done is

A. 10^5 J
B. 10^{-6} J
C. 10^3 J
D. 3.6 MJ

Q. 11 Work done by gravity when P.E of body is increased is

A. Positive
B. Negative
C. Zero
D. Both positive and negative

Q. 12 A car of mass M has an engine which can deliver power P, what is the minimum time in which the car can be accelerated from rest to speed

A. Mv/P
B. P/Mv
C. $Mv^2/2P$
D. P/Mv^2

Q. 13 Output of a truck is 4500 J and its efficiency is 50%, input energy provided to truck is

A. 5000 J
B. 900 J
C. 9000 J
D. 500 J

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Q. 14 **Due to application of 5 N force an object moves 10 meter along perpendicular direction of the force. What amount of work is done?**
A. 50 Joule
B. 15 Joule
C. 5 Joule
D. 0 Joule

Q. 15 **A gardener pushes a lawn roller through a distance of 20m. If he applies a force of 20kg weight in a direction inclined at 60° to the ground, find the work done by him. ($g=9.8m/s^2$)**
A. 400J
B. 1960J
C. 250J
D. 2514J

Q. 16 **The decrease in the potential energy of a ball of mass 20 kg which falls from a height of 50 cm is**
A. 968 J
B. 98 J
C. 1980 J
D. None of these

Q. 17 **Power can be defined as the product of:**
A. Force and displacement
B. Force and time
C. Force and velocity
D. Force and mass

Q. 18 **Work done will be maximum when angle between $\vec{F}$ and $\vec{d}$ is:**
A. 120°
B. 60°
C. 90°
D. 0°

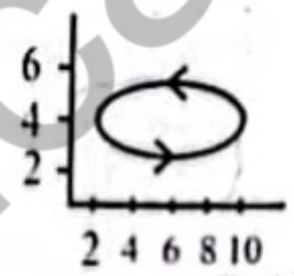
Q. 19 **The amount of work required to stop a moving object is equal to:**
A. The velocity of the object
B. The kinetic energy of the object
C. The mass of the object times its acceleration
D. The mass of the object times its velocity

Q. 20 **A body is falling from a height h. After it has fallen a height h/2, it will possess**
A. Only potential energy
B. Only kinetic energy
C. Half potential and half kinetic energy
D. More kinetic and less potential energy

Q. 21 **When a coil spring is compressed, the work is done on the spring. The elastic potential energy**
A. Increases
B. Decreases
C. Disappears
D. Remains unchanged

Q. 22 **Two bodies of equal weight are kept at heights of h and 1.5 h, respectively. The ratio of their potential energies is:**
A. 3 : 2
B. 2 : 3
C. 1 : 1
D. 4 : 3

Q. 23 **Total work in F-d graph fig is**



A. 10 J
B. 100 J
C. 50 J
D. 0 J

Q. 24 **What is ratio of K.E of α-particle and $^1H_1$ if their linear momentum is same?**
A. 18:1
B. 1:4
C. 4:1
D. 2:1

Q. 25 **The average and instantaneous power become equal if work is done at**
A. Any rate
B. Variable rate
C. Uniform rate
D. High rate

Q. 26 **If K.E of body increased by 20%. The percentage increase in momentum is:**
A. 44%
B. 88%
C. 60%
D. 9%

Q. 27 **You lift a suit case from floor keeping it on table. The work done on it by you does not depends upon:**
A. Path taken by suitcase
B. Time taken
C. Wight of suitcase
D. Both 'A' and 'B'

Q. 28 **Proton, electron, neutron have same momentum which of them have highest K.E?**
A. Proton
B. Electron
C. Neutron
D. All have same K.E

Q. 29 **A person is holding a bucket by applying a force of 10N. He moves a horizontal distance of 5m and then climbs up a vertical distance of 10m. Find the total work done by him?**
A. 50J
B. 150J
C. 100J
D. 200J

Q. 30 **Work done by central force is**
A. Minimum
B. Maximum
C. Zero
D. –ve

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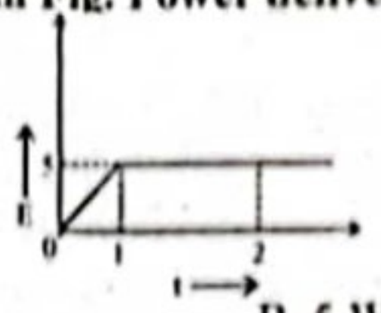
Q. 31 Energy time graph is shown in Fig. Power delivered is:



A. 2.5 W
B. 5 W
C. 0.2 W
D. 0.5 W

Q. 32 A force 2i + j has moved its point of application from (2,3) to (6,5). What is work done?

A. −10 B. −18 C. +10 D. +18

Q. 33 Two boys weighing in the ratio 4:5 goes up stair taking time in the ratio 5:4. The ratio of their power is:

A. 1 B. 16/25 C. 25/16 D. 4/5

Q. 34 Work done on a ceiling fan by gravity is

A. Maximum
B. Zero
C. Minimum
D. Infinity

Q. 35 Work done by friction

A. Increases kinetic energy of body
B. Decreases kinetic energy of body
C. Increases potential energy of body
D. Decreases potential energy of body

Q. 36 If force and displacement of particle in direction of force are doubled. Work would be

A. Double
B. 4 times
C. Half
D. 1/4 times

Q. 37 A motor having an efficiency of 0.8 uses 800 J of electrical energy. The output energy of the motor is:

A. 800 J
B. 1000 J
C. 640 J
D. 6.4 J

Q. 38 Ignoring details associated with friction, extra forces exerted by arm and leg muscles, and other factors, we can consider a pole vault as the conversion of an athlete's running kinetic energy to gravitational potential energy. If an athlete is to lift his body 5m during a vault, what speed must he have when he plants his pole?

