Girls' High School & College, Prayagraj
Session: 2021-2022
Class: 9 A B C D E
Subject: Physics Practical

Instructions:

1. Parents are expected to ensure that the student writes all experiments in Physics Practical Work-Book.
2. Each experiment should start from a new page.
3. Well labelled diagrams to be drawn on the left page only.
4. The student will retain and bring the practical file when the school reopens.

EXPERIMENT NO. 1

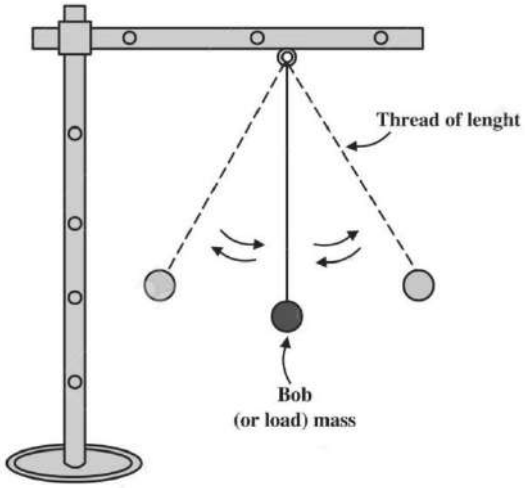
AIM:- To find the acceleration due to gravity with the help of a simple pendulum.

APPARATUS REQUIRED:- A bob, metallic stand with clamp, thread and stop clock.

THEORY:- The time taken by the pendulum to complete one oscillation is called **time period.**
Relation between the time period (T) and the effective length (l) of the pendulum

$$T=2\pi\sqrt{\frac{l}{g}} \quad \text{or}$$

$$g = \frac{4\pi^2}{l/T^2}$$



OBSERVATIONS:-

Least count of the stop clock = **0.1** sec

Diameter of the bob (d) = **2.42** cm

Radius of the bob (r) = **1.21** cm

S. No.	Length of thread L (in cm)	Effective length of thread (L + r) =l (in cm)	Time taken for 20 oscillations t (in sec)	Time period T = t/20 (sec)	l/T^2 (cm/sec^2)
1.	**80.0**	**80.6**	**36.0**	**1.8**	**24.88**
2.	**90.0**	**90.6**	**38.0**	**1.9**	**25.10**
3.	**100.0**	**100.6**	**41.0**	**2.05**	**23.94**
4.	**110.0**	**110.6**	**43.0**	**2.15**	**23.92**
				Mean Reading (S)=	**24.46**

The acceleration due to gravity (g) $=4\pi^2 S$

= 4X3.14X3.14X24.46

=964.66=965cm/sec²

=9.65m/sec²

RESULT :- The acceleration due to gravity = **9.65** m/sec².

EXPERIMENT NO. 2

AIM:- To determine the extension in the spring against load.

APPARATUS REQUIRED:- A spring with pan at its end, a half metre scale, a stand with clamp and weight box.

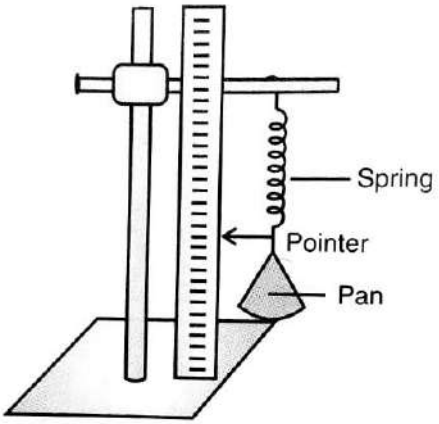
THEORY:-If a spring is stretched, the restoring force (F) applied by the spring to oppose the change in its length is directly proportional to the change in its length (X) i.e.

$F \alpha -X$

$F = -KX$

$mg = -KX$

Thus, if a graph of m is plotted against X, it will be a straight line with slope S = K/g.



OBSERVATIONS:-

Least count of the metre scale =**0.1** cm

S. No.	Weight W in (gf)	Extension x in (cm)
1.	**120.0**	**39.5**
2.	**140.0**	**40.0**
3.	**160.0**	**40.5**
4.	**180.0**	**41.0**
5.	**200.0**	**41.5**

Graph of x against W is shown on attached graph sheet.

From the graph-

The value of X is **40.25** cm when W=50 gf.

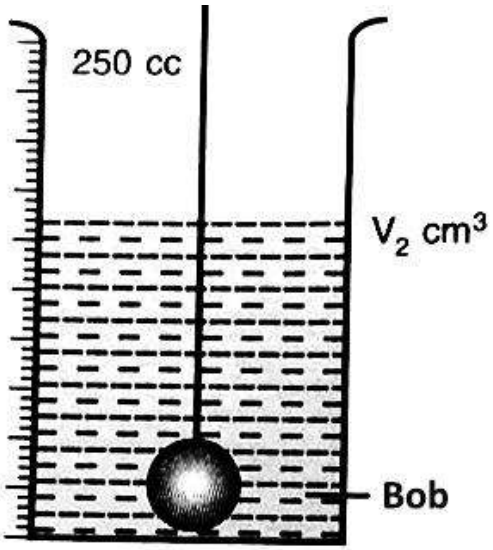
RESULT :- The value of X from the graph =**40.25** cm.

EXPERIMENT NO.3

AIM: - To determine the volume of a metallic bob.

APPARATUS REQUIRED: - A measuring cylinder, a metallic bob, a thin string and water.

THEORY: - When a bob is completely immersed in the liquid then it displaces liquid equal to its own volume. Thus, increased volume of liquid gives the volume of the bob.



