

Introduction

Biology – Branch of science in which living beings are studied.

Bios = Life & Logos = Study. Therefore study of life is called biology. The term biology was first coined by Lamarck and Treviranus in the year 1801. Biology has two main branches.

1. Botany : Study of different aspects of plants. Theophrastus is known as father of Botany.

2. Zoology : Study of various aspects of animals. Aristotle is called father of Zoology as well as Biology.

Important Terms of Biology :

1. Anatomy : Study of internal structure of organism

2. Agrology : Soil science dealing specially with production of crop.

3. Agronomy : Science of soil management and production of crop.

4. Agrostology : Study of grass

5. Arthrology : Study of joints.

6. Apiculture : Rearing of honey bee for honey.

7. Anthropology : Study of origin, development and relationship between the culture of past and present human.

8. Anthology : Study of flower and flowering plant.

9. Angiology : Study of blood vascular system including arteries and veins.

10. Andrology : Study of male reproductive organ.

11. Bryology : Study of Bryophytes.

12. Biometrics : Statistical study of Biological problem.

13. Biomedical engineering : Production and designing of spare part for overcoming various defects in man. e.g. artificial limbs, Iron lung, Pacemaker etc.

- 14. Biotechnology** : Technology concerned with living beings for wilful manipulation on molecular level.
- 15. Bacteriology** : Study of bacteria.
- 16. Cytology** : Study of cell.
- 17. Cryobiology** : It is the study of effect of low temperature on organisms and their preservation.
- 18. Clone** : Clones are genetically identical individual in a population
- 19. Cardiology** : Study of heart.
- 20. Demography** : Study of population.
- 21. Diffusion** : Random movement of molecule / ion or gases from a region of higher concentration to lower concentration
- 22. Dermatology** : Study of skin.
- 23. Dendrochronology** : Counting and analysing annual growth rings of tree to know its age.
- 24. Ecology** : Study of inter relationship between living and their environment.
- 25. Evolution** : Study of origin of life, variation and formation of new species.
- 26. Embryology** : Study of fertilization of egg, formation of zygote and development of embryo
- 27. Eugenic** : Study of factors connected with the improvement of human race.
- 28. Euthenics** : Study of environmental condition that contribute to the improvement of human beings.
- 29. Euphenics** : Treatment of defective in heredity through genetics engineering.
- 30. Ethnology** : Study of science dealing with different races of human.
- 31. Ethology** : Study of animal behaviour in their natural habitats.

- 32. Etiology** : Study of causative agent of disease.
- 33. Entomology** : Study of insects.
- 34. Exobiology** : Study of possibility of life in space.
- 35. Floriculture** : Cultivation of plant for flower.
- 36. Food technology** : Scientific processing, preservation, storage and transportation of food.
- 37. Forensic science** : Application of science for identification of various facts of civilian.
- 38. Fishery** : Catching, breeding, rearing and marketing of fishes.
- 39. Forestry** : Development and management of forest.
- 40. Fermentation** : Process of incomplete oxidation that occur in microbes and other cells in absence of oxygen, leading to the formation of ethyl alcohol.
- 41. Genetics** : Study of variation and transmission of heredity character from parents to their young ones.
- 42. Growth** : Permanent increase in weight, volume and size of an organism.
- 43. Genetic Engineering** : Manipulation of gene in order to improve the organism.
- 44. Gynecology** : Study of female reproductive organ.
- 45. Gerontology** : Study of ageing.
- 46. Gastroenterology** : Study of alimentary canal or stomach, intestine and their disease.
- 47. Hypertonic** : When two solutions have different solute concentration. The solution which has higher concentration is called hypertonic.
- 48. Hypotonic** : In two solutions which have lower solute concentration is called hypotonic.
- 49. Homeothermic** : Animals who have constant body temperature are called

home thermic or warmblooded animal.

50. Histology : Study of tissue organisation and their internal structure with the help of microscope.

51. Hygiene : Science taking care of health.

52. Hydroponics : Study of growing plant without soil in water which contain nutrient.

53. Haematology : Study of blood.

54. Hepatology : Study of liver.

55. Ichthyology : Study of fishes.

56. Immunology : Study of immun system or resistence of body to disease.

57. Kalology : Study of human beauty.

58. Metazoans : All multicellular animals are called metazoans.

59. Monoecious : Plant which have both male and female flower

60. Morphology : Study of external structure.

61. Microbiology : Study of micro-organism like virus, bacteria, algae, fungi and protozoa.

62. Molecular biology : Study of molecule found in the body of living organism.

63. Medicine : Study of treating disease by drug.

64. Mammography : Branch of science which deal test of breast cancer.

65. Mycology : Study of fungi.

66. Nutrients : Chemical substance taken as food which are necessary for various function, growth and health of living.

67. Neurology : Study of nervous system.

68. Neonatology : Study of new born.

69. Nephrology : Study of kidneys.

70. Osmosis : Movement of water molecule across semipermeable membrane from the region of its higher concentration to the region of lower concentration.

71. Odontology : Study of teeth and gum.

72. Osteology : Study of bones.

73. Oncology : Study of cancer and tumours.

74. Obstetrics : Science related with care of pregnant woman before, during and after child birth.

75. Ornithology : Study of birds.

76. Ophthalmology : Study of eyes.

77. Orthopaedics : Diagnosis and repair of disorder of locomotory system.

78. Phytoplankton : Microscopic organism which passively float on the surface of water.

79. Parasite : Organism which depends on other living organism for their food and shelter.

80. Poikilothermic : Organism which change their body temperature according to surrounding. They are also called cold blooded animal.

81. Pigment : A substance which absorb light of certain wavelength like chlorophyll found in green leaves.

82. Palaeontology : Study of fossils.

83. Physiology : Study of function of various system of organism.

84. Pathology : Study of diseases, effects, causable agents and transmission of pathogens.

85. Pomology : Study of fruit and fruit yielding plant.

86. Psychiatry : Treatment of mental disease.

- 87. Psychology** : Study of human mind and behavior.
- 88. Pisciculture** : Rearing of fishes.
- 89. Phycology** : Study of algae.
- 90. Paediatrics** : Branch of medicine dealing with children.
- 91. Parasitology** : Study of parasites.
- 92. Photobiology** : Effect of light on various biological processes
- 93. Phylogeny** : Evolutionary history of organism.
- 94. Physiotherapy** : Treatment of body defects through massage and exercise.
- 95. Radiology** : Science dealing with the effect of radiation on living beings.
- 96. Rhinology** : Study of nose and olfactory organs
- 97. Sonography** : Study of ultrasound imaging
- 98. Saurology** : Study of lizard
- 99. Serology** : Study of serum, interaction of antigen and antibodies in the blood.
- 100. Sphygmology** : Study of pulse and arterial pressure.
- 101. Taxonomy** : Study of classification, nomenclature and identification of organism
- 102. Telepathy** : Communication of thoughts or ideas from one mind to another without normal use of senses. In other words this is the process of mental contact.
- 103. Veterinary Science** : Science of health care and treatment of domestic animals.

What is living ?

1. The word living cannot be defined.
2. There are certain characters by which can be distinguished from non living.

- (i) **Growth** : Increase in the number of cell or mass is called growth
- (ii) **Reproduction** : Living organism produce young ones of their same kind.
- (iii) **metabolism** : Chemical reaction occurring inside a living cell.
- (iv) **Response of stimuli** : Living have the ability to sense the condition of their surrounding and respond to these stimuli.

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