



Time : 2 hours

1. All questions are compulsory. **2.** Use of a calculator is not allowed. **3.** The numbers to the right of the questions indicate full marks. **4.** In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. **5.** For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) **6.** Scientifically correct, labelled diagrams should be drawn wherever necessary.

ii) Generally ionic compounds have high melting points.

iii) Carbon atom does not form C^{4+} cation.

B) Answer the following questions.

(Any three) (6)

i) The absolute refractive index of water is 1.36. What is the velocity of light in water? (velocity of light in vacuum 3×10^8 m/s)

ii) **Write Short Notes on**
IUPAC nomenclature system.

iii) Differentiate Lanthanide series and Actinide Series

iv) Mahendra and Virat are sitting at a distance of 1 metre from each other. Their masses are 75 kg and 80 kg, respectively. What is the gravitational force between them?
 $G = 6.67 \times 10^{-11} \text{ Nm}^2 / \text{kg}^2$

v) Define periods and groups of modern periodic table.

Q.3 Answer the following questions.

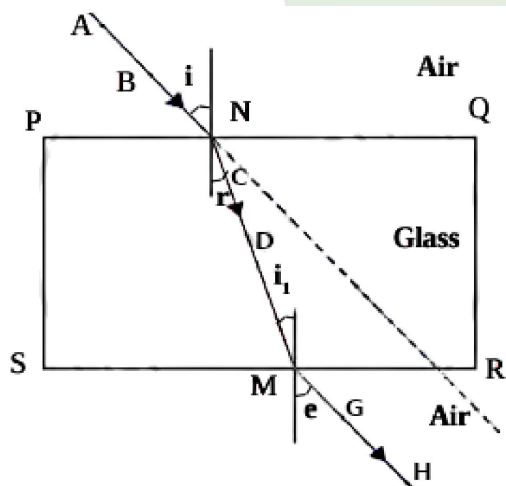
(Any five) (15)

i) The mass of the earth is 6×10^{24} kg. The distance between the earth and Sun is 1.5×10^{11} m. If gravitational force between them is 3.5×10^{22} N, what is the mass of the sun?
($G = 6.7 \times 10^{-11} \text{ NM}^2 \text{ kg}^{-2}$)

ii) An element has its electron configuration as 2, 8, 2. Now answer the following questions.

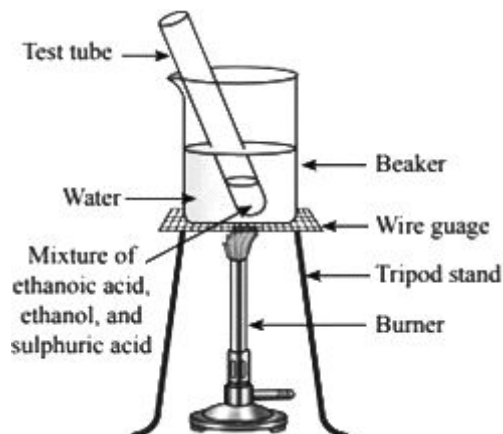
- What is atomic number of this element?
- What is valency of this element?
- What is group of this element?

iii) Observe the figure and name the ray AB, ray CD, ray GH :



iv) Observe the diagram and answer the

questions.

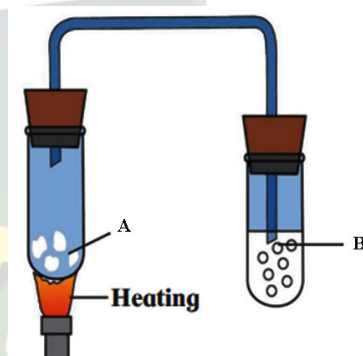


a. What reaction is shown in the above diagram?

b. Write the balanced chemical equation.

c. Write the name of the product produced in the above reaction and write its one use.

v) From the following diagram answer the following question.



i. If A is calcium carbonate.

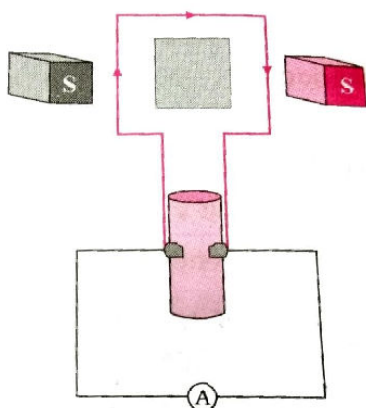
ii. What is the aim of above experiment.

iii. Give the equation.

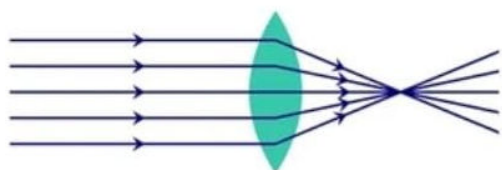
vi) Name the satellites which are used to:

- telecast television programs.
- collect information for security aspects.
- fix the location of any place on the earth.
- study the forests, deserts.

vii) Identify the figure A, B and write where it is used.



(A)

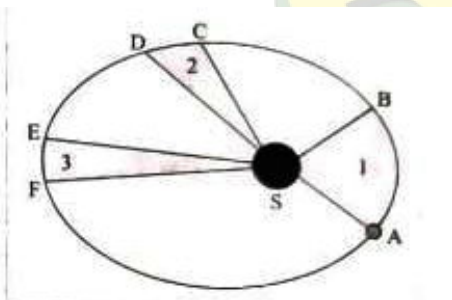


(B)

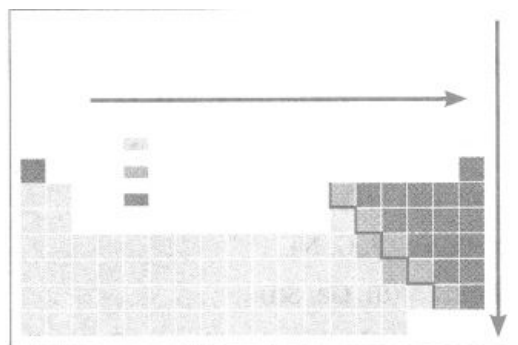
- viii) Write the atomic numbers of two elements 'x' & 'y' having electronic configurations 2, 8, 2 & 2, 8, 6 respectively.

Q.4 Answer the following questions.
(Any one) (5)

- 1) **Observe the figure and answer the following questions.**



- What is the conclusion about the orbit of a planet? (1)
 - What is the relation between velocity of planet and distance from Sun? (1)
 - Explain relation between areas ASB, CSD and ESF. (2)
- 2) Write the answers to the questions with reference to the structure of the periodic table.



- How many groups and periods are present in modern periodic table? 1
- write the name of blocks indicated? 1
- Which elements are present near the zig-zag line? 1
- Draw the electronic configuration of the second-row elements of first group in the periodic table. 2

B.KUMAR'S ACADEMY



B.KUMAR'S ACADEMY

Sub : Science -I

Class : X (State Board)

Pre. Question Paper - 02

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

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Q1 A) Multiple Choice Question. (5)

- 1) The power of convex lens of focal length 20 cm is
a) +5.0 D b) 0.20 D
c) -5.0 D d) 0.5 D
- 2) Which of the following scientist invented the rule of electromagnetic induction?
a) Newton b) Kepler
c) Mendeleev
d) Michael Faraday
- 3) Alkaline earth metal's valency is two, this means that their position in the modern periodic table is in _____.
a) Group 2 b) Group 16
c) Period 2 d) d-block
- 4) The direction of induced current in an AC generator changes once in each
a) two revolutions
b) one revolution
c) half rotation
d) one fourth revolution
- 5) $\text{Fe}_2\text{O}_3 + 2\text{Al} \longrightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$
The above reaction is an example of a
a) Combination

- b) double displacement
- c) decomposition
- d) displacement

B) Answer the following question (5)

- i) Find the odd one out
Voltmeter, Ammeter, Galvanometer, Thermometer
- ii) Complete the co-relation :
oxidation : increase in positive charge of an atom :: _____ : decrease in positive charge of an atom.
- iii) Match the Pair

Column "A"	Column "B"
i. Dobereiner's	a. French Scientist
ii. John Newland's	b. German Scientist
	c. Russian Scientist
	d. English Scientist

- iv) State True or False.
In anodizing technique, aluminium is used as a cathode.
- v) Name the following

Name the lens which can concentrate sun's light rays to a point and burn a hole in a piece of paper.

Q2 A) Give scientific reason

(Any two) (4)

- 1) The weight of a body is different on different planets.
- 2) The third period contains only eight elements even though the electron capacity of the third shell is 18.
- 3) It is recommended to use air tight container for storing oil for long time.

B) Answer the following question

(Any three) (6)

- 1) State two uses of space shuttles?
- 2) Complete the following reactions.

Straight chain of Carbon compounds	Structural formula	Molecular formula	Name
C	<pre> H | H - C - H | H </pre>	CH ₄	Methane
C-C	.....	.....	Ethane
C-C-C	.....	C ₃ H ₈	.....
C-C-C-C	<pre> H H H H | | | | H - C - C - C - C - H | | | | H H H H </pre>	.....	.....

- 3) Differentiate between Heat and Temperature.
- 4) Complete the following table.

Type of vision condition	Occurs when light focuses
1. Hypermetropia	
2. Myopia	

- 5) Explain Mendeleev's periodic law.