OBSERVATIONS:-

S.No.	**Initial reading of the water level in the measuring cylinder V_1 (in cm^3)**	**Reading of the water level in the measuring cylinder with bob immersed V_2 (in cm^3)**	**Volume of the bob $V=(V_2-V_1)$ cm^3**
1.	**150.0**	**157.5**	**7.5**
2.	**175.0**	**175.5**	**7.5**
3.	**200.0**	**207.5**	**7.5**
4.	**225.0**	**225.5**	**7.5**
		Mean Reading=	**7.5**

The diameter ‘d’ of the bob = **2.44**cm

The radius ‘r’ of the bob = d/2 =**1.22**cm

The volume of the bob = $4/3\pi r^3$ = **$4X3.14X3.14X(1.22)^3$**

= **7.602** cm^3

RESULT :- The volume of the given bob is **7.6** cm^3

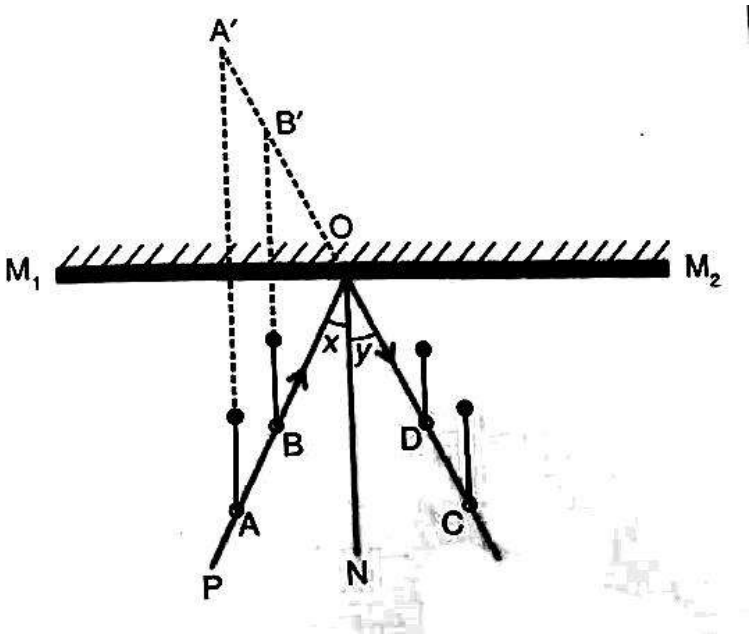
EXPERIMENT NO.4

AIM:- To verify the laws of reflection of light.

APPARATUS REQUIRED:- A drawing board, a plane mirror with a support, a white sheet of paper, drawing pins, common pins, pencil and protractor.

LAWS OF REFLECTION:-

1. The angle of incidence is equal to the angle of reflection.
2. The incident ray, the reflected ray and the normal at the point of incidence, lie in the same plane.



OBSERVATIONS:-

S.No.	Angle of incidence X (degrees)	Angle of reflection Y (degrees)
1.	**30**	**30**
4.	**40**	**40**
3.	**50**	**50**
4.	**60**	**60**

RESULT :-

1. The angle of incident is almost equal to the angle of reflection, hence the first law of reflection of light is verified.
2. By inspection the incident ray, reflected ray and normal lie on the same plane at the point of incidence which verifies the second law of reflection of light.

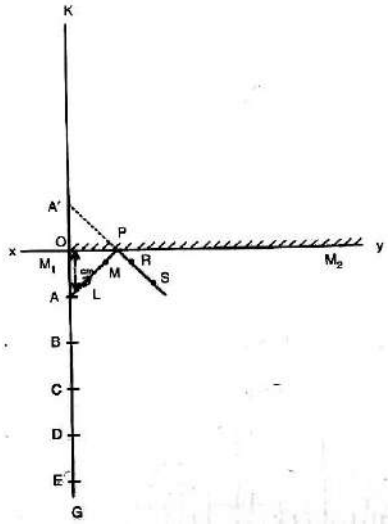
EXPERIMENT NO.5

AIM:- To verify that the image formed is as far behind the mirror as the object is in front of a plane mirror.

APPARATUS REQUIRED:- A drawing board, a plane mirror with a support, a white sheet of paper, drawing pins, common pins, pencil and ruler.

LAWS OF REFLECTION:-

1. The angle of incidence is equal to the angle of reflection.
2. The incident ray, the reflected ray and the normal at the point of incidence, lie in the same plane.



OBSERVATIONS:-

S. No.	Distance of object from mirror X (in cm)	Distance of image from mirror Y (in cm)
1.	**3.0**	**3.0**
2.	**4.0**	**4.0**
3.	**5.0**	**5.0**
4.	**6.0**	**6.0**

RESULT :- Since distances of the object and image from mirror in all the cases are equal; the image formed is as far behind as the object is in front of the plane mirror.

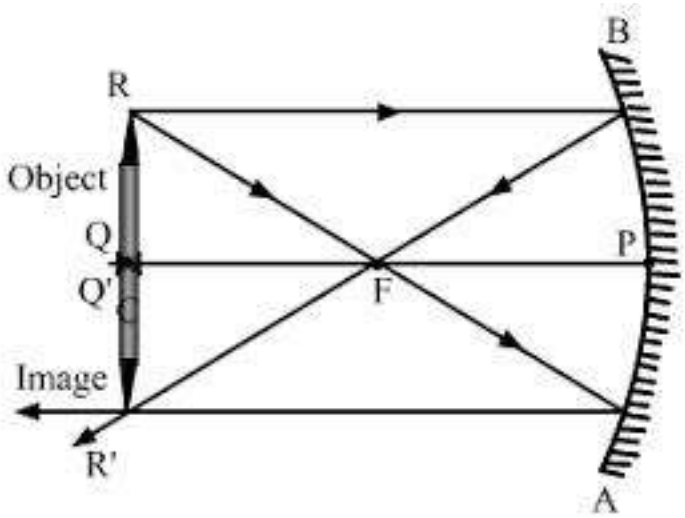
EXPERIMENT NO.6

AIM: - To determine the focal length of given concave mirror.

APPARATUS REQUIRED:- A concave mirror, a metre scale, a pin and a pin holder, a mirror holder.