A. 5 ms^{-1}
B. 10 ms^{-1}
C. 15 ms^{-1}
D. 20 ms^{-1}

Q. 39 The unit of the kinetic energy is same as that of:

A. Momentum B. Velocity C. Force D. Work

Q. 40 When five times momentum of a body is equal to the kinetic energy of the same body then its velocity is equal to:

A. 5 m/s
B. 10 m/s
C. 15 m/s
D. 20 m/s

Q. 41 Which of the following is a conservative field?

A. Electrical
B. Resistance
C. Friction
D. Magnetic

Q. 42 Find the work done by a force of 10N applied to a lawn roller, when the force acts making an angle of 30° with the horizontal, moving the roller through a horizontal distance of 10m.

A. $50\sqrt{3}$ J B. 75 J C. 25 J D. 100 J

Q. 43 Potential energy can be defined only for

A. Conservative forces
B. Non- conservative forces
C. Both 'A' and 'B'
D. None of these

Q. 44 Absolute potential energy of a body at the surface of the earth is

A. Gm/R
B. Gm/R^2
C. Gm M/R
D. $Gm M/R^2$

Q. 45 According to work energy principle work done on body will equal to change its

A. K.E only
B. P.E only
C. K.E and P.E both
D. All may correct

Q. 46 Work is positive if

A. $0° \leq \theta \leq 90°$
B. K.E increase
C. $\theta > 90°$
D. Both 'A' and 'B'

Q. 47 At which angle work is 50% of its maximum value?

A. 0° B. 30° C. 60° D. 45°

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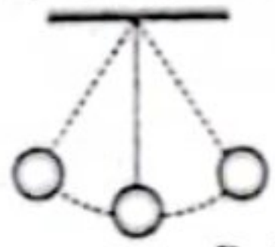
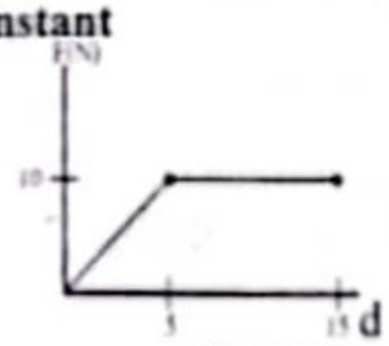
Q. 48 **What is the velocity of the bob of a simple pendulum at its mean position, if it is able to rise to vertical height of $10cm$ (Take $g = 9.8 m/s^2$)**



A. 0.6 m/s
B. 1.4 m/s
C. 1.8 m/s
D. 2.2 m/s

Q. 49 **Find work done, when force is constant**

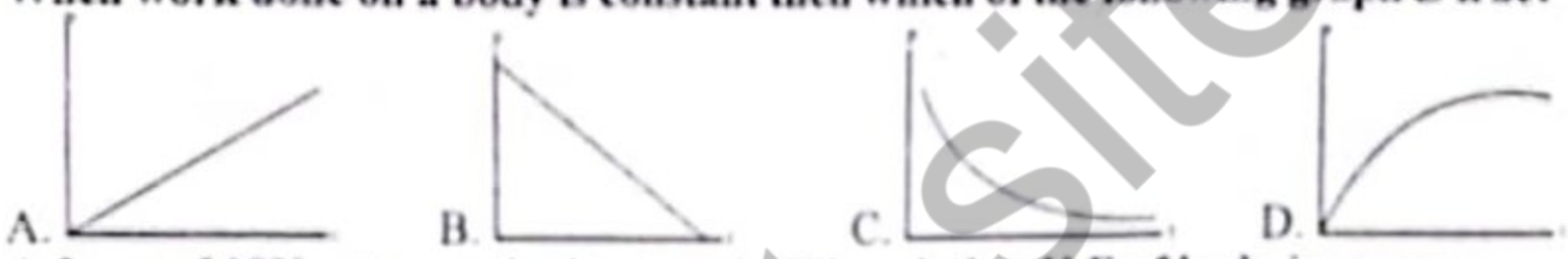


A. 50J
B. 100J
C. 150J
D. 200J

Q. 50 **Work done during horizontal motion by the gravity is**

A. Maximum
B. Zero
C. Negative
D. Positive

Q. 51 **When work done on a body is constant then which of the following graph is true?**



Q. 52 **A force of 10N acts on a body at angle 60° such that K.E of body increases to 600J from 100J. What is the work done by the force?**

A. 500J
B. 800J
C. 1000J
D. 0J

Q. 53 **If a body of mass 5kg thrown from 2-meter height with K.E of 100J then its K.E before hitting the ground will be**

A. 50J
B. 100J
C. 150J
D. 200J

Q. 54 **A ball is released from a height h, above a table. Give that air resistance is negligible and 50% of its K.E is converted to other forms of energy at each bounce, what will be the height reached after the second bounce?**