Q 3 Answer the following question

(Any five) (15)

- 1) Equal heat is given to two objects A

and B of mass 1g. Temperature of object A increases by 3°C and temperature of object B increases by 5°C. Which object has more specific heat? And by what factor?

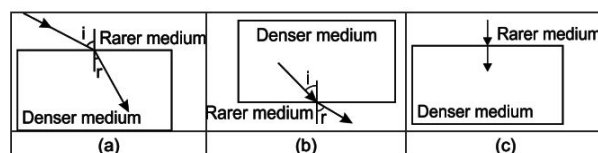
- 2) Write down the electronic configuration of the following elements.

i. $_{19}K$

ii. $_{3}Li$

iii. $_{11}Na$

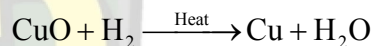
- 3) Observe the figure and write accurate conclusion regarding refraction of light.



- 4) Classify the following element into - Alkali metals, Halogen, Alkaline Earth metals

$(Cl^- Br^- I^-), (Ca Sr Mg), (Li Na K)$

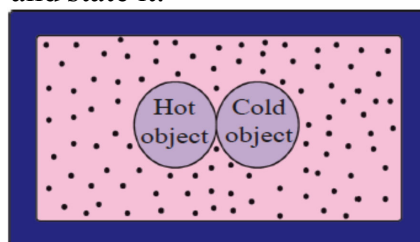
- 5) Consider the chemical equation given below and answer the question that follow.



- i) Name the substance which is getting oxidised.
- ii) Name the oxidising agent.
- iii) Name the substance which is getting reduced.

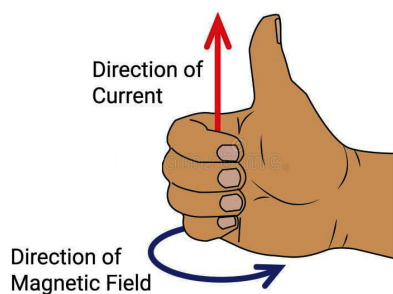
- 6) Observe the following figure and answer the question.

Write the name of the principle represented by below arrangement and state it.

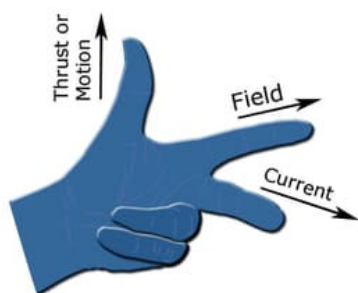


- 7) Identify image A, B and C.

A)



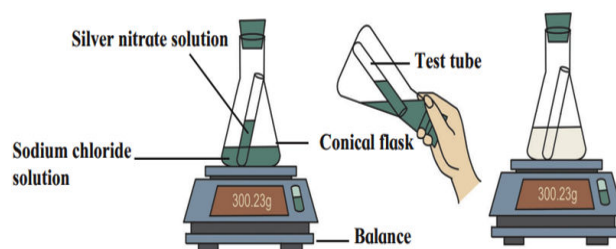
B)



C)

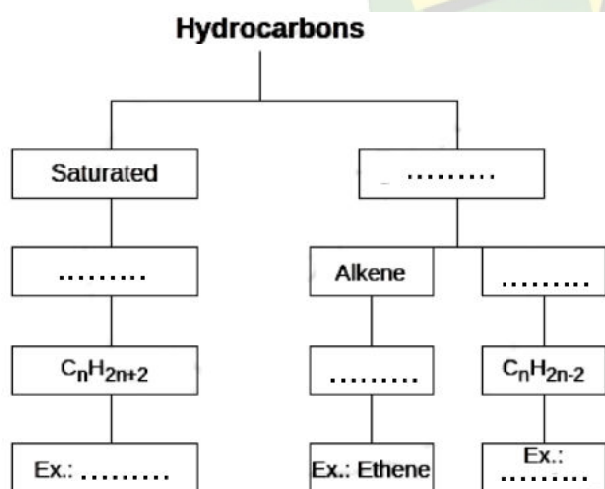


- 1) An erect and diminished image is formed when an object is placed between the optical centre and principal focus of the lens.
 - i. Name the type of lens, which forms above image.
 - ii. Draw a ray diagram for same.
- 2) Observe the figure and answer the questions:



- i. Write a balanced chemical reaction happening when two chemicals reacts with each other.
Mass before chemical reaction and after chemical reaction remains same. Write reason for it.
- (ii) Mass before chemical reaction and after chemical reaction remains same. Write reason for it. follows law of conservation of matter.

- 8) Complete the following flow chart :



Q 4 Answer the following question

(Any one)

(5)



B.KUMAR'S ACADEMY

Sub : Science

Class : X (State Board)

Pre. Question Paper - 03

Max Marks : 40

Time : 2 hours

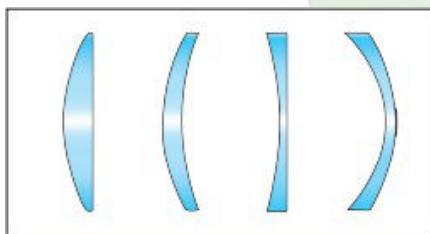
General Instructions :

Read the following instructions carefully and follow them:

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Q1 (A) Multiple Choice Question. (5)

- i) How much will a person with 72 N weight on the earth, weigh on the moon.
a) 12 N b) 36 N
c) 21 N d) 63 N
- ii) The number of C-H bonds in ethane C_2H_6 molecule are -----.
a) 4 b) 6
c) 8 d) 10
- iii) The density of water is maximum at -----.
a) $0^\circ C$ b) $-4^\circ C$
c) $100^\circ C$ d) $4^\circ C$
- iv) What is the correct order of the names of the lenses in the following the figure?



- a) Plano convex, Positive meniscus, Plano concave, Negative meniscus
b) Positive meniscus, Plano convex, Plano concave, Negative meniscus
c) Plano convex, Plano concave, Negative meniscus, Positive meniscus

- d) Plano convex, Positive meniscus, Negative meniscus, Plano concave
- v) In which block of the modern periodic table are the nonmetals found?
a) s-block b) p-block
c) d-block d) f-block

B) Answer the following question (5)

i) Find odd one out

Volt, Joule, Watt, Current

ii) Find co-related terms

$2H_2 + O_2 \rightarrow 2H_2O$: Combination reaction : : $2HgO \rightarrow 2Hg + O_2$:

iii) Match the pair

Column 'A'	Column 'B'
1. Nearsightedness	a. Ciliary muscles become weak
2. Farsightedness	b. Image in front of the retina
	c. Colour-blindness
	d. Image behind the retina

iv) State True or False

Power of lens, $P = \frac{1}{f}$

v) Name the following

The machine used to generate electricity

Q.2 A) Give scientific reason

(Any 2)

(4)

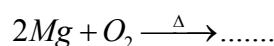
- Stars twinkle but we do not see the twinkling of planets.
- When silver vessels exposed to air turns blackish after sometime.
- The bottom of some steel utensils used for cooking is of copper.

B) Answer the following questions
(Any three)

i) Write Short Notes

Critical angle.

ii) Complete the following reaction.



Magnesium

iii) Distinguish between Artificial satellite and Natural satellite.

iv) Complete the table :

Terms	Units of Measurement
Universal gravitational constant	.....
Weight	.....
.....	Kg
Velocity	.....
Acceleration due to gravity	.....
.....	s

v) Write examples: Organic acids.

Q3 Answer the following questions.

(Any Five)

(15)

- What would be the value of g on the surface of the earth if its mass was twice as large and its radius half of what it is now?
- Considering the elements of period 3 in the modern periodic table, answer the following questions.
 - Name the 'element' in which all the shells are completely filled with electrons.
 - Name the element which has one

electron in the outermost shell.

3. State the most electronegative element in this period.

iii) Complete the following table:

IRNSS		
	Weather study & predict	
		Earth's observation

iv) Read the following statement and answer the following questions.

"Carbon dioxide is passed through water"

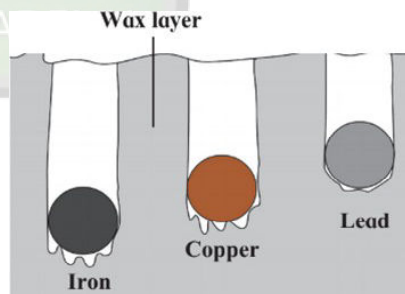
- Which type of reaction is this?
- What will be its product?

v) Study the radius of the element given below and answer the following questions.

Elements	K	Na	Rb	Cs	Li
Atomic radius (pm)	231	186	244	262	152

- Which of above element have smallest atom?
- In which group of modern periodic table the above element are belongs?
- What is the periodic trend observed in the variation of atomic radii down a group?

vi) Observe the following diagram and answer the questions:



- Which element has maximum specific heat capacity? Justify.
- Which element has minimum specific heat capacity? Justify.
- Define specific heat of object.

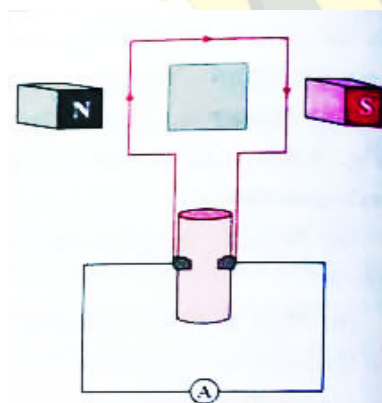
- vii) Identify the figure A, B and C.
A.