THEORY: - When the object is placed at the centre of curvature in front of concave mirror, its image is formed at the same place and of the same size. In this position (sharpest image position), the distance between the object and mirror will be equal to the radius of curvature (R) and half of radius of curvature will be focal length (f) of concave mirror.

f = R/2



OBSERVATIONS:-

Least count of the metre scale =**0.1**cm

S. No.	Position of pin X (in cm)	Position of mirror Y (in cm)	Radius of curvature R=(Y - X) cm	Focal length F=(R/2) cm
1.	0.0	30.0	30.0-0.0=30.0	15.0
2.	5.0	35.0	35.0-5.0=30.0	15.0
3.	10.0	40.0	40.0-10.0=30.0	15.0
4	15.0	45.0	45.0-15.0=30.0	15.0
			Mean Reading=	15.0

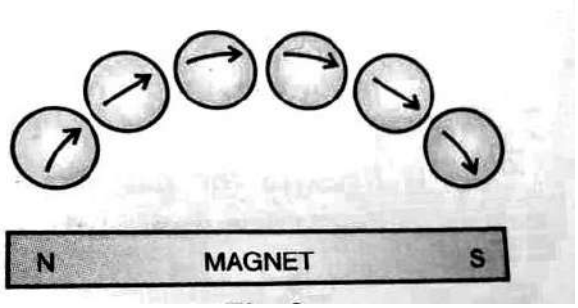
RESULT: - Focal length of given concave mirror = **15.0** cm.

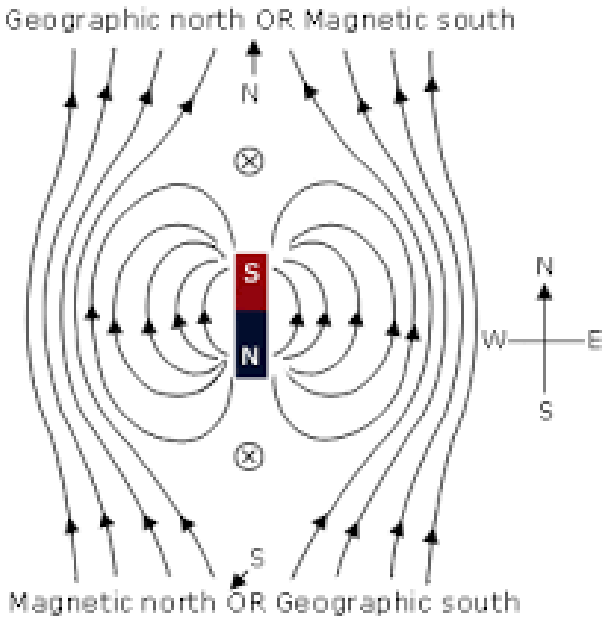
EXPERIMENT NO.7

AIM: - To draw magnetic lines of force of a bar magnet pointing North Pole of a bar magnet towards geographical South.

APPARATUS REQUIRED:- A drawing board, a bar magnet, a white sheet of paper, thumb pins, a compass needle and pencil.

Theory: - A magnetic field line is a continuous and closed curve in the magnetic field such that tangent at any point of it gives the direction of the magnetic field at that point. Outside the magnet, it is directed from North Pole towards South Pole of the magnet.





RESULT: - The magnetic lines of force of the given bar magnet is shown on the white sheet of paper.

END

GIRLS' HIGH SCHOOL & COLLEGE, PRAYAGRAJ

SESSION 2021-22

CLASS- 9 A, B, C, D, E

SUBJECT: CHEMISTRY PRACTICAL

INSTRUCTIONS: Students are advised to write the following Chemistry Practicals in Chemistry Practical File.(D. N. publications/ Nova publications). These experiments are to be written neatly. The same pattern of writing is to be followed as given. Write each experiment on a fresh page.

EXPERIMENT NO 1.

Object :-

To perform dry heating of the given salt. Take a small amount of the salt in a hard glass test tube and heat it. Observe any characteristic changes that take place on heating.

Observations :-

(i)Light green amorphous powder turns to black, on strong heating.
(ii) A colourless , odourless gas is evolved that extinguishes a burning wooden splinter.
(iii) The gas evolved when passed through lime water turns it milky. The milkiness disappears on passing excess of gas.
(iv)The gas evolved has no effect on acidified $K_2Cr_2O_7$ or acidified $KMnO_4$

Inference :-

(i) The black residue is copper oxide.
(ii) The gas evolved is carbon dioxide.
(ii) Light green powder is Copper carbonate ($CuCO_3$)

EXPERIMENT NO 2

Object :-

To perform dry heating of the given salt. Take a small amount of the salt in a hard glass test tube and heat it. Observe any characteristic changes that take place on heating.

Observations :-

(i) On strong heating, the light amorphous white solid, changes to pale yellow.
(ii) A colourless , odourless gas is evolved that extinguishes a burning wooden splinter.
(iii) The gas evolved when passed through lime water turns it milky. The milkiness disappears on passing excess of gas.
(iv)The gas evolved has no effect on acidified $K_2Cr_2O_7$ or acidified $KMnO_4$
(v) The residue , on cooling, changes to a white colour i.e residue is yellow when hot and white when cold.

Inference :-

(i)The residue is zinc oxide.
(ii) The gas evolved is carbon dioxide.
(iii) White powder is Zinc carbonate ($ZnCO_3$)

EXPERIMENT NO 3.

Object :-

To identify the gas evolved when dil. HCℓ is added to Na_2S and the mixture is warmed in a clean dry test tube. Then moist blue litmus paper is held into the gas. Also a piece of filter paper soaked in lead acetate solution is held into the gas.

Observations :-

(i) A colourless gas is evolved with the smell of rotten eggs.
(ii) The litmus paper turns red.
(iii) Filter paper turns silvery black due to the precipitation of lead sulphide.

Inference :-

(i) Hydrogen sulphide (H_2S) gas is present.
(ii) Hydrogen sulphide (H_2S) gas is acidic in nature.
(iii) Hydrogen sulphide (H_2S) gas is confirmed.

EXPERIMENT NO 4

Object :-

To identify the gas evolved when few drops of dil. HCℓ is added to a small amount of Na_2SO_3 taken in a clean dry test tube. Then moist blue litmus paper is held into the gas. Also a piece of filter paper soaked in acidified potassium dichromate solution is held into the gas.

Observations :-

(i) Colourless gas is evolved with the smell of burning sulphur.
(ii) The litmus paper turns red.
(iii)Filter paper turns from orange to green.

Inference :-

(i) Sulphur dioxide (SO_2) gas is present.
(ii) Sulphur dioxide (SO_2) gas is acidic in nature.
(iii)Sulphur dioxide (SO_2) gas is confirmed.