A. h/4
B. h/2
C. h/8
D. h/3

Q. 55 **Momentum of a body decreases by 20%. What will be the %decrease in kinetic energy?**

A. 10%
B. 36%
C. 44%
D. 54%

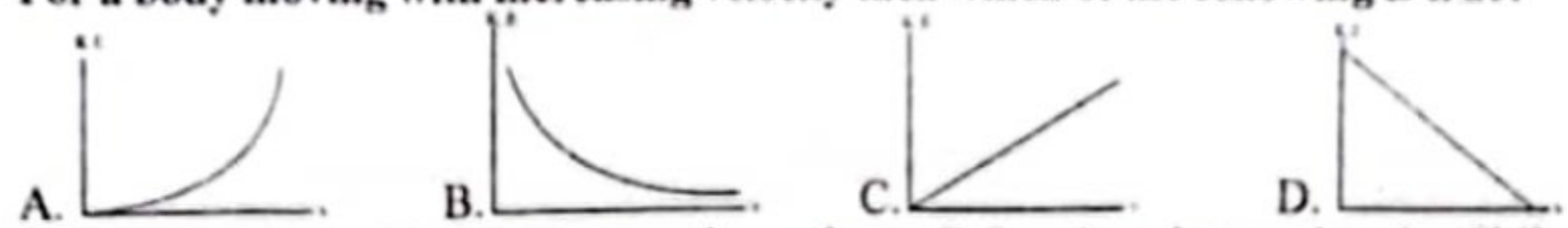
Q. 56 **Two bodies X of mass 4 kg and Y of mass 6 kg have same linear momentum. If the K.E of Y is 48 J then K.E of body X is:**

A. 48 J
B. 64 J
C. 72 J
D. 96 J

Q. 57 **Two electrons are brought closer together. The potential energy of the system will be**

A. Zero
B. Less
C. More
D. Infinity

Q. 58 **For a body moving with increasing velocity then which of the following is true?**



Q. 59 **A mass m at rest is acted upon by a force F for time interval t. Its K.E after t interval is:**

A. $\frac{F^2t^2}{m}$
B. $\frac{F^2t^2}{5m}$
C. $\frac{F^2t^2}{2m}$
D. $\frac{Ft}{2m}$

Q. 60 **A mechanical device requires 420 J of work to do 230 J of work in lifting a crate. What is the efficiency of the device?**

A. 55%
B. 190%
C. 183%
D. 0.5%

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KIPS
PREPARATIONS

Class Test

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	○	○	●	○	16	○	●	○	○	31	○	●	○	○	46	○	●	○	○
2	○	○	●	○	17	○	○	●	○	32	○	○	●	○	47	○	○	●	○
3	○	○	●	○	18	○	○	○	●	33	○	●	○	○	48	○	●	○	○
4	○	○	○	●	19	○	●	○	○	34	○	●	○	○	49	○	●	○	○
5	●	○	○	○	20	○	○	●	○	35	○	●	○	○	50	○	○	●	○
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7	○	○	●	○	22	○	●	○	○	37	○	○	●	○	52	●	○	○	○
8	●	○	○	○	23	○	○	○	●	38	○	●	○	○	53	○	○	○	●
9	○	○	●	○	24	○	●	○	○	39	○	○	○	●	54	●	○	○	○
10	○	○	●	○	25	○	○	●	○	40	○	●	○	○	55	○	●	○	○
11	○	●	○	○	26	○	○	○	●	41	●	○	○	○	56	○	○	●	○
12	○	○	●	○	27	○	○	○	●	42	●	○	○	○	57	○	○	●	○
13	○	○	●	○	28	○	●	○	○	43	●	○	○	○	58	●	○	○	○
14	○	○	○	●	29	○	○	●	○	44	○	○	●	○	59	○	○	●	○
15	○	●	○	○	30	○	○	●	○	45	○	○	○	●	60	●	○	○	○

Roll No.

0	0	0	0	0	2	5
●	●	●	●	●	0	0
1	1	1	1	1	1	1
2	2	2	2	2	●	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	●
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

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Correct Example: ○ ● ○ ○ ✓

Incorrect Examples ○ ● ● ○ ✗
○ ○ ● ○ ✗
○ ○ ○ ● ✗

SUBJECT: Physics CH/UNIT# 2 (A+)

NAME: Fateh Alam Bhatty

R. NO. (IN WORDS): Twenty five

CLASS: S4 SESSION: PP

SIGN: Fateh Al DATE: 2-8-23

KIPS | ENTRY TESTS PREPARATION

CHEMISTRY MDCAT

UNIT–2 (A + SERIES)

TOPIC:-

✓ **ATOMIC STRUCTURE**

Q.1 **Number of electrons with anticlockwise spin present in an element of atomic number 18**

A.10 B. 18
C. 9 D. 8

Q.2 **All are electromagnetic in nature except**

A. Gamma rays B. Radio wave
C. Cathode ray D. IR rays

Q.3 **Atomic Number of X is 24 while of Y is 25. Which of the following is correct relation with reference of M shell electrons?**

A. X > Y B. X = Y
C. Y > X D. X >> Y

Q.4 **Calculate the Maximum number of electrons, orbitals and subshell present in K shell**

A. 2, 1, 1 B. 1, 1, 2
C. 2, 1, 2 D. 2, 2, 2

Q.5 **Which of the following Level of energy has highest angular momentum**

A. M B. L
C. K D. N

Q.6 **Electronic configuration of which element cannot be explained without using Hund's rule**

A. Ne B. Mg
C. F D. O

Q.7 **An element has electronic configuration $1s^2\ 2s^2\ 2p^5$ it is more likely to _____.**