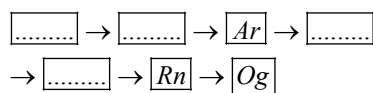
B.



C.



- viii) Complete the following flow chart.



Q 4 Answer the following question (Any one) (5)

- i) i. What is meant by corrosion?
ii. Write names of any two methods of prevention of corrosion.
iii. In which method, metal like copper, aluminium are coated with a thin layer of their oxides by means of electrolysis.
iv. Explain this method with diagram.
- ii) Complete the following table.

S.N.	Common Name	Structural Formula	IUPAC Name
1.	Ethylene	$CH_2 = CH_2$	_____
2.	Acetylene	_____	Ethyne
3.	Acetic acid	CH_3-COOH	_____
4.	Methyl alcohol	_____	Methanol
5.	_____	$CH_3-CO-CH_3$	Propane-2-one

B.KUMAR'S ACADEMY



B.K. KUMAR'S ACADEMY

Sub : Science-I

Class : X (State Board)

Pre. Question Paper - 04

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q1 (A) Multiple choice Question (5)

i) The escape velocity of a body from the earth's surface, $v_{esc} = \dots\dots$

- a) $\sqrt{\frac{GM}{R}}$ b) $2\sqrt{\frac{GM}{R}}$
c) $\sqrt{\frac{2GM}{R}}$ d) $\sqrt{\frac{GM}{2R}}$

ii) Common name for sodium ethanoate is

- a) sodium acetate b) ethano sodium
c) sodium ethanoxide
d) sodium methanoxide

iii) If a ray of light passes from a denser medium to a rarer medium in a straight line, the angle of incidence must be

- a) 0° b) 30°
c) 60° d) 90°

iv) For a specific glass lens, $f = 0.5$. This is the only information given to the student. Which type of lens is given to him and what is its power?

- a) power 2D ; convex lens
b) power 1D ; concave lens
c) power -0.5; concave lens
d) power -0.25 D ; convex lens

v) The oxide that forms salt and water by reacting with both acid and base is:

- a) Iron oxide b) Copper oxide
c) Carbon dioxide d) Aluminium oxide

B) Answer the following question (5)

i) Find the odd one out

Myopia, Presbyopia, Hypermetropia, Spectrophotometer.

ii) Complete the co-relation.

Tinning : Tin :: Galvanizing :

iii) Match the Pair

Column 'A'	Column 'B'
1. Persistence of vision	a. Lenses and mirrors are used
2. Reflecting telescope	b. To see objects far away from us
	c. Motion picture
	d. To observe blood corpuscles

iv) State True or False.

India is the first country to discover the existence of water on the moon.

v) Name the following

The products formed when iron reacts with copper sulphate solution

Q2 (A) Give scientific reason

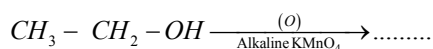
(Any two) (4)

i) In DC generator, the flow of current in

- the circuit is in the same direction.
- ii) Carbon atom does not form C^{4+} cation.
- iii) The hydrogenation of vegetable oil in the presence of nickel catalyst forms vanaspati ghee.

B) Answer the following question (Any three) (6)

- i) State the condition necessary for total internal reflection.
- ii) Complete the following reaction.



Ethanol

- iii) Distinguish between nature of the image formed by convex lens and concave lens
- iv) Complete the following table.

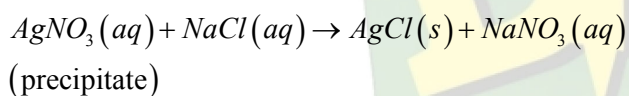
Sr. No.	Alloy	Uses
1.		It is used to prepare coins, utensils, medal, statues.
2.		Silver amalgam used by dentists

- v) Define Alkane and Alkenes.

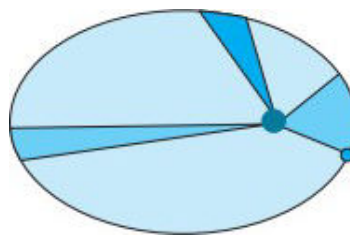
Q 3 Answer the following question (any five) (15)

- i) The escape velocity on moon is less than that on the earth.
- ii) Study the following chemical reactions and answer the questions given below.

i.



- a. Identify and write the type of chemical reaction.
- b. Write the definition of above type of chemical reaction.
- c. Write the names of reactants and products of above reaction.
- iii) Observe the given figure showing the orbit of a planet moving around the Sun, label the figure, and write the three laws related to it.



- iv) Read the following sentence and answer the questions.

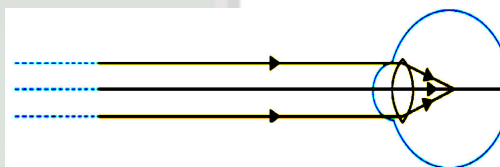
"Copper is reacted with conc. nitric acid"

- i. What product will form?
- ii. Write the chemical equation for this.

- v) Name the following.

1. Alloy of copper and zinc.
2. Metal which is in liquid state at ordinary temperature.
3. Two highly reactive metals.
4. Metal with highest melting point.
5. Alloy of sodium with mercury

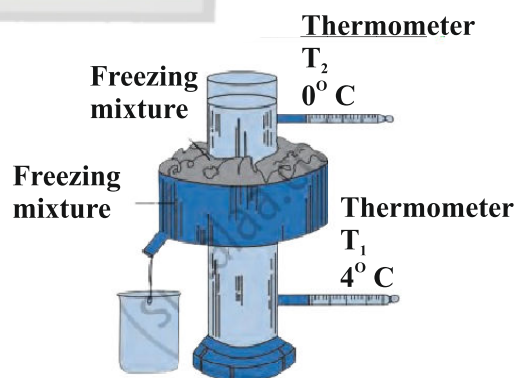
- vi) Observe the following diagram and answer the questions



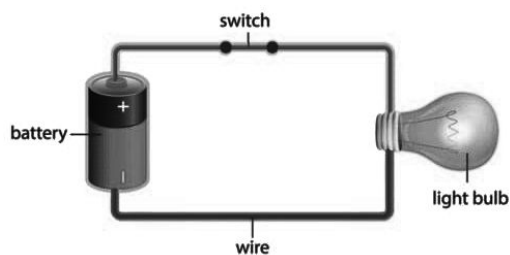
- Which eye defect is shown in this diagram?
- What are the possible reasons for this eye defect?
- How this defect is corrected, write it in brief?
- Draw the diagram to show the correction of this defect.

- vii) Identify the image A, B and C.

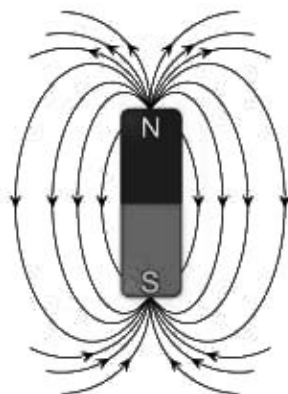
A.



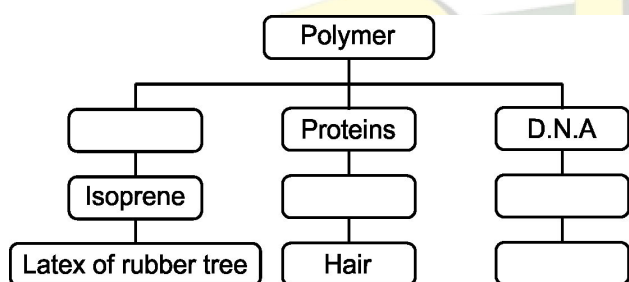
B.



C.



viii) Complete the following flow chart.



Q 4 Answer the following question

(Any one)

(5)

i) An element A which is a part of common salt and kept under kerosene reacts with another element B of atomic number 17 to give a product C. When an aqueous solution of product C is electrolyzed, then a compound D is formed and 2 gases are liberated.

i. What are A and B ?

ii. Identify C and D.

iii. What will be the action of C on litmus solution ? Why ?

iv. State whether element B is a solid, liquid or gas at room temperature ?

v. Write the formula of the compound formed when element B reacts with an element E having atomic number 13 ?

ii. Complete the following table.

Sr. No.	Reactants	Products	Type of reaction
1.	Fe+S	NaCl+H ₂ O	.....
2.	CuSO ₄ +Zn	2CuO	.....
3.	2Cu+O ₂	ZnSO ₄ +Cu	.....
4.	HCl+NaOH	FeS	.....
5.	H ₂ O+CO ₂	H ₂ CO ₃	.....

B.KUMAR'S ACADEMY



B.KUMAR'S ACADEMY

Sub : Science -I

Class : X (State Board)

Pre. Question Paper - 5

Max Marks : 40

Time : 2 hours

General Instructions :

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Q1 (A) Multiple choice Question (5)

1) The device used for converting electrical energy to mechanical energy is

- a) galvanometer b) generator
c) motor d) voltmeter

2) The vapour content in the air is measured using a physical quantity called

- a) absolute humidity
b) relative humidity
c) dew point d) humidity

3) What would be the correct order if Zn, Fe, Al and Cu are arranged in increasing order of reactivity?

- a) Cu, Fe, Zn, Al b) Al, Cu, Fe, Zn
c) Zn, Al, Cu, Fe d) Fe, Zn, Al, Cu.