EXPERIMENT NO 5

Object :-

To identify the gas evolved when conc. HNO_3 is added to a few pieces of copper turnings taken in a dry test tube and the mixture is heated. Then moist blue litmus paper is held into the gas. Also a piece of filter paper soaked in KI solution is held into the gas.

Observations :-

(i) Reddish brown gas is evolved with pungent smell.
(ii) The litmus paper turns red.
(iii) Filter paper turns blue black.

Inference :-

(i) Nitrogen dioxide (NO_2) gas is present.
(ii) Nitrogen dioxide (NO_2) gas is acidic in nature.
(iii)Nitrogen dioxide (NO_2) gas is confirmed.

EXPERIMENT NO 6

Object :-

To identify the given cation by flame test.

Procedure:-

A thin platinum wire is first thoroughly cleaned by dipping it in concentrated hydrochloric acid. It is then heated in the non-luminous flame of the burner. The process is repeated. When the wire imparts no colour to the flame, it is ready for use.

Now, the wire is first dipped in concentrated hydrochloric acid and then into a small amount of the substance being investigated, so that a little of the substance may stick to it. It is then introduced into the non-luminous part of the flame, and the colour imparted to the flame is observed.

Observation :-

Golden yellow flame is seen.

Inference :-

Sodium ion (Na^+) is present.

EXPERIMENT NO 7

Object :-

To identify the given cation by flame test.

Procedure:-

A thin platinum wire is first thoroughly cleaned by dipping it in concentrated hydrochloric acid. It is then heated in the non-luminous flame of the burner. The process is repeated. When the wire imparts no colour to the flame, it is ready for use.

Now, the wire is first dipped in concentrated hydrochloric acid and then into a small amount of the substance being investigated, so that a little of the substance may stick to it. It is then introduced into the non-luminous part of the flame, and the colour imparted to the flame is observed.

Observation :-

Lilac (violet) flame is seen.

Inference :-

Potassium ion (K^+) is present.

EXPERIMENT NO 8

Object :-

To identify the given cation by flame test.

Procedure:-

A thin platinum wire is first thoroughly cleaned by dipping it in concentrated hydrochloric acid. It is then heated in the non-luminous flame of the burner. The process is repeated. When the wire imparts no colour to the flame, it is ready for use.

Now, the wire is first dipped in concentrated hydrochloric acid and then into a small amount of the substance being investigated, so that a little of the substance may stick to it. It is then introduced into the non-luminous part of the flame, and the colour imparted to the flame is observed.

Observation :-

Brick red flame is seen.

Inference :-

Calcium ion (Ca^{2+}) is present.

EXPERIMENT NO 9.

Object :-

To identify the gas evolved when NaOH solution is added to a small amount of $NH_4C\ell$ taken in a clean dry test tube and the mixture is heated. Then moist red litmus paper is held into the gas. Also, a glass rod dipped in conc. $HC\ell$ is held into the gas.

Observations :-

(i) A colourless gas is evolved with pungent smell.
(ii) The litmus paper turns blue.
(iii) Dense white fumes of $NH_4C\ell$ are evolved.

Inference :-

(i) Ammonia (NH_3) gas is present.
(ii) Ammonia gas is basic in nature.
(iii) Ammonia gas is confirmed.

EXPERIMENT NO 10

Object :-

To identify the gas evolved when conc. $HC\ell$ is added to MnO_2 and the mixture is heated in a clean dry test tube . Then moist blue litmus paper is held into the gas. Also, a starch iodide paper is held into the gas.

Observations :-

(i) A greenish yellow gas is evolved with pungent odour.
(ii) The litmus paper turns red and then gets bleached.
(iii) The starch iodide paper turns blue black.

Inference :-

(i) Chlorine gas is present.
(ii) Chlorine gas is acidic in nature and also a bleaching agent.
(iii) Chlorine gas is confirmed.

EXPERIMENT NO 11

Object :-

To identify the presence of water vapour in a given compound. Few crystals of copper sulphate are heated in a clean dry hard glass test tube. Then blue or red litmus paper is held into the gas. Also, blue cobalt chloride paper is held into the gas.

Observations :-

(i) A colourless, odourless gas is evolved which condenses on the cooler part of the test tube and white residue is left behind.
(ii) No effect on the litmus paper.
(iii) Cobalt chloride paper turns from blue to pink.

Inference :-

(i) Colourless gas is water vapour. Colourless liquid is water. Residue is of anhydrous copper sulphate.
(ii) Water vapours are present.
(iii) Water vapours are confirmed.

EXPERIMENT NO 12

Object :-

To identify the gas evolved when few drops of dilute HCℓ is added to Zn pieces taken in a clean test tube and the mixture is slightly warmed. Then a glowing splinter is held into the gas.

Observations :-

(i) A colourless, odourless gas is evolved
(ii) Gas mixed with air burns with a pop sound when the glowing splinter is brought near it.

Inference :-

(i) Hydrogen gas is present.
(ii) Hydrogen gas is confirmed.

EXPERIMENT NO 13

Object :-

To identify the gas evolved when a small amount of the mixture of $KC\ell O_3$ and MnO_2 is heated in a clean dry hard glass test tube. Then a glowing splinter is held into the gas.

Observation:-

(i) A colourless, odourless gas is evolved.
(ii) The glowing splinter rekindles.

Inference**:-**

(i) Oxygen gas is present
(ii) Oxygen gas is confirmed.

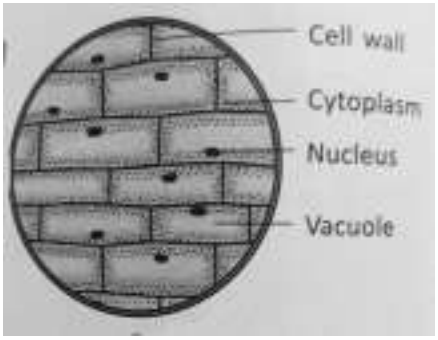
"END"

Girls' High School & College-Prayagraj
Session 2021-22
Class 9 A-E
BIOLOGY PRACTICAL

Instructions- Parents to ensure that the child follows the instructions carefully to complete the work in her Biology practical file of class 9. All experiments are to be neatly written with a blue ink pen only. However, the students can use a black ink pen for headings.The diagrams related to the experiments should be neat,well labelled and drawn on the plain side .Diagrams should be labelled .Each experiment should start from a fresh page. No colours are to be used either for written work or for diagrams.

