PROTOZOA

(a) Amoeba: Examination of culture.

(b) Euglena: Culture examination for Euglena.

(c) Monocystis: Examination of contents of seminal vesicles of Pheretima or Eutyphoeus for different life- history stages and permanent preparation.

(d) Plasmodium: Preparation of blood film (Leishmen's stain).

(e) Paramecium-Culture examination.

(f) Demonstration of ciliary movements in Paramecium.

Addition to mucilage to restrain active movement

Treatment with Methyl green for staining.

Feeding experiment with Congo Red and Yeast. Trichocysts (discharged),

PORIFERA

(a) Sycon

Spicules- glycerine preparation.

(b) Gemmule of Spongilla- permanent preparation.

PLATHYHELMINTHES :

(d) Examination of tape worms of pigeon or fowl in situ

(e) Permanent preparation of mature and gravid proglottidsof Cotugnia and Raellietina.:

ANNELIDA

(a) Nereis

Parapodium-permanent preparation.

(b) Pheretima

Glycerine preparations of setae in situ and brain.

Permanent preparations of ovary and septalnephridia.

ARTHROPODA

Palaemon

External characters; Examination of appendages.

Glycerine preparation of hastate plate.

Permanent and glycerine preparations of statocysts.

Glycerine preparation of mouth appendages, salivary glands and trachea.

Permanent preparations of salivary glands, Malpighian tubules, ovaries and testes.

Anopheles and Cules-Glycerine preparation of mouth parts of male and female.

Musca-Glycerine preparation of proboscis

MOLLUSCA

(a) Lamellidens

Permanent preparations of gill lamella.

(b) Pila

Permanent preparations of gill lamella and osphradium.

CYTOLOGY

(a) Cell-Structure – Prepared slides

(b) Cell Division – Prepared slides

(c) Preparation of giant chromosomes

(d) Preparation of onion root tip for the stages of mitosis

(a) Amoeba: Examination of culture

Two methods are employed for the amoeba culture

1. To culture *Amoeba proteus* (freshwater species).

2. Samples of water are collected from different ponds in large petriplates.
3. In each petriplates grains of rice are kept.
4. After a few days collect the water from the bottom of the petriplates mainly from the region near the rice grains now add this to another petriplates containing Glucose-Peptone culture (100ml of water and add to it 2gm of glucose and 8 gm of peptone).
5. Now cover the petriplates by watch glass and keep it as such and amoeba (Cultured at 75°F) can be obtained in plenty after few days.

SECOND METHOD: WHEAT GRAIN AND HAY CULTURE

1. Preparation of medium: 500ml water is taken in a flask + add 10-25 grains of wheat+ hay and boil to extract starch. Allow the water to cool.
2. Collect pond water from the area around the decayed weed and filter it through the cloth and add the filtrate (Containing amoeba) to starch solution.
3. Leave it for few days and then amoeba can be obtained and observed under the microscope.

(b) Euglena: Culture examination for Euglena

Found in abundance in pond waters rich in nitrogenous matter. Euglena culture requires only plenty of food and light.

1. Take a jar, fill it with water and add 100gms of wheat or rice or hay. Keep it at a place where sunrays do not fall directly for a week.
2. Now add to it some pond water containing Euglena, which can be observed with the help of microscope.
3. In about 15 days water turns greenish and will be covered with a scum containing large number of scum containing Euglena.

(e) Paramecium: Culture examination

Found in freshwater rich in decaying organic matter. Paramecium culture is easiest in protozoans.

1. Take 15-20 grains of wheat and hay. Add it to 500ml of water for few minutes and allow it to cool down.
2. Collect some pond water having submerged leaves containing Paramecia.
3. Add this pond water to culture solution. In a few days paramecia will appear along with some bacteria. The temperature of 80 to 85°F is best for paramecia culture.