A. Lose electron B. Donate electron
C. Gain electron D. Neither accept nor donate

Q.8 **Number of electrons in spherical sub-shells of $_{11}Na$ are equal to**

A. Half of Z of Ne B. Three times of Z of Ne
C. Two times of Z of Ne D. Four times of Z of Ne

Q.9 **Maximum number of electrons with clockwise spin that can be accommodated in 4th energy level**

A. 1 B. 4
C. 9 D. 16

Q.10 **Set of quantum number for 19th electron of Cr is**

A. n = 3 l = 2 m = 0 s = +1/2
B. n = 4 l = 0 m = 0 s = +1/2
C. n = 3 l = 0 m = 0 s = -1/2
D. n = 3 l = 2 m = +1 s = +1/2

Q.11 **Electron density between 1s and 2s is**

A. High B. Zero
C. Low D. 95 %

Q.12 **Atomic number of Zn and Cu is 30 and 29 respectively. The electronic configuration $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10}$ is for _____**

A. $_{30}Zn$ B. $_{29}Cu$
C. $_{30}Zn^{+2}$ D. $_{29}Cu^{+2}$

Q.13 **A di-positive cation has 27 es⁻ and 65 nucleon number. Number of neutrons in ion will be**

A. 32 B. 39
C. 36 D. 38

Q.14 **Which of the following statement is true about mass no?**

A. Mass number = number of protons+ number of electrons
B. Mass number = (number of protons) × 2
C. Mass number = number of protons + number of neutrons
D. Mass number = (number of neutrons) × 2

Q.15 **If an ion is carrying positive charge then which of the following must be true?**

A. Number of proton = Number of electron
B. Number of proton > Number of neutron
C. Number of proton > Number of electron
D. Number of proton < Number of electron

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Q.16 Which of the following order is correct with respect to number of protons

A. $H^- > H > H^+$
B. $H^+ > H^- > H$
C. $H > H^- > H^+$
D. $H^- = H = H^+$

Q.17 CO and N_2 have all the values similar with one another except

A. Group number of central atom
B. Number of electron
C. Number of proton
D. Nucleon number

Q.18 Mass of proton is

A. 1.6726×10^{-27}g
B. 1.6726×10^{-24}Kg
C. 1.6726×10^{-21}mg
D. 1.6726×10^{-24}mg

Q.19 Charge on 1 mole of proton is

A. 96500C
B. $+1.6022 \times 10^{-19}$C
C. 1.7588×10^{11}C
D. 9.1095×10^{-16}C

Q.20 Which of the following ion is iso electronic to Chlorine atom

A. CN^-
B. CH_4^+
C. O_2^-
D. CO^+

Q.21 If the atomic number of an atom is 17 then calculate the number of orbitals having electron pairs in outer most shell

A. 5
B. 3
C. 4
D. 2

Q.22 Identify the pair of ions that have different electronic configuration with each other

A. Mn^{+2}, Fe^{+3}
B. Cu^{+1}, Zn^{+2}
C. Sc^{+3}, Ti^{+4}
D. Cu^{+1}, Mn^{+2}

Q.23 A photon of greater wavelength will have

A. Greater frequency
B. Greater energy
C. Smaller wave number
D. Greater wave number

Q.24 The quantum of energy is called photon in case of _____.

A. Heat
B. Sound
C. Wave
D. Light

Q.25 S.I units of wave number are

A. m^{-1}
B. cm^{-1}
C. A°
D. nm

Q.26 An Unknown element has 2 electrons in K shell, 8 electrons in L shell, 13 electrons in M shell and fully filled spherical subshell in N shell. Identify the element

A. Cr
B. Mn
C. Sc
D. O

Q.27 Identify the element that has greater number of electrons in spherical orbitals than number of electrons in dumbbell orbitals in its electronic configuration

A. Na
B. Ca
C. Mg
D. N

Q.28 s, p, d and f are spectral terms which stand for _____

A. Spherical, principal, diffused, fundamental
B. Sharp, principal, diffused, fundamental
C. Sharp, principal, dispersed, fundamental
D. Sharp, principal, dumb-bell, fundamental

Q.29 Which of the following is true relationship between principal and azimuthal quantum number?

A. $n = l$
B. $n > l$
C. $n < l$
D. $n = \pm l$

Q.30 Number of electrons in a shell are determined by using

A. n
B. $2n^2$
C. n^2
D. $n^2/2$

Q.31 Only subshell present in hydride ion is

A. s-orbital
B. p-orbital
C. d-orbital
D. f-orbital

Q.32 The electronic configuration of magnesium is given below $_{12}Mg = 1s^2\ 2s^2\ 2p^6\ 3s^2$ Maximum number of electrons in a p-orbital of magnesium is/are

A. 2
B. 4
C. 6
D. 8

Q.33 The correct set of quantum number for valance electron of Hydrogen atom is

A.	n = 3	l = 2	m = 0	s = +1/2
B.	n = 1	l = 0	m = 0	s = +1/2
C.	n = 3	l = 2	m = 0	s = -1/2
D.	n = 3	l = 2	m = +1	s = +1/2

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Q.34 Minimum number of electrons in N-shell are

A. $_{22}Ti$ B. $_{23}V$
C. $_{24}Cr$ D. $_{25}Mn$

Q.35 Electron will be placed first in

A. 7s B. 6p
C. 5d D. 4f

Q.36 The total number of electrons in Ne with s = +1/2 is/are

A. 1 B. 2
C. 5 D. 10

Q.37 How many orbitals having electrons will be present in an atom with atomic number 29?