EXPERIMENT NO 1

OBJECT- To observe plant cells in an onion peel.
MATERIALS REQUIRED- Glass slide,watch glass,coverslip,safranine,onion bulb, microscope
METHOD - Cut an onion into four equal halves.Carefully peel off the inner membrane covering the fleshy leaf . Take a small piece of this membrane and place it in a watch glass containing water.Transfer this peel onto a glass slide.Add a drop of safranine and place a coverslip over it.Observe under a microscope.
OBSERVATION- Brick-shaped cells are seen lying side by side.Each cell has a darkly stained nucleus and cell wall,a centrally placed vacuole and a thin layer of cytoplasm between the cell wall and vacuole.

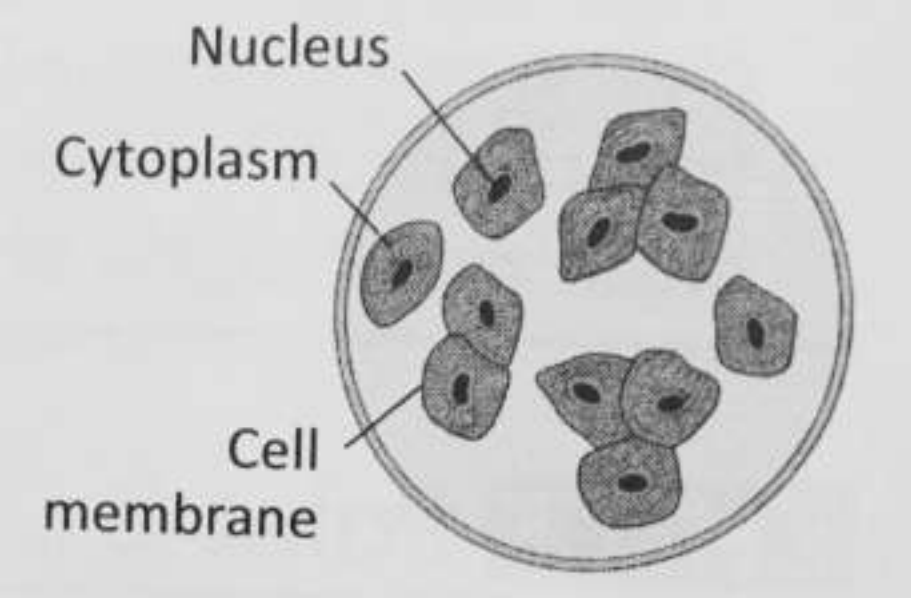


Plant cell

EXPERIMENT NO. 2

OBJECT- To study animal cells from human cheek cells.
MATERIALS REQUIRED- Glass slide,coverslip,tooth pick, methylene blue.
METHOD - Rinse your mouth.Gently scrape the inside of the cheek.Place the scraping material on a clean slide. Spread it and add a drop of methylene blue Place a coverslip on it.Observe under a microscope.

OBSERVATION- A large number of cells are seen.Each cheek cell is polygonal in shape. It has a darkly stained nucleus in the centre and a thin plasma membrane surrounding the cytoplasm.



Animal Cell

Experiment No.3

OBJECT- To observe the structure of a flower. (China Rose)

OBSERVATION

Stem- Woody, aerial, erect, green.

Inflorescence- Solitary, axillary

Flower - Pedicellate ,ebracteate hermaphrodite, actinomorphic, pentamerous, epicalyx present

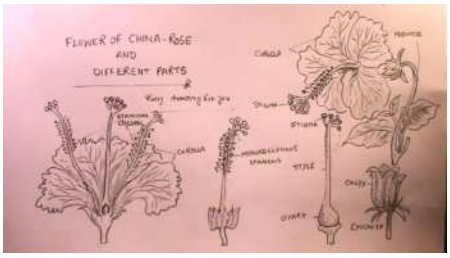
Epicalyx - 6 to 8 in number, free, green

Calyx - 5 sepals, gamosepalous, green, persistent

Corolla- 5 petals, polypetalous, large, red in colour

Androecium- stamens indefinite,monadelphous, epipetalous, anthers dorsifixed

Gynoecium- pentacarpellary, syncarpous,r, axile placentation,5 sigma.



Structure of a flower

EXPERIMENT NO.4

OBJECT- To observe the structure of a dicot seed (bean seed)

MATERIALS REQUIRED - watch glass, bean seed

OBSERVATION - Bean seed is kidney shaped and is covered by a hard seed coat.Seed coat consists of two layers.

(1) Testa - outer hard brownish covering.

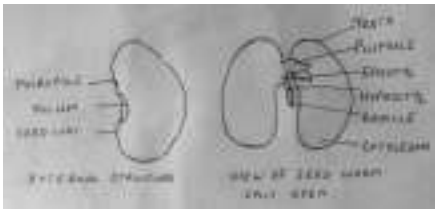
(2) Tegmen - inner thin covering.

A whitish scar known as Hilum is present on the concave side of the seed.Close to the Hilum is present a minute pore called micropyle.

Below the seed coat are two fleshy cotyledons.A tiny embryo is seen attached to the cotyledons.The embryo consists of two parts

(1) Radicle- gives rise to the root system.

(2) Plumule- gives rise to the shoot system.



Structure of a dicot seed

EXPERIMENT NO. 5

OBJECT - To observe a monocot seed (maize grain)

MATERIALS REQUIRED- watch glass, maize seed

OBSERVATION - The maize grain is small, one- seeded and yellowish in colour.The pericarp is fused with the seed coat .The major portion of grain is occupied by starchy endosperm whereas a small embryo is situated on one side of the base.The endosperm has outermost aleurone layer which is proteinaceous.The embryo consists of one large shield shaped cotyledon,plumule and radicle.Cotyledon is also called scutellum.