4) The device used for producing current is called a

- a) voltmeter b) ammeter
c) galvanometer d) generator

5) The conversion of ferrous sulphate to ferric sulphate is _____ reaction

- a) Oxidation b) Reduction
c) Decomposition d) Displacement

B) Answer the following question (5)

i) Find the odd one out

Temperature, Conduction,
Convection, Radiation

ii) Complete the co-relation.

CuI_2 : Brown :: AgCl : _____

iii) Match the Pair

Column "A"	Column "B"
i. Specific Latent heat of fusion of ice	a. 100°C
ii. Specific Latent heat of evaporation	b. 80 cal/g
	c. 540 cal/g

iv) State True or False.

(g) indicates physical state is solid.

v) Name the following

A component used to control the current.

Q2 A) Give scientific reason

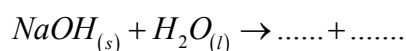
(Any two) (4)

- 1) Planets do not twinkle
- 2) A chemical change is associated with the evolution or absorption of energy. Explain.
- 3) Ethylene is an unsaturated hydrocarbon.

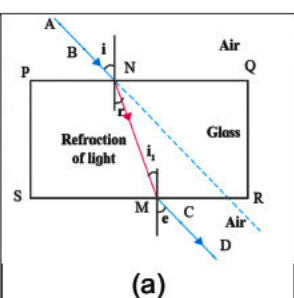
B) Answer the following question

(Any three) (6)

- 1) State two characteristics of the homologous series.
- (2) Molecular mass increases by 14 u.
- 2) Complete the following reaction.

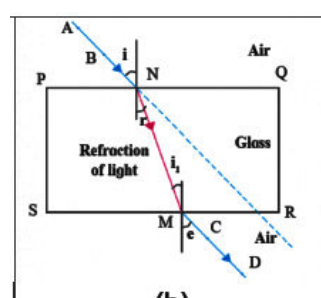


- 3) Distinguish between ionic bond and covalent bond.
- 4) **Complete the table.**



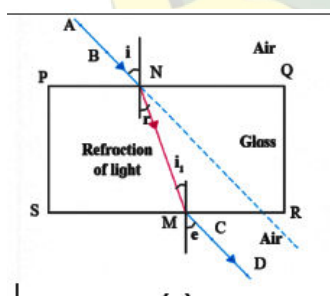
(a)

Name the Ray	AN =
Effects on Ray	.....



(b)

Name the Ray	NM =
Effects on Ray	.....



(c)

Name the Ray	MD =
Effects on Ray	.....

- 5) Define : What is a chemical change? Give two example of chemical change.

Q3 Answer the following question (Any five) (15)

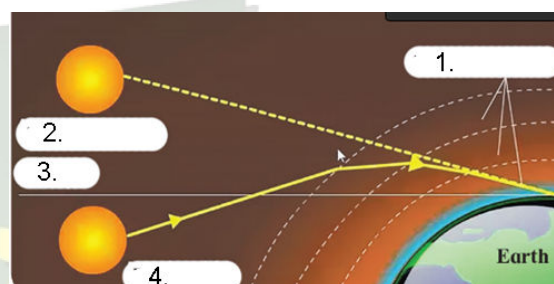
- The escape velocity on moon is less than that on the earth.
- In the periodic table given below, lithium, carbon oxygen and neon are placed in the correct positions and positions of nine other elements are represented by letter. There letters are not the symbol for the

elements.

1	2	13	14	15	16	17	18
lithium			Carbon		oxygen	L	Neon
X			E		G	Q	
Y						R	
Z						T	

- Give the letter of the most reactive metal 1
- Give the letter for most reactive non metal 1
- Name the family of elements represented by L, Q, R, T 1
- Name one elements in each case occurring in group 2, 13 and 15 2

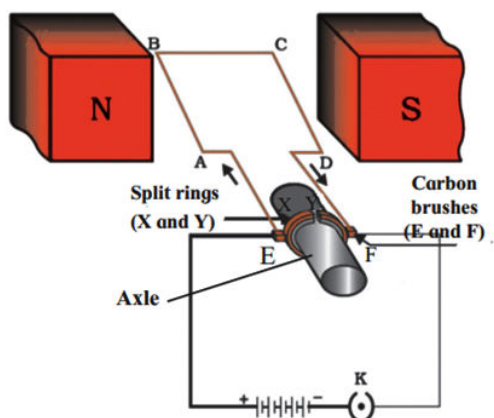
- 3) Label the given diagram.



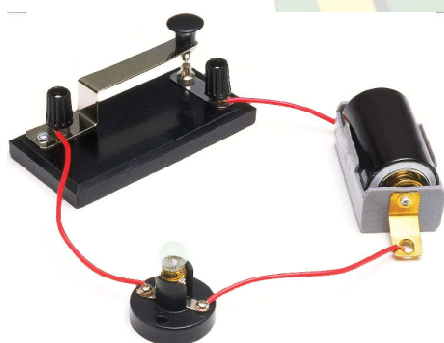
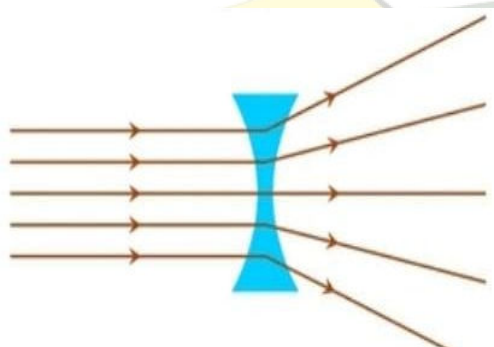
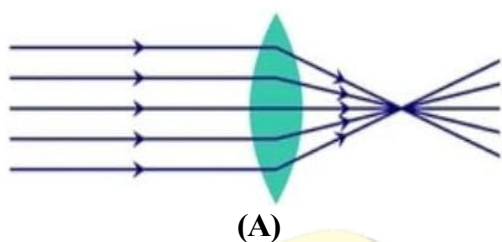
- 4) **Read the following sentence and answer the questions.**

"NaCl is an ionic compound"

- Explain why NaCl is an ionic compound?
 - State any two properties of ionic compound.
- 5) In the extraction of Aluminium from bauxite.
- Write an equation for the action of heat on aluminium hydroxide.
 - Why is it necessary to replace anodes from time to time ?
 - Draw a neat labelled diagram of electrolytic reduction of alumina.
- 6) Explain the following constructing point about the given diagram.
- Coil
 - Strong Magnete
 - Split Rings



7) Identify the figure A, B and C.



(C)

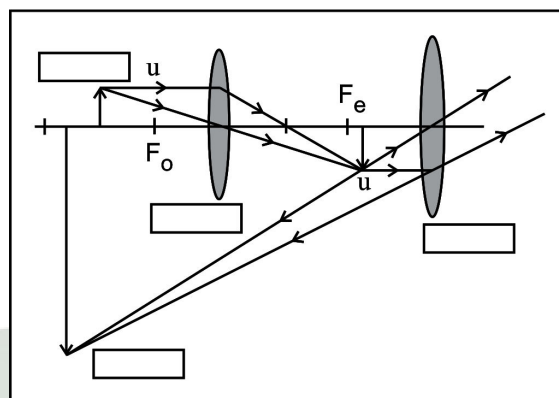
8) Complete the following flow chart.

Shell
 ↓ ↓ ↓ ↓
 Electron
 Capacity

Q 4 Answer the following question
(Any one)

(5)

1)



- Which type of microscope has the arrangement of lenses shown in the adjoining figure?
- Label the figure correctly.
- Write the working of this microscope.
- Where does this microscope used?
- Suggest a way to increase the efficiency of this microscope.

2) Complete the following table

Sr. No.	Name	Functional group	Example
1.	Alcohol	.....	Methanol
2.	.....	-CHO	Acetaldehyde
3.	Ketone	.....	Acetone
4.	.....	.....	Dimethyl ether



B.KUMAR'S ACADEMY

Sub : Science & Tech-II

Class : X (State Board)

Pre. Question Paper - 01

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q1 (A) Multiple choice Question (5)

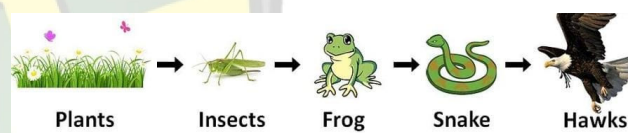
- i) Salaam Mumbai Foundation was established in -
a) 1947 b) 1963
c) 2000 d) 2015
- ii) Which of the following is absent in RNA ?
a) Adenine b) Guanine
c) Uracil d) Thymine
- iii) The apex consumer is
a) Eagle b) Frog
c) Snake d) Grasshopper
- iv) Which of the following is not a class under Vertebrata ?
a) Cyclostomata b) Reptilia
c) Cephalochordata d) Mammalia
- v) Food materials like cold drinks, ice-creams, cakes and juices are available in various causes and flaneuse are derived from.
a) Plants b) Animals
c) Flowers d) Microbes

(B) Answer the following question (5)

- i) **State True or False**
Excess of fats is stored in liver and muscles in the form of glycogen.
- ii) **Find co-related terms**
White revolution : Dairy :: Blue revolution :
- iii) To which class does bat belong?
- iv) Match the pair

Column "A"	Column "B"
i. Tobacco consumption	a. Imprisonment for 3 yrs & fine upto RS 5 lakhs
ii. IT act 2000	b. Runs programs in various schools in Mumbai
	c. WHO, TATA trusts aim to tobacco free country

v) Name the following image.