A. 10 B. 15
C. 20 D. 29

Q.38 Number of electrons in the subshell can be determined by using _____ formula

A. $2(2l + 1)$ B. $2n^2$
C. n^2 D. $2l + 1$

Q.39 The electrons in Helium can be distinguished by

A. Principal quantum number B. Azimuthal quantum number
C. Magnetic quantum number D. Spin quantum number

Q.40 The probability of finding an electron at nodal plane is

A. 1% B. 5%
C. 95% D. 0%

Q.41 2p and 3p subshells may have same

A. Energy B. Size
C. Number of electron D. Principal quantum number

Q.42 Atoms of two different elements having same nucleon number but different proton number are called

A. Isotopes B. Isotones
C. Isobars D. Isoelectronic

Q.43 An unknown element having electronic configuration [Ne] $3s^2$, $3p^3$ can form

A. Uni-negative ion B. Tri-Negative ion
C. Di-Positive ion D. Uni-Positive ion

Q.44 The _____ quantum number explains the shapes of orbitals

A. Principal B. Magnetic
C. Azimuthal D. Spin

Q.45 Which of the following violates Hund's rule

A. $1s^2, 2s^2, 2p_x^1, 2p_y^1, 2pz^0$ B. $1s^2, 2s^2, 2p_x^2, 2p_y^0\ 2p_z^0$
C. $1s^2, 2s^2, 2p_x^2, 2p_y^2, 2pz^2$ D. $1s^2, 2s^1$

Q.46 The number of unpaired electrons in the carbon atom in ground state

A. 4 B. 2
C. 3 D. 1

Q.47 The charge on proton is

A. -1.6×10^{-31} C B. 1.6×10^{-31}C
C. -1.6×10^{-19}C D. $+1.6 \times 10^{-19}$C

Q.48 The isotone of C-14 is

A. $^{14}_{7}N$ B. $^{16}_{8}O$
C. $^{11}_{5}B$ D. $^{20}_{10}Ne$

Q.49 M-shell contain

A. S B. s, p, d
C. S, p, d, f D. s, p

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Q.50 Total no. of electrons that can be accommodated in f-subshell

A. 6 B. 14
C. 10 D. 18

Q.51 Positive rays are also known as

A. X rays B. Gamma rays
C. Canal rays D. Cathode rays

Q.52 Which has greater energy according to principle (n + *l*)

A. 5d B. 4f
C. 7s D. 6p

Q.53 How do the 'p' orbitals p_x, p_y, p_z differ from each other

A. Size B. Shape
C. Orientation D. Capacity

Q.54 An element carrying –1 charge contain 10es$^-$ and 19 nucleon number. Number of neutrons will be

A. 10 B. 9
C. 19 D. 8

Q.55 Electrons should be filled in energy subshells in order of increasing energy value, so electrons will first place in 1s, 2s, 2p, 3s and so on. This rule is

A. Pauli's Exclusion Principle B. Aufbau principle
C. Hund's rule D. Moseley's rule

Q.56 When azimuthal quantum number *l* =2, then 'm' can have _____ values

A. 3 B. 5
C. 7 D. 9

Q.57 How many unpaired electrons are there in Mn^{+5}(atomic number = 25)?

A. 0 B. 2
C. 4 D. 8

Q.58 If wavelength is decreased two times or frequency increased two times or wave number increased two times then energy will _____ times

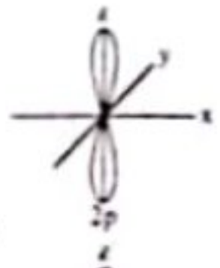
A. Increase four B. Increase two
C. Decrease two D. Remain same

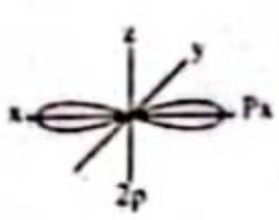
Q.59 Maximum number of electrons in a subshell can be calculated by the formula

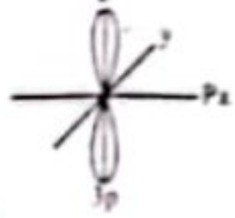
A. $2\ell + 1$ B. $2(2\ell + 1)$
C. $2(2\ell - 1)$ D. $\ell + 2$

Q.60 Which orbital correctly represents the last electron in the element of VII-A group and 3rd period

A.

B. 

C. 

D. 

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59/60

KIPS PREPARATIONS

Class Test

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1	○	○	●	○	16	○	○	○	●	31	●	○	○	○	46	○	●	○	○
2	○	○	●	○	17	●	○	○	○	32	●	○	●	○	47	○	○	○	●
3	○	●	○	○	18	○	○	●	○	33	○	●	○	○	48	○	●	○	○
4	●	○	○	○	19	●	○	○	○	34	○	○	●	○	49	○	●	○	○
5	○	○	○	●	20	○	○	●	○	35	○	○	○	●	50	○	●	○	○
6	○	○	○	●	21	○	●	○	○	36	○	○	●	○	51	○	○	●	○
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8	●	○	○	○	23	○	○	●	○	38	●	○	○	○	53	○	○	●	○
9	○	○	○	●	24	○	○	○	●	39	○	○	○	●	54	●	○	○	○
10	○	●	○	○	25	●	○	○	○	40	○	○	○	●	55	○	●	○	○
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15	○	○	●	○	30	○	●	○	○	45	○	●	○	○	60	○	○	○	●

Roll No.