The sheath covering the plumule is called coleoptile and the sheath covering the radicle is called coleorhiza .

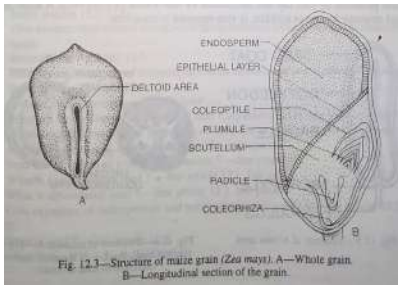


Fig. 12.3—Structure of maize grain (*Zea mays*). A—Whole grain. B—Longitudinal section of the grain.

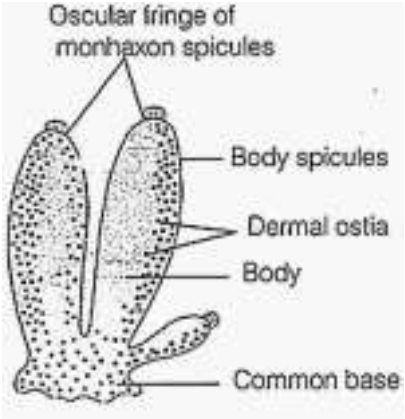
EXPERIMENT NO 6

To study the specimens of Invertebrates and Vertebrates.

1 **Phylum Porifera**

Sycon

- Poriferans have pores all over their body to draw water in.
- A large opening is present at the top of the body to expel the incoming water.
- They are found attached to the bottom of the sea or pond.



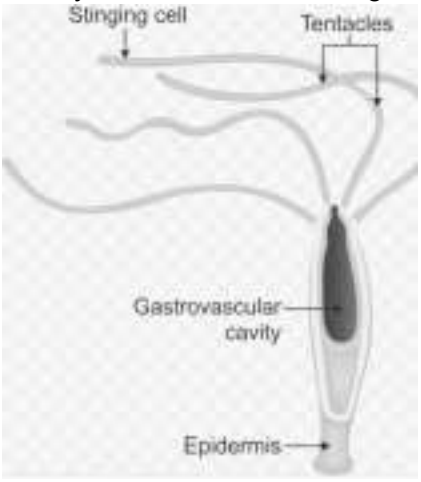
Sycon

2 **Phylum Coelentrata**

Hydra

- The body is hollow sac- like with only one opening, the mouth.

- The mouth is surrounded by finger like processes called tentacles.
- They are either free-floating or attached to the sea bottom.

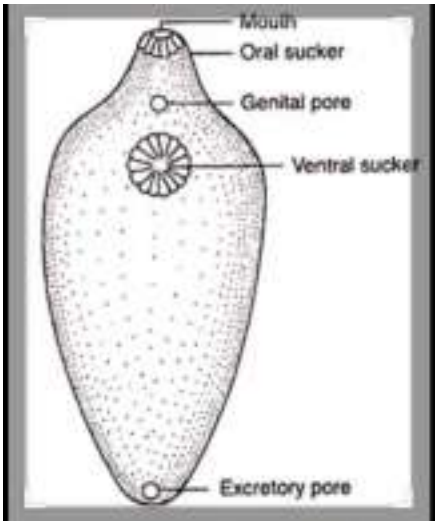


Hydra

4 **Phylum Platyhelminthes**

Liver fluke

- Platyhelminthes have thin,soft and flattened body.
- They possess suckers and hooks for attachment to the host.
- Excretory system consists of special type of cells called flame cells.

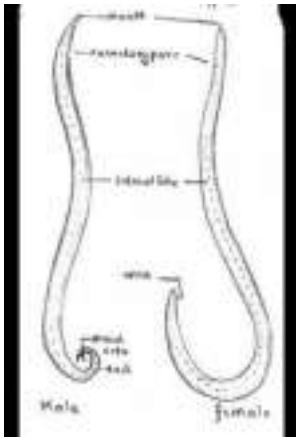


Liver fluke

3 **Phylum Nemathelminthes**

Ascaris

- Nematodes have a long, cylindrical and unsegmented body.
- Sexes are seperate.
- They are either free living or parasites in plants and animals.

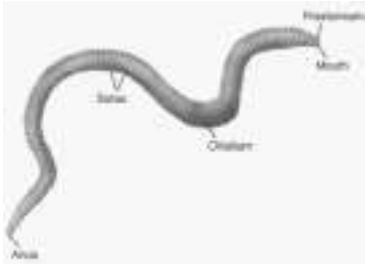


Ascaris

5 **Phylum Annelida**

Earthworm

- Annelids have soft, segmented and bilaterally symmetrical body.
- They have a body cavity and a well- developed alimentary canal.
- They have special organs of excretion called nephridia.

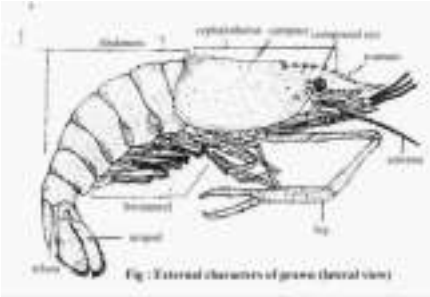


Earthworm

6 **Phylum Arthropoda**

Prawn

- Arthropods have body divided into head,thorax and abdomen.
- The body is covered by an exoskeleton.
- They have many jointed legs.

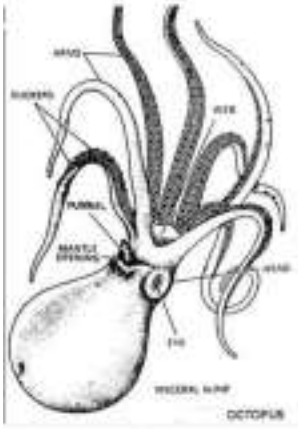


Prawn

7 **Phylum Mollusca**

Octopus

- Molluscs are mainly aquatic animals.
- They have soft and unsegmented body enclosed in a hard shell.
- They have a muscular foot for locomotion.