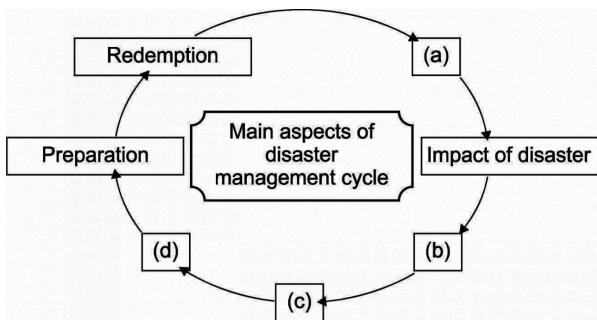


Q2 (A) Give scientific reason (Any 2) (4)

- i) It is absolutely necessary to control the fission reaction in nuclear power plant.
- ii) Use of condoms is a good contraceptive method.
- iii) The flow of energy in the ecosystem is unidirectional.

(B) Answer the following question (Any three) (6)

- i) **Probiotic products.**
- ii) **Distinguish Between**
Asexual Reproduction and Sexual Reproduction
- iii) **Complete the chart**



iv) Give the advantage of Hydroelectric power generation.

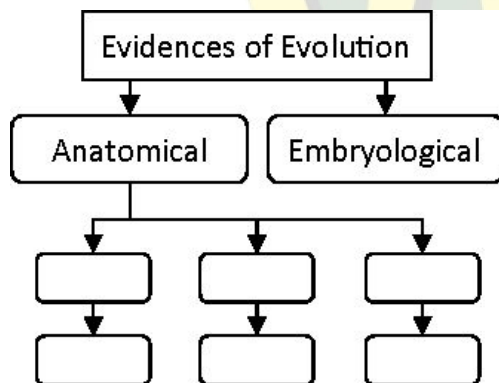
v) Tricarboxylic acid cycle.

Q3 Answer the following question (any five) (15)

i) What precautions would you take during the following disasters? What are the effects of this disaster?

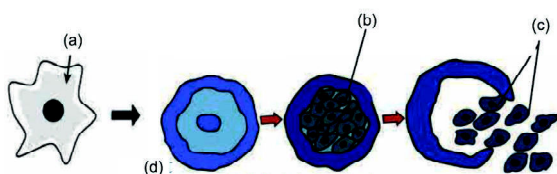


ii) Complete the following chart.



iii) What is meant by disaster? Write any two examples of each natural and man-made disaster.

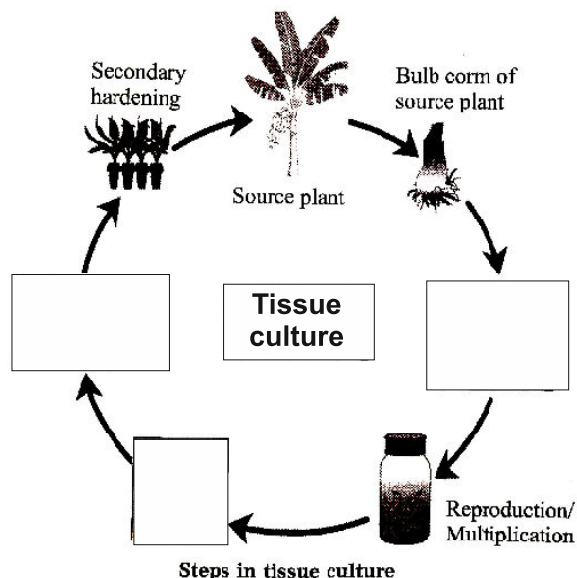
iv) Label the diagram: Multiple fission in Amoeba.



v) Why do human beings have an important

place in the environment ?

vi) Complete the diagram showing various processes in tissue culture.



vii) i. What do you mean by diploid ($2n$) cell ?
ii. What do you mean by haploid (n) cell ?
iii. What do you mean by homologous chromosomes ?

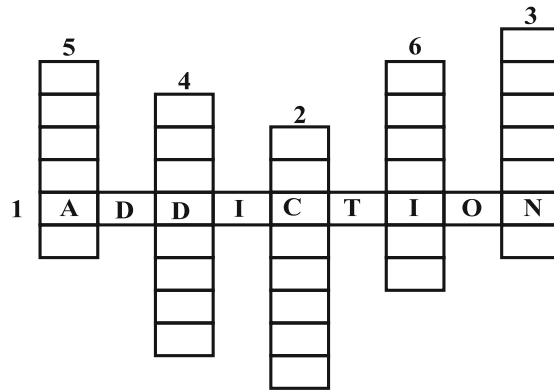
viii) Complete the following passage by using appropriate words given in brackets :
(Delhi, 12, 2005, army, National Disaster, rescue work, State Reserve Police, 2015)

National Disaster Response Force has been established as per the Disaster Management Act, Divisions of this force are working in army. Overall,divisions are working in the country. Its headquarter is inand it is in action all over the country with the help of In Maharashtra, Response Force is in action through State Reserve Police Force. Personnel of this force have substantial contribution in in disasters like cycloes, cliff-sliding, building collapse, etc.

Q4 Answer the following question (Any one) (5)



- i) a. What is biotechnology?
b. Give one use of biotechnology.
c. Give one commercial use of biotechnology.
d. Write two examples of bacterial biofertilizers.
e. Write names of two genetically modified crops.
- ii) **Solve the following cross word :**



- i. Continuous consumption of alcoholic and tobacco materials.
ii. This app may cause the cyber crimes.
iii. A remedy to resolve stress.
iv. Requirement for stress free life.
v. Various factors affect health.
vi. Art of preparing food items.





B.KUMAR'S ACADEMY

Sub : Science & Tech-II

Class : X (State Board)

Pre. Question Paper - 02

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q.1 (A) Multiple Choice Questions. (5)

- i) Animal with bilateral symmetry is
(a) Star fish
(b) Human
(c) Paramecium
(d) Amoeba
- ii) According to WHO definition of health is a state of -
(a) Physical and mental well being
(b) Social well Being
(c) Absence of disease or infirmity
(d) All of the above
- iii) Cell organelles involved in the cellular respiration are the
(a) mitochondria (b) plastids
(c) ribosomes (d) lysosomes
- iv) Citric acid used in production of beverages, toffees, chocolates is obtained by fermentation of by aspergillus niger.
(a) Grapes
(b) Sugar molasses
(c) Apple (d) Coffee nuts
- v) How many pair of chromosomes are found in human?
(a) 22 (b) 44
(c) 23 (d) 46

(B) Answer the following questions. (5)

- i) State true or false.

In solar thermal plant, solar energy is first converted to heat energy.

- ii) Find co-related terms

Dog fish : Class Pisces :: Petromyzon :

.....

- iii) Which type of fuel is used in thermal power plant?

- iv) Match the pair.

Column "A"	Column "B"
i. Ovaries	a. Site of fertilization
ii. Vagina	b. Produce sperms
	c. Produce eggs
	d. Pathway through which baby comes out

- v) Identify the picture and name it.

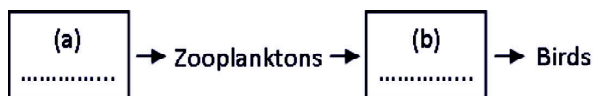


Q.2 A) Give scientific reason. (Any two) (4)

- In flowering plants fertilization result in both food and embryo.
- Vegetative propagation is a kind of reproduction.
- Environment of the earth is naturally balanced.

B) Answer the following questions. (Any three) (6)

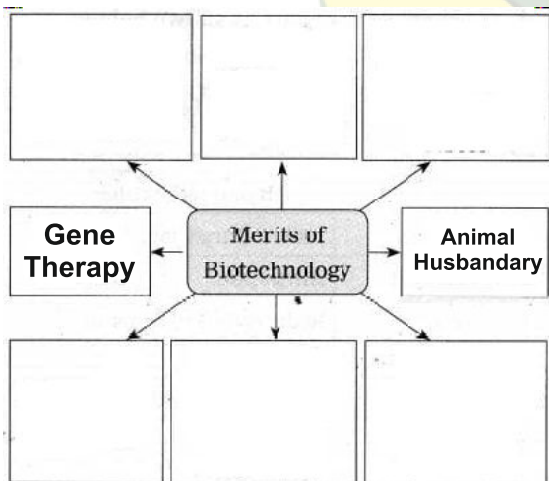
- Write short notes**
Energy from Lipids.
- Write Distinguish between**
Anatomical Evidences and Morphological Evidences.
- Complete the given aquatic food chain:**



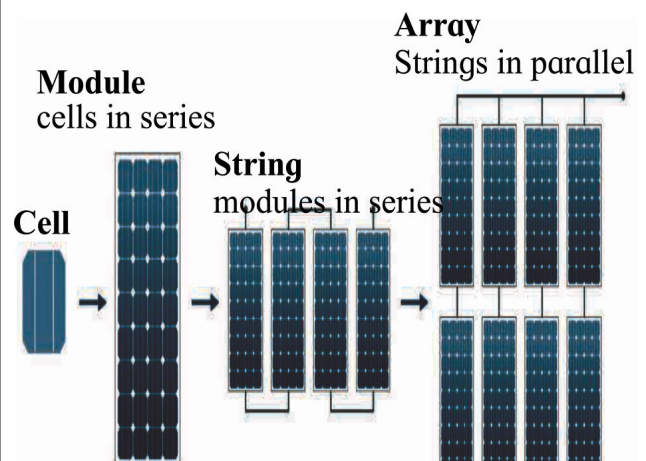
- Give examples of Conventional sources of energy.
- What are the requirements for organ transplantation?