0	0	0	0	0	2	5
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1	1	1	1	1	1	1
2	2	2	2	2	●	2
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4	4	4	4	4	4	4
5	5	5	5	5	5	●
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

1. Use Blue Ball Point Pen Only.
2. Please Fill In The Roll No. Correctly
3. It Is Important That The Circle Is Fil Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ○ ● ○ ○ ✓

Incorrect Examples ○ ● ○ ○ ✗ ○ ○ ● ○ ✗ ○ ○ ○ ● ✗

SUBJECT: Chemistry CH/UNIT# 2(A+)

NAME: Fateh Alam

R. NO. (IN WORDS): Twenty five

CLASS: 9th SESSION: PP

SIGN: Fateh Alam DATE:

Model

KIPS | ENTRY TESTS PREPARATION

ENGLISH MDCAT

TEST-2 (A+ SERIES)

TOPICS:

SUBJECT-VERB AGREEMENT AND VOCABULARY (1-25)

Directions:

Fill in the Blank

Q.1 **Statistics ____able to prove anything you want them to.**

A. has B. have C. is D. are

Q.2 **The only people who are interested in the book ____to be lawyers.**

A. has seemed B. seems C. seem D. was seemed

Q.3 **A couple o f m y friends ___to open a travel agency.**

A. plan B. plans C. is going to plan D. has plan

Q.4 **The Island's politics ___complex, with over twelve parties competing for power.**

A.is B. are C. have D. was

Q.5 **Recent government statistics _____a sharp decline in crime.**

A. was showed B. has showed C. show D. shows

Q.6 **The economics of the plan ___worrying investors.**

A. were B. was C. is D. has

Q.7 **An early analysis of the results____ that the Socialists have won.**

A. is B. are C. were D. has

Q.8 **I don't think any of them _____me.**

A. know B. knows C. was known D. were known

Q.9 **Five hundred square feet ____on to the house.**

A. has been added B. have been added C. was added D. is added

Q.10 **About three metres ____the runners in first and second places.**

A. have separated B. is separated C. separates D. separate

Directions:

Spot the Error

Q.11 **The issues which (A) haye been (B) considered in the previous section allows (C) us to speculate on problems that learners might encounter.(D)**

A. which B. have been C. allows D. encounter

Q.12 **He is following(A) a direction, mapped out(B) by his parents, that run(C) counter to all of his interests and abilities.(D)**

A. is following B. mapped out C. run D. his interests and abilities

Q.13 **The goods the country exports (A) are (B) nearly always raw material which(C) is(D) much more subject to price fluctuations.**

A. exports B. are C. which D. is

Q.14 **The most important and the most difficult thing to achieve (A) are(B) a desire among (C)individuals to limit(D) the size of the family.**

A. to achieve B. are C. among D. to limit

Q.15 **There is (A) a goodly number of undergraduates whose (B) heads are turned(C) and whose judgement is perverted(C) by athletic sports.**

A. is B. whose C. are turned D. is perverted

Q.16 **All that (A) the rest of us can do (B) are to point out(C) what is the matter. (D)**

A. All that B. can do C. are to point out D. what is the matter

Q.17 **The vegetables that (A) the old man grew (B) in his secret garden was(C) better flavored (D) because of the sunshine in the clearing.**

A. that B. grew C. was D. flavoured

Q.18 **The diners discussed (A) the crops and the weather which(B) were(C) favourable for the green things but(D) not for wheat.**

A. discussed B. which C. were D. but

Q.19 **These were (A) the only techniques and strategies which (B) was(C) being employed(D) by the experts.**

A. were B. which C. was D. employed

Q.20 **That two-thirds of younger couples feel (A) they(B) have done(C) a good job of supporting each other are(D) encouraging.**

A. feel B. they C. have done D. are

Directions:

Choose the correct Option

Q.21

A. Each of the winners receives a scholarship and a trophy.
B. Each of the winners receive a scholarship and a trophy.
C. Each of the winners have received a scholarship and a trophy.
D. Each of the winners was receive a scholarship and a trophy.

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Q.22

A. Every one of the prisons are full.
B. Every one of the prisons had full.
C. Every one of the prisons have full.
D. Every one of the prisons is full.

Q.23

A. Knowledge and wisdom has no time for connection.
B. Knowledge and wisdom have no time for connection.
C. Knowledge and wisdom had no time for connection.
D. Knowledge and wisdom were no time for connection.

Q.24

A. Age and experience brings wisdom to man.
B. Age and experience bring wisdom to man.
C. Age or experience bring wisdom to man.
D. Age and experience has brought wisdom to man.

Q.25

A. Here come the two famous stars from that movie.
B. Here comes the two famous stars from that movie.
C. Here has come the two famous stars from that movie.
D. Here had came the two famous stars from that movie.

Q.26

A. Some of the grapes in our local market has come from Mexico.
B. Some of the grapes in our local market comes from Mexico.
C. Some of the grapes in our local market come from Mexico.
D. Some of the grapes in our local market is coming from Mexico.

Q.27

A. Twenty dollars is not a lot of money these days.
B. Twenty dollars are not a lot of money these days.
C. Twenty dollars is required to spend on this project.
D. Twenty dollars has been required to spend on this project.