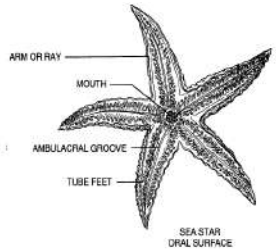


Octopus

8 **Phylum Echinodermata**

Starfish

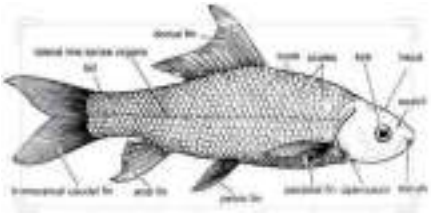
- It has a rough, spiny and star-like body.
- They have several tube feet .



a) Class Pisces

Rohu

- The body is streamlined.
- They have fins and gills.
- Skin is slimy and maybe covered with scales.

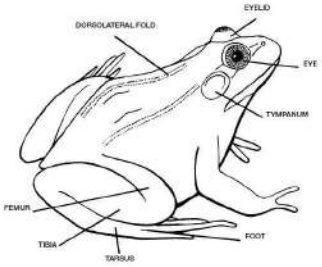


Rohu

b) **ClassAmphibia**

Frog

- They are cold-blooded animals adapted to live both on land and in water.
- Body is differentiated into head,trunk and tail.

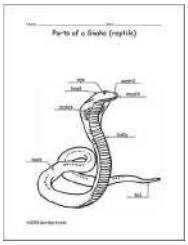


Frog

c) **Class Reptilia**

Snake

- Cold-blooded animals adapted to live on dry land.
- Their skin is dry and covered with scales.
- Limbs two pairs, clawed and pentadactyle.

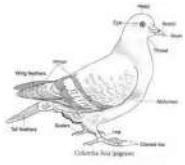


Snake

d) Class Aves

Pigeon

- The body is covered with feathers.
- The forelimbs are modified into wings.
- The bones are light and have air cavities.

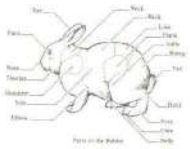


Pigeon

e) **Class Mammalia**

Rabbit

- The body is covered with a hairy skin,sweat glands and oil glands.
- Possess external ear or pinna.
- Mammary glands present.



Rabbit

EXPERIMENT NO. 7

OBJECT- To observe a model of human digestive system.

OBSERVATION- The digestive system has two groups of organs.

- **Alimentary canal**
- **Digestive glands**

ALIMENTARY CANAL

MOUTH- The opening of buccal cavity is called mouth.

PHARYNX- Pharynx is a funnel shaped passage.The food channel continues in the neck as **oesophagus.**The opening of trachea in pharynx is guarded by **epiglottis.**

OESOPHAGUS- Oesophagus is a 25 cm long muscular tube through which food slides down.

STOMACH- Stomach is a J- shaped muscular bag.It lies below the diaphragm.

SMALL INTESTINE-Small intestine is a coiled tube and has three parts:

1. **Duodenum**
2. **Jejunum**
3. **Ileum**

LARGE INTESTINE- It is about 1.5 -1.8 metres long tube and is divided into:

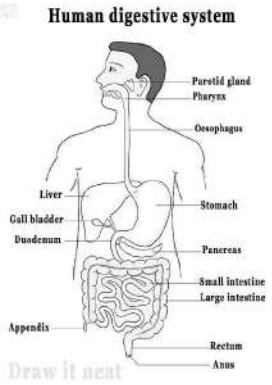
1. **Caecum**
2. **Colon**
3. **Rectum**

DIGESTIVE GLANDS

SALIVARY GLANDS- Three pairs of salivary glands open into the buccal cavity.They secrete saliva.

LIVER-Liver is the largest gland in the body.It lies on the right side of the abdominal cavity.It produces bile juice.

PANCREAS- Pancreas is a pink coloured ,leaf shaped gland.It lies in the U- shaped loop of duodenum.



Human Digestive System

EXPERIMENT NO. 8
OBJECT- To observe a model of human skeleton.
OBSERVATION

Parts of human skeleton

The main parts of human skeleton are-

- Axial skeleton
- Appendicular skeleton

Axial skeleton

The axial skeleton consists of skull, vertebral column and thorax.
Skull is the skeleton of head and is formed of 28 skull bones and one hyoid bone **Vertebral column-** The backbone extends from the base of the skull to the hips.It is also called spine.The backbone is formed of 33 small ring-like bony pieces, called vertebrae.The vertebral column is differentiated into following regions:

- Neck region (cervical)- 7 vertebrae
- Chest region (thoracic)-12 vertebrae
- Belly region(lumbar)-5 vertebrae
- Hip region(sacral)-5 vertebrae
- Tail region(caudal)-4 vertebrae

Thorax

- **Ribs**-They are 12 pairs.Ribs are of three types:True ribs,false ribs and floating ribs.
- **Sternum-** It lies in the middle part of the thorax.

APPENDICULAR SKELETON

It includes bones of girdles and limbs.

Pectoral girdle- It is formed of two distinct halves.Each half is formed of a shoulder blade at the back and a collar bone in front.Each shoulder blade is formed of the scapula.It has a socket called glenoid cavity.

Forelimbs

Human beings have two forelimbs consisting of 60 bones.Each forelimb consists of the following bones:

- One long bone humerus.
- The forearm has two long bones: radius and ulna.
- Wrist is formed of 8 small pieces of bones called carpals.
- Palm is made up of 5 bones called metacarpals.
- Each hand has 4 fingers and each finger consists of 3 small bones called the phalanges.The thumb has only two bones.

Pelvic girdle or Hip girdle

Pelvic girdle is a large trough shaped part formed of two halves.Each half called hip bone is formed by the fusion of three bones: ilium , ischium and pubis.Ilium bears a deep depression called acetabulum .

Hindlimbs

Each hindlimb is formed of the following bones:

- Thigh bone is femur.
- The lower leg is formed of two long bones: tibia and fibula.
- Ankle consists of 7 small bones called tarsals.
- The sole of the foot is formed of 5 bones called metatarsals.
- The foot has 5 toes and each toe has 3 small bones called phalanges.

EXPERIMENT No.9

OBJECT- To observe a model of the human respiratory system.

OBSERVATION

The human respiratory system includes nose,pharynx,larynx,trachea,lungs,bronchi and bronchioles.