Q.3 Answer the following questions. (Any five) (15)

- Write short note on Darwin's theory of natural selection.**
- Complete the following chart.**

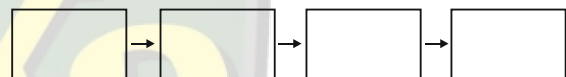


- 'We have got this Earth planet on lease from our future generations and not as an ancestral property from our ancestors' discuss.
- Answer the following questions based on diagram.



Questions based on the given diagram :-

- What is series combination? (1)
- Which connection of cells has same potential difference across the circuit / all the cells? (1)
- What is the efficiency of a good solar cell? (1)
- What will you do if you are spending more time in internet, mobile games, phone etc. and why?
- Complete the stages in electric generator using wind energy.

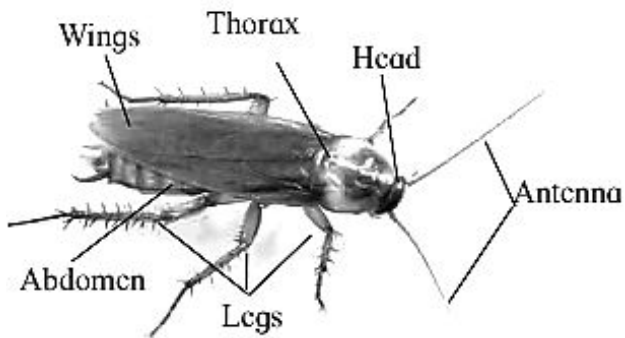


- Discuss Poriferans have 'Cellular grade organization'.
- Complete the paragraph :**
(red bone marrow, degenerated, umbilical cord, adipose, division, blastocyst)

Different tissues of the body are formed by of stem cells. Stem cells are present in the by which the fetus is joined to the uterus of the mother. Stem cells are also present in the stage of embryonic development. Stem cells are present in and connective tissue of adult human beings. It has become possible to produce different types of tissues and the part of any organ with the help of these stem cells.

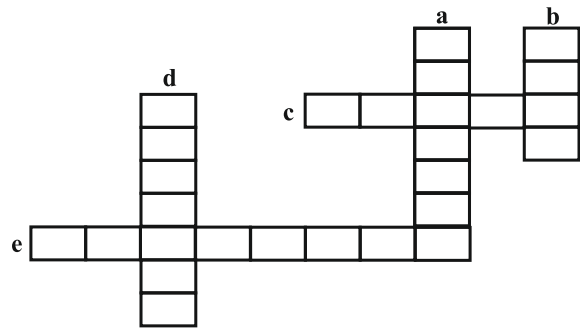
Q.4 Answer the following in details (Any one) (5)

- i) Answer the following questions by observing the given diagram.



- What is name of this animal?
- To which phylum does the animal included in the diagram belong?
- What is the exoskeleton made up of?
- What is the symmetry?

- ii) Solve the following crossword puzzle.



- Maximum energy geeneration in India is done using energy.
- energy is a renewable source of energy.
- Solar energy can be called energy.
- energy of wind is used in wind mils.
- energy of water in dams is used for generation of electricity.





B.KUMAR'S ACADEMY

Sub : Science & Tech-II

Class : X (State Board)

Pre. Question Paper - 03

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q1(A) Multiple choice Question (5)

- i) Which of the following is used in solar cooker to harvest the solar energy?
(a) Solar panels (b) Silicon cell
(c) Mirrors (d) Glass lid
- ii) Which organizations are active against tobacco consumption?
(a) World Health Organisation
(b) TATA Trust
(c) Both of the above
(d) None of the above
- iii) Type of sexual reproduction is
(a) Fragmentation
(b) Regeneration
(c) Gamete formation
(d) Budding
- iv) Chemical energy can be stored in
(a) compounds (b) generator
(c) Invertor (d) Magnet
- v) Which is not one of the benefits of animal classification ?
(a) Study of animals becomes convenient.
(b) It gives idea about animal evolution.
(c) It helps in better exploitation of animals.
(d) Animals can be easily identified with great accuracy.

(B) Answer the following question (5)

- i) State True or False

22nd May is the World Environment Day.

ii) Find co-related terms

NADH₂ : Nicotinamide Adenine dinucleotide :: FADH₂ :

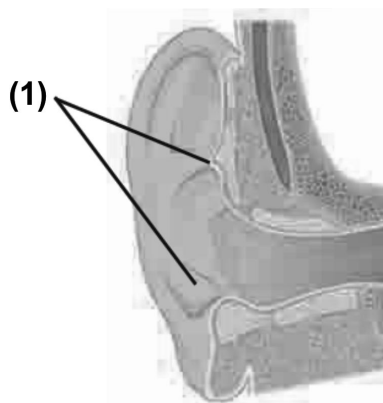
iii) Name the following

Give Examples : Rare species

iv) Match the pair

Column "A"	Column "B"
i. Deinococcus radiodurans	a. Can absorb uranium and arsenic
ii. Sunflower	b. Can absorb selenium from soil
	c. Used to absorb the radiations from radioactive debris

- v) The part in the figure which is a vestigial organ is called as-



Q2(A) Give scientific reason (Any 2) (4)

- i) Androecium and gynoecium are essential whorls.
- ii) Calyx and Corolla are called accessory whorls.
- iii) Cell division is an essential process.

(B) Answer the following question (Any three) (6)

- i) Write note on pollination.
- ii) Distinguish Between Glycolysis and TCA cycle
- iii) **Complete the chart**
Trace the path of a sperm from the testis to the exterior of the human body.



(ejaculatory duct, epididymis, vas deferens, urinogenital duct, vas eferens, urinogenital duct, penis)

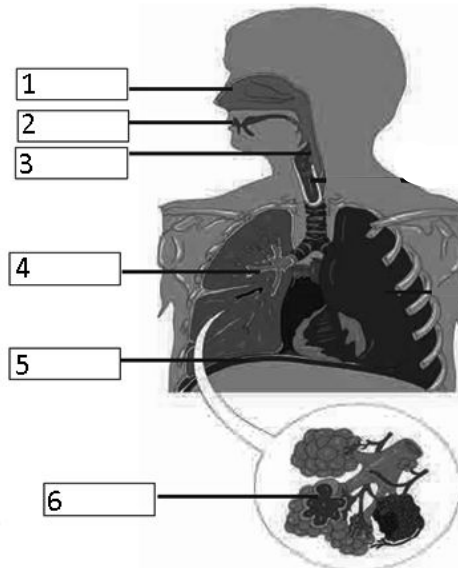
- iv) Species of fungi which can decompose rubber from garbage
- v) Write problems due to Thermal energy based electric power station.

Q3 Answer the following question (any five) (15)

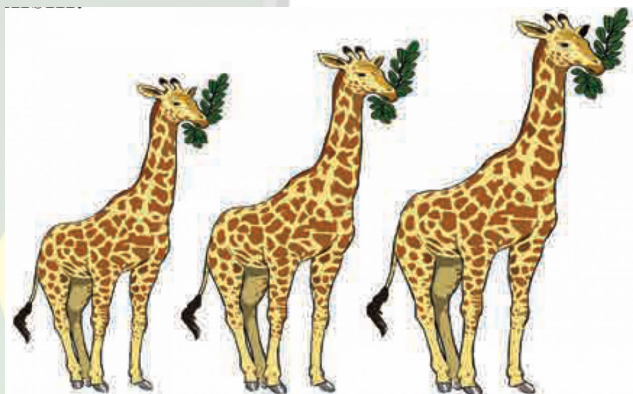
- i) What are vestigial organs?
- ii) **Complete the following chart.**

Sr. No.	Evidence of evolution
1.	.....
2.	Anatomical
3.	.....
4.	.....

- iii) Explain the classification of threatened species of animals with an example ?
- iv) Label the diagram: Human Respiratory System.



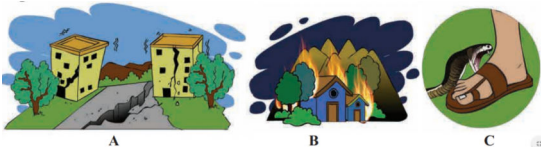
- v) The gender of a child is determined by the male partner of the couple. Explain with reasons whether this statement is true or false.
- vi) What does the following diagram explain ? How is the the evolving character explained by Lamarck ?