Q.28

A. This singer, along with a few others, play the harmonica on stage.
B. This singer, along with a few others, plays the harmonica on stage.
C. This singer and a few others plays the harmonica on stage.
D. This singer, together with a few others, have played the harmonica on stage.

Q.29

A. Bread and butter is what the poor need today.
B. Bread and butter is what the poor needs today.
C. Bread and butter is what the poor was needed today.
D. Bread and butter is what the poor needing today.

Q.30

A. Did he realise little the danger did he faced?
B. Little did he realise the danger did he face.
C. Little he realised the danger he faced.
D. Little did he realise the danger he faced.

Directions:

Choose the Correct SYNONYM

Q.31 APPALLING

A. Shocking B. Fascinating C. Astonished D. Detached

Q.32 ANXITIES

A. Indifference B. Measured C. underscored D. Consternation

Q.33 BOON

A. Detriment B. Success C. Illumination D. Analyzed

Q.34 BAFFLING

A. Beguiling B. Enlightening C. Retiring D. Gesticulating

Q.35 CREDENTIAL

A. Disapproval B. Commodious C. Testimonials D. Ingenuous

Directions:

Choose the Correct ANTONYM

Q.36 COAXED

A. Cajole B. Provoke C. Hamper D. Constrain

Directions:

Choose the best word with respect to the given context.

Q.37 The finance secretary _____ the NGO's funds _____ he was dismissed.

A. misplaced, soon B. misappropriated, so C. rolled, thus D. continued; for

Q.38 There was a multi-car accident on the highway, so traffic was at a___.

A. management B. safety C. legislation D. standstill

Q.39 They could finish the race because they had trained for it so_____.

A. briskly B. swiftly C. diligently D. abruptly

Directions:

Choose the correct SPELLING

Q.40

A. Milleneum B. Mellenium C. Millennium D. Millenium

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Bread and butter
Horse + carriage
ebb and flow
rise and fall
slow and steady
} considered 1 unit.

(3 G/40

KIPS PREPARATIONS

Class Test

	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
1				●	16			●		31	●				46				
2			●		17			●		32				●	47				
3	●				18			●		33		●			48				
4	●	●			19			●		34	●				49				
5			●		20				●	35			●		50				
6		●			21	●				36				●	51				
7	●				22				●	37		●			52				
8		●			23	●	●			38				●	53				
9		●			24		●			39			●		54				
10	●		●	●	25	●				40			●		55				
11			●		26			●		41					56				
12			●		27	●				42					57				
13				●	28		●			43					58				
14		●			29	●				44					59				
15	●				30				●	45					60				

Roll No.						
0	0	0	0	0	2	5
●	●	●	●	●	0	0
1	1	1	1	1	1	1
2	2	2	2	2	●	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	●
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9

1. Use Blue Ball Point Pen Only.
2. Please Fill In The Roll No. Correctly.
3. It Is Important That The Circle Is Fille Completely And Correctly As Shown In The Example Below, Otherwise

Correct Example: ○ ● ○ ○ ✓

Incorrect Examples: ○ ● ● ○ X ○ ○ ● ○ X ○ ○ ○ ● X

SUBJECT: English CH/UNIT# Q(A+)

NAME: Fateh Alan

R. NO. (IN WORDS): Twenty five

CLASS: S4 SESSION: PP

SIGN: Fateh Al DATE:

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TEST DISSCUSSION CTS
9th August ,23, Wednesday

T-2 (A+ series) English

1- statics - academic subj — singular
3- A couple - may sing: or plural
4- politics — for country - plural
ab
15- A number - plural
18- ____ relative pronoun ↗ verb
21-
34- gesticulating - gestures

T-2 (A+ series) Biology

46-

T-2 (A+ series) Physics

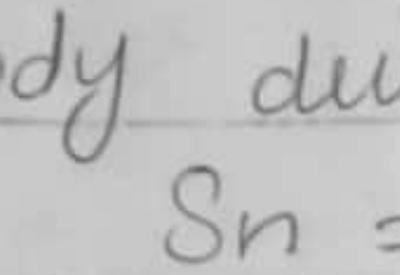
Distance covered by freely falling body in 5 sec?

$S = \frac{1}{2} g t^2$

Distance covered by freely falling body during 2nd th second?

$Sn = 5(2n-1)$

2- $(F \cdot d + mg)$
2- $P = mg/t$
3- W = change in K.E
4- $W = (w \sin\theta)\, d$



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8- frictional force — D
↳ air resistance

10- $W = P \times t$

12- $\frac{1}{2}\frac{mv^2}{t}$

13- efficiency output
input

15- $W = Fd\cos\theta = mgd\cos\theta$

16- $P.E = mgh$

22- $\frac{P.E_1}{P.E_2} = \frac{h_1}{h_2} = \frac{h}{\frac{15}{10}h} = \frac{2}{3}$

