

UNIT - III PLANT PHYSIOLOGY

3.1. INTRODUCTION

SYNOPSIS

- The term '**Physiology**' was derived from '**Greek** language' (Physis = Nature, Logos = Knowledge or study (or) discourse)
- The term physiology was first used by '**Jean Fernel**' in 1552. Which meant "natural knowledge".
- Father of plant physiology - **Stephen Hales**. He coined the term "**root pressure**".
- Father of Indian plant physiology - **J.C. Bose**. He conducted research work in plant physiology pertaining to bio electrical responses to various stimuli.
- Physiology deals with nature of plants
- Physiology includes biophysical aspects, biochemical aspects or metabolism and growth and developmental aspects.
- Physiology contributes specific requirements of the plants and these are to be applied in agriculture, horticulture, forestry and industry.
- Biophysical aspects includes water relations of plants involving absorption of water, ascent of sap. Transpiration and Mineral nutrition.
- Biochemical aspects includes photosynthesis, Respiration and Nitrogen metabolism including protein synthesis.
- Growth and developmental aspects includes photoperiodism and vernalization, seed germination.
- Recently Stress physiology branch is useful to know the plant functions under environmental severities.

LEVEL - I

1. Father of plant physiology
1) Linnaeus 2) Hook
3) Stephen Hales 4) J.C.Bose.
2. Father of Indian plant physiology
1) Theophrastus 2) Hill
3) Went 4) J.C.Bose.
3. The term plant physiology is derived from
1) Greek 2) Latin
3) Sanskrit 4) English

4. The term physiology was first introduced by
1) Jean Fernel 2) Reiter
3) Brown 4) Nathans
5. Catabolic process comes under
1) Physical aspects of plant physiology
2) Metabolic aspects of plant physiology
3) Growth aspects of plant physiology
4) Developmental aspects of plant physiology
6. The term "root pressure" was coined by
1) Father of plant physiology
2) Father of Taxonomy
3) Father of Indian plant physiology
4) Father of Botany
7. Vernalization comes under the following branch of plant physiology
1) Growth and developmental aspects
2) Metabolic aspects
3) Physical aspects
4) 2 and 3
8. Which of the following scientist carried out research work in pertaining to bio electrical responses to various stimuli.
1) J.C.Bose 2) Stephen Hales
3) Stanley 4) Dixon
9. Plant physiology useful for understanding
I) Photosynthesis
II) Respiration
III) Absorption of water
IV) Ascent of sap
1) I and II correct 2) II and III only correct
3) I and III correct
4) I, II, III and IV are correct
10. The following one is not related to biochemical aspects of plant physiology
1) Ascent of sap 2) Catabolic process
3) Anabolic process 4) Protein synthesis