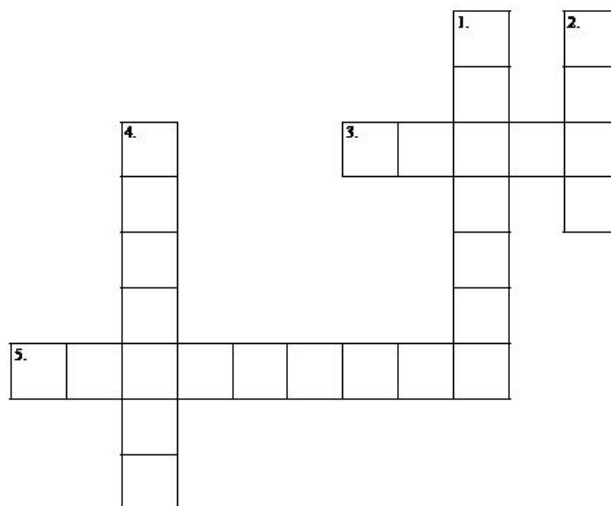
- vii) Draw a neat labelled figure of Scoliodon. Give the scientific classification upto its Class.
- viii) Complete the paragraph by selecting the appropriate option in parentheses.
(energy, microbial, erosion-proof, reused, purification, environmentally Friendly)
Nowadays, instead of chemical catalysts, enzymes are used in the chemical industry. These enzymes are active at low temperature, pH and pressure; due to which is saved and instruments are also not necessary. Enzymes carry out specific processes; hence unnecessary byproducts are not formed due to which expenses on are minimised. In case of microbial

enzymatic reactions, elimination and decomposition of waste material is avoided and enzymes can be Hence, such enzymes are

Q4 Answer the following question (Any one) (5)



- i)
- What is the disaster observed in figure A? (1)
 - What is the disaster seen in figure B? (1)
 - What would you do when you see a victim of snake bite? (2)
 - Give any two examples of biological disasters? (1)
- ii) Solve the following crossword puzzle.



- Maximum energy generation in India is done using energy.
- Energy is a renewable source of energy.
- Solar energy can be called called energy.
- Energy of wind is used in wind mills.
- Energy of water in dams is used for generation of electricity.



B.KUMAR'S ACADEMY

Sub : Science & Tech-II

Class : X (State Board)

Pre. Question Paper - 04

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q.1 (A) Multiple Choice Questions. (5)

i) Classification proposed by Aristotle is known as '-----'.

- (a) Kingdom Classification
(b) General Classification
(c) Synthetic method (d) Artificial method

ii) Current is constant through all the cells when

- (a) Potential difference is high
(b) Potential difference is low
(c) Connected in series
(d) Connected in parallel

iii) Dams are built to increase

- (a) Potential energy (b) Kinetic energy
(c) Water quantity
(d) Chemical energy

iv) Seema and Harshal are brother and sister. Their mother is not at home for a whole day. What should Harshal do?

- (a) He should help his sister in household chores.
(b) He should go out to play.
(c) He should play games on cell phone.
(d) He should sleep the whole day.

v) Protein is used to treat anaemia.

- (a) somatostatin (b) factor VIII
(c) erythropoietin (d) interleukin

(B) Answer the following questions. (5)

i) State true or false.

Floods are man-made factors affecting the environment.

ii) Find co-related terms

Hibiscus : Kingdom Plantae : : Mushroom :

iii) Example of Lamarck theory given by him.

iv) Match the pair.

	Column "A"		Column "B"
i.	Telophase	a.	Chromosomes become arranged in a plane at the equator.
ii.	Metaphase	b.	Daughter chromosomes move to opposite poles of the cell
		c.	Chromosomes become visible and centrioles moves to opposite poles of the cell.
		d.	Chromosomes lose their distinctiveness and gradually become transformed into chromatin network.

v) Name the following.



Bacteria used in organic farming.

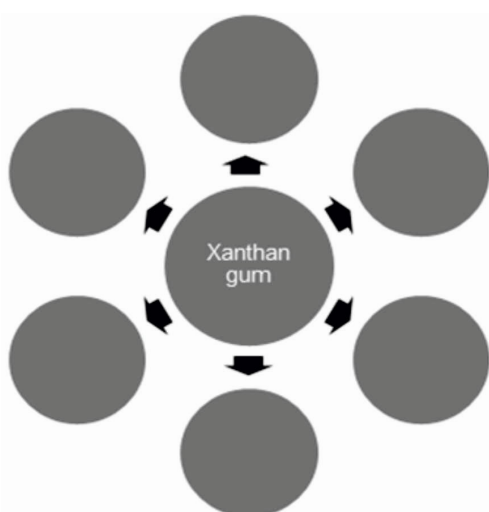
Q.2 A) Give scientific reason. (Any two) (4)

- Potato plant shows vegetative reproduction
- Petals are usually colourful
- Azolla* is a biofertilizer

B) Answer the following questions.

(Any three) (6)

- Give examples of types of power plants.
- Distinguish Between Pre- disaster management and Post-disaster management**
- Complete the chart of Xanthan gum.



- Advantages of sexual reproduction over asexual reproduction.
- Write short note on importance of probiotics.

Q.3 Answer the following questions.

(Any five) (15)

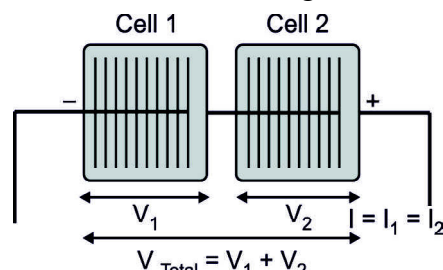
- Explain with the help of examples: Natural and Man-made disasters.
- Complete the following chart :**

Sr.No.	Proteins	Name of the Organs
1.	Melanin, Keratin	.....
2.	.....	Pancreas
3.	Haemoglobin, antibodies	.....

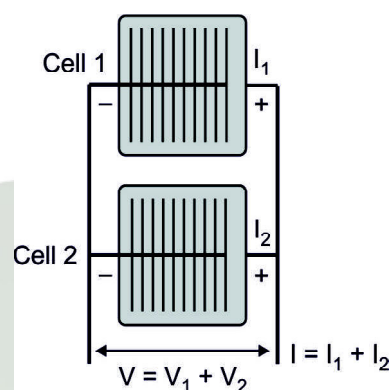
- Write the factor affecting environment.

iv) Observe the connections of cells shown in the following images.

- Which connection will give maximum potential difference?
- Give one advantage and one disadvantage of this energy.
- Give one disadvantage of this energy.

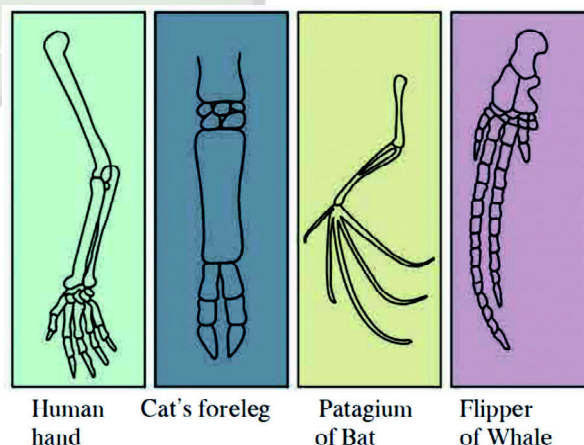


(A)



(B)

- What is 'Red list' of IUCN?
- What is the threat for Manas Sanctuary?
- What is the purpose of Environmental Conservation Act, 1986?
- Which evidence of evolution is shown in the given picture? Explain the importance of this evidence.**



- What are genetically modified crops?

Give two examples ?

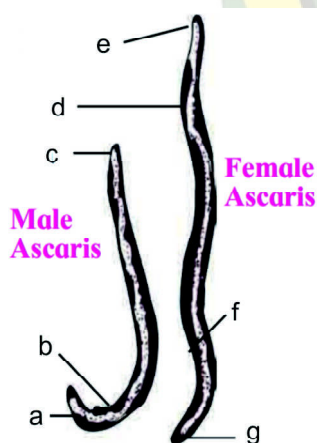
- viii) Complete the following passage by using appropriate words given in brackets :
(Lungs, heart, carcinogenic, nervous, intoxicating, hazardous, addictions, peer-group, useful)

The children fall into the trap ofeither due to pressure or due to false symbol of high standard living. Sometimes they try to imitate their elders. The addictive substances are, and they cause long term effects. Some are temporarily substances obtained from the plants. While some of the chemical ingredients in them can permanently damage the human nervous system, muscular system, heart, etc. Some tobacco like substances are in action especially on the mouth and

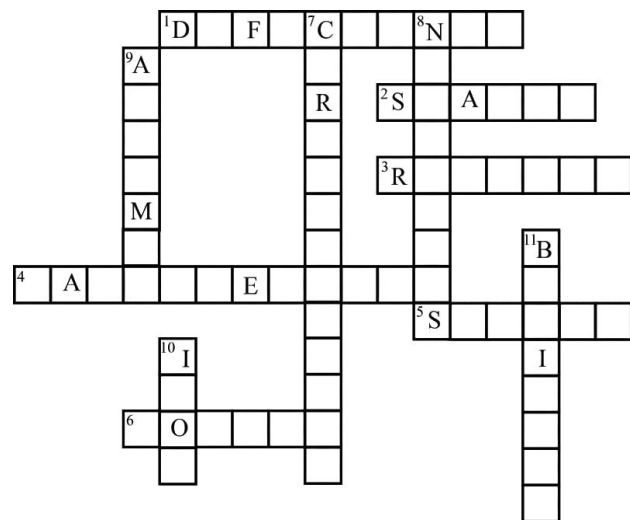
Q.4 Answer the following questions.

(Any one) (5)

- i) a) Label diagram of Round worm.
b) Give any four examples of Aschelminthes.
c) Which aschelminthe type is known as eye worm?
d) Which aschelminthe type is an intestinal worm?