24- $\frac{E\alpha}{Ep} = \frac{mp}{m\alpha} = \frac{m_p}{4m_p} = \frac{1}{4}$

26- $P \propto \sqrt{K.E}$

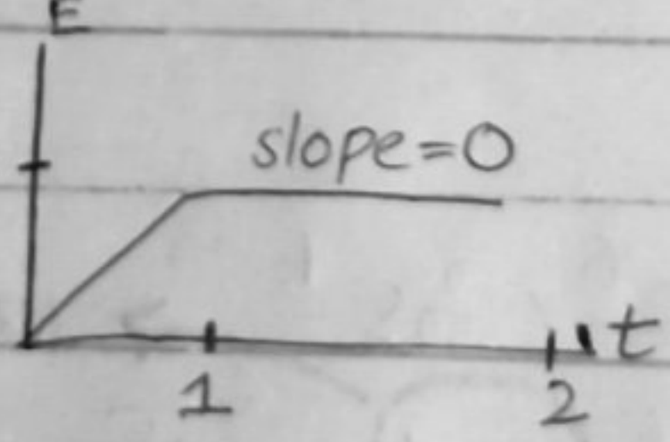
$\% \uparrow$ in momentum $= \sqrt{(1 + \% \uparrow \text{in } K.E} - 1 \times 100\%$

$= \left(\sqrt{\frac{1+20}{100}} - 1\right) 100\%$

$\simeq = \left(\sqrt{\frac{121}{100}} - 1\right) 100\%$

$\simeq \left(\frac{11}{10} - 1\right) 100\% \longrightarrow \simeq 10\%$ or 9%

31-



$P = \frac{E}{t} = \frac{5}{1} = 5W$

32- $\overrightarrow{\Delta d} = S_2 - S_1$

37- $\eta = W_{out} / W_{in}$

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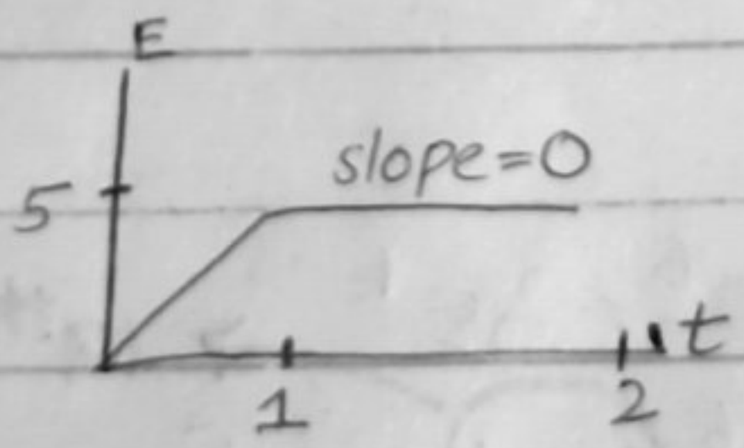
31- 

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37- $\eta = W_{out} / W_{in}$

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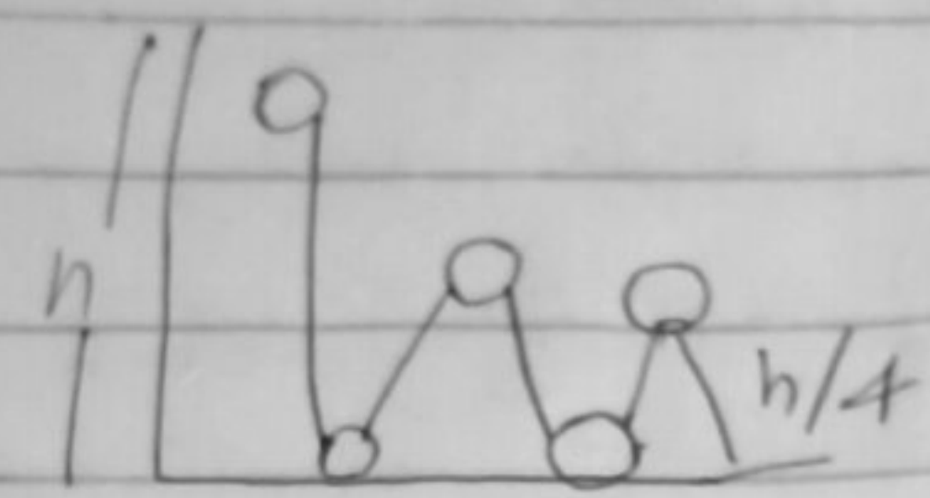
38- Pole vault —

$$\frac{1}{2}mv^2 = mgh$$

41- Magnetic - non-conservative
↳ velocity dependend

52- $W = \Delta K.E$

54-



53- $T.E_{Top} = T.E_{Bottom}$

$$K.E + P.E = K.E$$

56- $\frac{E_x}{E_y} = \frac{m_x}{m_y}$

59- $E = \frac{P^2}{2m} = \frac{F^2t^2}{2m}$

T-2 (A+ series) Chemistry

5- $\underline{mvr} = \frac{nh}{2\pi}$

8- $Na = 1s^2, 2s^2, 2p^6, 3s^1 \rightarrow 19^{th} e^-$

10- $1s^2, 2s^2, 2p^6, 3s^2, 3p^6, 4s^1, 3d^5$

$n = 4 \quad l = 0 \quad m = 0 \quad s = +1/2$

13- Total e^-s = Given e^-s + charge
$= 27 + 2 = 29$

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23- $\frac{1}{\lambda} \propto \bar{\nu} \propto \nu \propto E$

93- H $n=1$ $l=0$ $m=0$ $s=+1/2$

35- $4f \rightarrow 5d \rightarrow 6p \rightarrow 7s$

54- ${}^{19}_{9}X^-$ Total e⁻s = given e⁻s + charge

10 neutron = 10 + (-1) = 9

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