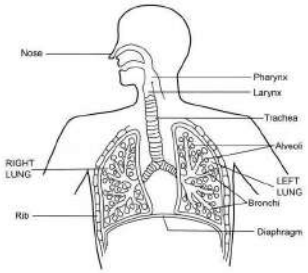
Nose- The nostrils open into nasal passages.In the nasal passages air is filtered, warmed and moistened before entering the lungs.

Pharynx- It is the common passage for food and air.The opening of trachea in pharynx is guarded by the epiglottis.

Larynx- Larynx is the upper part of trachea.It is also called voice box or Adam's apple.

Trachea-The air from nasal passages reaches the lungs through trachea.It is divided into two bronchi which enter the respective lungs.Inside the lungs , bronchi divide and redivide into bronchioles which further divide and end into air sacs or alveoli.

Lungs- Lungs are the main respiratory organs.They are enclosed in an airtight thoracic cavity.



Human Respiratory System

End .

Girls' High School & College, Prayagraj

Computer Assignment

Session:2021-2022

Class:9. Section: C,D,E

Subject: Computer Applications

Instructions: Students are expected to read and understand the programs from the book and thereafter write each program along with question from new page in computer project interleaf file.

Book : LOGIX-CLASS 9 (Kips Publications)

Note:

1: Fill Index (Index page is already in Project file).

2: First page- Computer Assignment (Heading at center of the page.)

3: Second page- Write Acknowledgement.

4: Third page- Write first program from given list of the programs along with output.

5: Write a program on ruled page and output on opposite blank page.

6: Cover your computer project with brown paper.

7: Write with blue gel pen only. Write the following programs along with output:

PROGRAMS

1. Write a program that will accept the bill of a customer and add 5% service tax to it.

2. Write a program to find area and perimeter of a rectangle by using the assignment operator.

3.Write a program to find the largest of two numbers.

4. Write a program to find whether the entered number is even or odd.

5. Write a program to print the first 10 natural numbers.

6. Write a program to print the square of first 10 natural numbers.

7. Write a program to print the odd numbers between 1 to 10.

8. Write a program to print the table of 5.

9. Write a program to print Happy Birthday message for 10 times.

10. Write a program to print the next ten alphabets starting after the letter G, the output should be displayed in a vertical order.

11. Write a program using Scanner method to read radius and height of a cylinder and calculate its volume.

12. Write a program in java to determine if an entered number is a buzz number.

13. Write a program in java to input in yyyy format and determine if it is leap year.

14. Write a program in java to display the natural number 1 to 10 in the reverse order:

15. Write a program in java to compute and display the factorial of a number. Read the number via the Scanner class.

16. Write a program that will display the Fibonacci serious between 1 and 100 using while loop.

17. Write a program to check whether a number is a perfect number or not using while loop.

18. Write a program to accept a long integer and check if it is Armstrong number.

19. Write a program in java to input three integers and compute their average.

20. Write a program in java to input a number and deduce if the entered number is positive or negative.

END

Girls High School & College, Prayagraj

Session: 2020 - 2021

Class: 9 B , C

Subject: Commercial Applications

Project

Note: Parents are expected to ensure that the student should go through all the instructions given below before making the project.

Instructions:

1. There will be four separate assignments (Project) as per the topics given. Keep all four Assignments in one file. Cover the file with pink chart paper. Write Commercial Applications Project 2021-22 in the middle, Roll no. at the top right corner and Name, Class, Section, Admission no. should be written at the bottom right corner.

2. Start with **Acknowledgement**, should be of one page, short and simple. Write your name, class, section and roll no. below it. Don't make separate acknowledgement for each topic. There should be only one common acknowledgement.

3. Order of each Assignment:

- Name of the topic (one page)
- **Index** (only serial no. , content and page no. , should be of one page)
- Subject Matter of the topic (describe the topic with Introduction, relevant headings and sub headings, supported with pictures/diagrams/ graphs/ tables, as per the requirement. Should not be more than 4 to 5 pages.)
- Conclusion (one page)
- Bibliography (One page. Write the name of related websites and books consulted for the making of the assignment.)
- Note: Same order will be followed for each topic.

4. Each assignment should not be more than 8 to 10 pages including all the points mentioned above. Don't use vulgar or objectionable pictures.

5. Relevant pictures should be pasted neatly and must be bordered in black along with labelling or heading. Use only black and blue pens for writing.

6. Sample assignments are given at the end of the course book. These can be read to understand the topic but don't copy the matter from here.

7. Course book, other reference books and relevant websites can be used to find the subject matter of the assignment.

Course Book – Commercial Applications Part I by Dr. C.B. Gupta.

Topics for the Assignments (Project) :

1. Study any existing functional strategy for a small/medium/large scale organisation with respect to its Marketing, Finance, HR, production, Purchase and find the problem in the existing strategies.

2. Study the working of Fast Moving Consumer Goods (FMCG) Industry in India ---Take any 4 firms of the industry and group them according to their objectives (Profit / non profit making) .

3. Enact a play showing growing communication needs in today's organisations, depicting the possible problems that may occur due to poor communication.

4. Study the balance sheet of a listed company. Define basic accounting terminologies, such as capital, liabilities, assets (fixed and current), revenue, expenditure, etc.

End

GIRLS' HIGH SCHOOL & COLLEGE PRAYAGRAJ

SESSION – 2021 – 2022

SUPW PROJECT

CLASS 9(A, B, C, D, E)

INSTRUCTIONS: Parents are expected to ensure that the students follow the instructions given below and thereafter make SUPW items.

1) **HALF YEARLY**

MAKE A PAPER BAG.

For making paper bag you'll need-

i) Cart paper (any colour) or handmade paper.
ii) Decorate the bag with any decorative things available, like – mirror, lace, beads, sequins, etc.

2) **FINALS**

EMBROIDERY ON A PIECE OF CLOTH (with five different stitches).

For embroidery on a cloth, you'll need-

i) Half a metre Cotton cloth (any colour).
ii) Standard Embroidery Cotton Thread (embroidery floss).
iii) Embroidery hoop.
iv) Embroidery needles.

END