- ii) Solve the following cross word :
(Any Six)



- Lack of nutrient in our diet over a long period causes these diseases.
- Rice and potato are rich in this type of carbohydrate.
- Deficiency disease in bones making it becomes soft and bent.
- The diet that provides all the nutrients that our body needs in right quantities along with adequate amount of roughage and water.
- Deficiency disease with bleeding gums.
- Disease caused due to the deficiency of iodine.
- Starch and sugar in our food are rich in this type of energy giving nutrient.
- The term given to the useful components of food.
- The disease caused by deficiency of iron in diet.
- Green leafy vegetables and apples are rich in this mineral
- Deficiency disease caused due to the lack of vitamin B1 in diet



B.KUMAR'S ACADEMY

Sub : Science & Tech-II

Class : X (State Board)

Pre. Question Paper - 05

Max Marks : 40

Time : 2 hours

General Instructions :

Read the following instructions carefully and follow them:

1. All questions are compulsory. 2. Use of a calculator is not allowed. 3. The numbers to the right of the questions indicate full marks. 4. In case of MCQs (Q. No. 1(A)) only the first attempt will be evaluated and will be given credit. 5. For every MCQ, the correct alternative (A), (B), (C) or (D) with subquestion number is to be written as an answer. For eg. : (i) (A), (ii) (B), (iii) (C) 6. Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q1 Multiple choice Question (5)

- i) What is true about stem cells ?
(a) they are Primary type of undifferentiated cells
(b) They have self-multiplying ability
(c) Are parent cells of all types of human cells.
(d) All of the above are true
- ii) Which of the following animal's body shows bilateral symmetry?
(a) Star fish (b) Jelly fish
(c) Earthworm (d) Sponge
- iii) The nuclear membrane disappears completely in
(a) Prophase (b) Anaphase
(c) Metaphase (d) Telophase
- iv) Forest Conservation Act was enacted in
(a) 1980 (b) 1986
(c) 2000 (d) 1972
- v) Which of the following is not a type of energy ?
(a) Chemical (b) Electrical
(c) Heat (d) Sunlight

B) Answer the following question (5)

- i) State True or False
All Sponges are fresh water dwellers.
- ii) Find co-related terms
Manas sanctuary : Rhino :: Sunderban

sanctuary :

iii) What is addiction?

iv) Match the Pair

Column "A"	Column "B"
i. Ethanol	a. Production of minerals like Calcium and iron
ii. Grapes	b. Smoke-less fuel
	c. Wine

v) Name the following observing image.
Father of white revolution in India -



Q2 A Give scientific reason (Any two) (4)

- i) Tiger from Sunderbans and rhinos from Manas are under threat
- ii) *Bryophyllum* shows vegetative reproduction.

iii) *Mucor* reproduces by spore formation.

B) Answer the following question

(Any three)

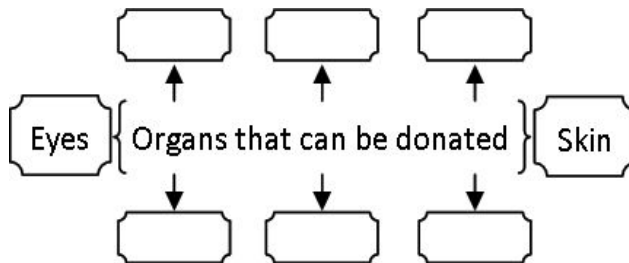
(6)

i) Give examples of Connecting Links.

ii) Distinguish Between

Self - pollination and Cross pollination

iii) Complete the chart



iv) What are advantages of solar energy?

v) Nature and scope of disaster management.

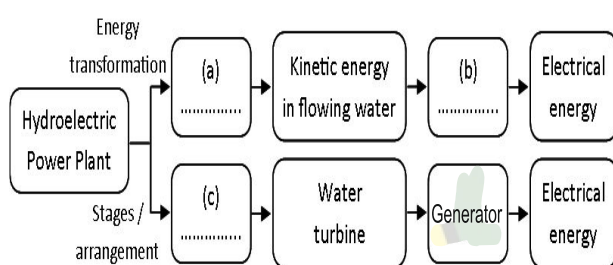
Q3 Answer the following question

(any five)

(15)

i) How can the oil spills of rivers and oceans be cleaned?

ii)

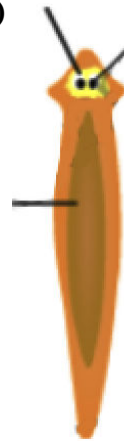


iii) Complete the paragraph.

(Conserving, pledge, biodiversity, judicious, wildlife, mankind, diversity, destruction)

I am aware that the on the Earth is for the existence of me, my family and the entire mankind. I am aware about the responsibility of and protecting the rich diversity. I am aware about the fast declining number of, plants and animals. I am accepting the responsibility of use of natural resources and management of I for adopting the following principles for happy and satisfactory life of all organisms on the Earth.

iv)



Label and classify - Planaria

v)

Read the paragraph and answer the following questions.

Mock drills :

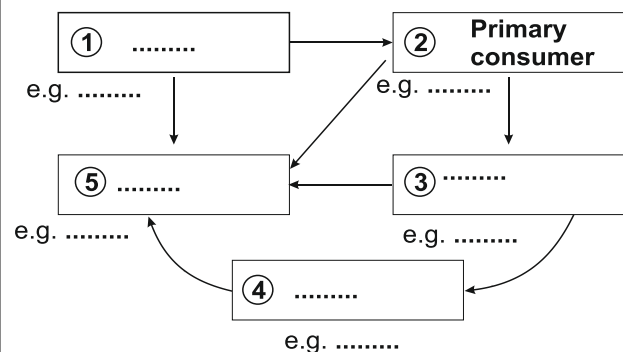
It is a practice to check the preparedness of facing the disaster as early as possible. Virtual / Apparent situation of disaster is created to check the reaction time for any type of disaster. Trained personnel observe their responsibilities to check execution of plan designed for disaster redressal. This helps to check the efficacy of the system prepared for disaster redressal. Mock drill is arranged on disaster of fire in various schools by the fire fighters. It includes the demonstrations like extinguishing the fire, rescuing the people trapped at higher floors of buildings, rescuing the persons whose clothing have caught the fire, etc. Such activities are also arranged by police force and voluntary organizations.

i. How is the reaction of any person checked during a disaster ?

ii. Who arranges the Mock drills and where?

iii. What are the activities taught at a Mock drill ?

vi) Complete the following food chain.

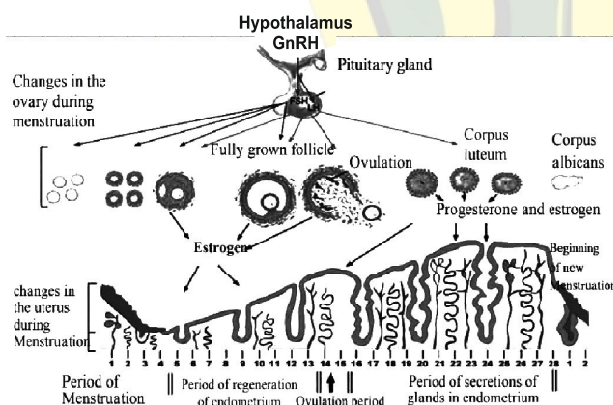


- vii) What is meant by cloning? Explain its types.
 viii) Complete the following passage by using appropriate words given in brackets :
 (capability, Rehabilitation, commodities, Human, objectives, normalcy)

“The **objectives** of disaster management comprise of the following aspects. **Human** life is saved from the disasters. People are helped to move away from the place of disasters. They are given essential **commodities** by the government so that the gravity of disaster is reduced. The disaster conditions are brought back to **normalcy**. **Rehabilitation** of the affected and displaced victims is done. Moreover, protective measures for future are also planned to develop **capability** among the people to face any possible disasters in future.

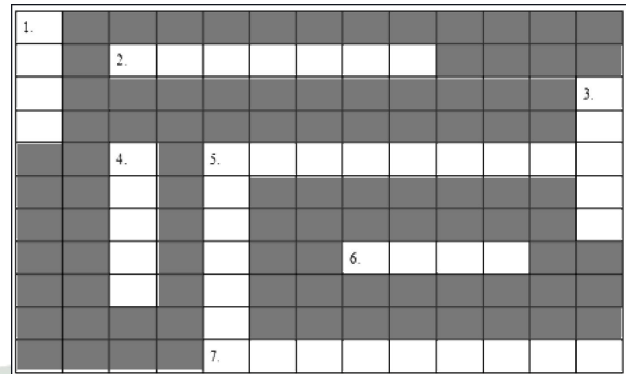
Q4 Answer the following question (Any one)

- i) Answer the following questions by observing the diagram of menstrual cycle :



a. What is the period of menstruation?

- b. On which day does ovulation occur during the menstrual cycle?
 c. In the menstrual cycle which reproductive organs undergo changes?
 d. Which period is said to be the period of regeneration of endometrium?
 e. Which period is said to be the period of secretions of glands in endometrium?
 ii) Solve the following crossword puzzle with the clues given: (Any Five)



2. Plantation prevents it.
 5. Use should be banned to avoid soil pollution.
 6. Type of soil used for making pottery.
 7. Living organism in the soil.
 Down
 1. In desert soil erosion occurs through.
 Down
 3. Clay and loam are suitable for cereals like.
 4. This type of soil can hold very little water.
 5. Collective name for layers of soil.
