Padasalai's Telegram Groups!

(தலைப்பிற்கு கீழே உள்ள லிங்கை கிளிக் செய்து குழுவில் இணையவும்!)

- Padasalai's NEWS - Group
https://t.me/joinchat/NIfCqVRBNj9hhV4wu6_NqA

- Padasalai's Channel - Group
https://t.me/padasalaichannel

- Lesson Plan - Group
https://t.me/joinchat/NIfCqVWwo5iL-21gpzrXLw

- 12th Standard - Group
https://t.me/Padasalai_12th

- 11th Standard - Group
https://t.me/Padasalai_11th

- 10th Standard - Group
https://t.me/Padasalai_10th

- 9th Standard - Group
https://t.me/Padasalai_9th

- 6th to 8th Standard - Group
https://t.me/Padasalai_6to8

- 1st to 5th Standard - Group
https://t.me/Padasalai_1to5

- TET - Group
https://t.me/Padasalai_TET

- PGTRB - Group
https://t.me/Padasalai_PGTRB

- TNPSC - Group
https://t.me/Padasalai_TNPSC

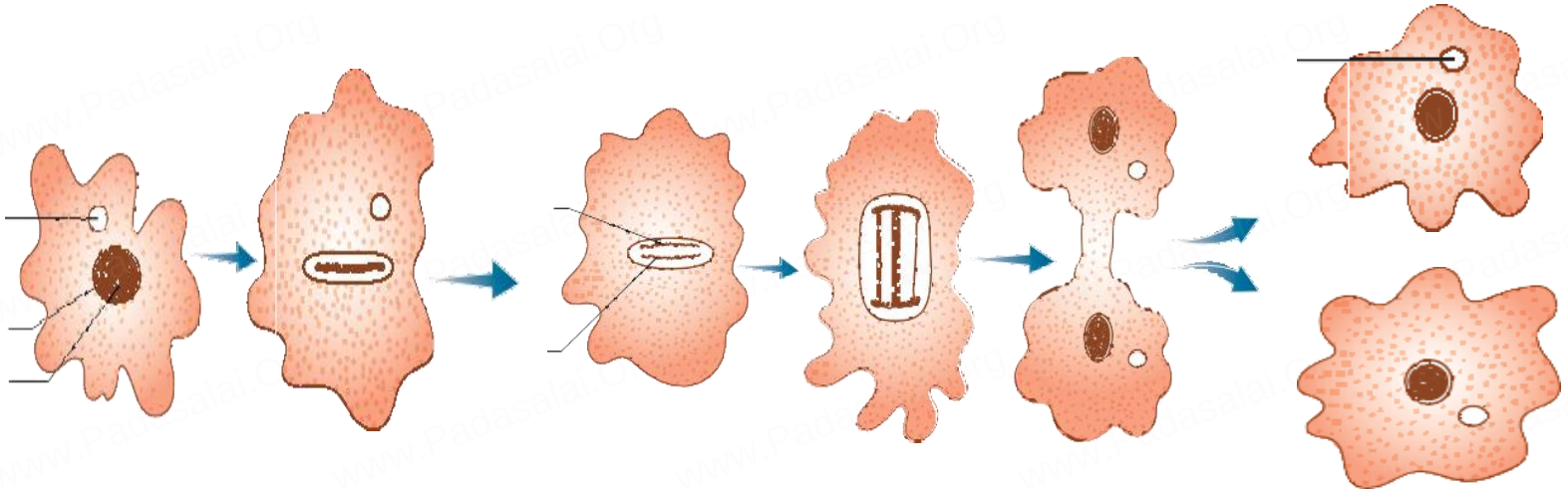


Fig. 1.1 Irregular simple binary fission in *Amoeba*

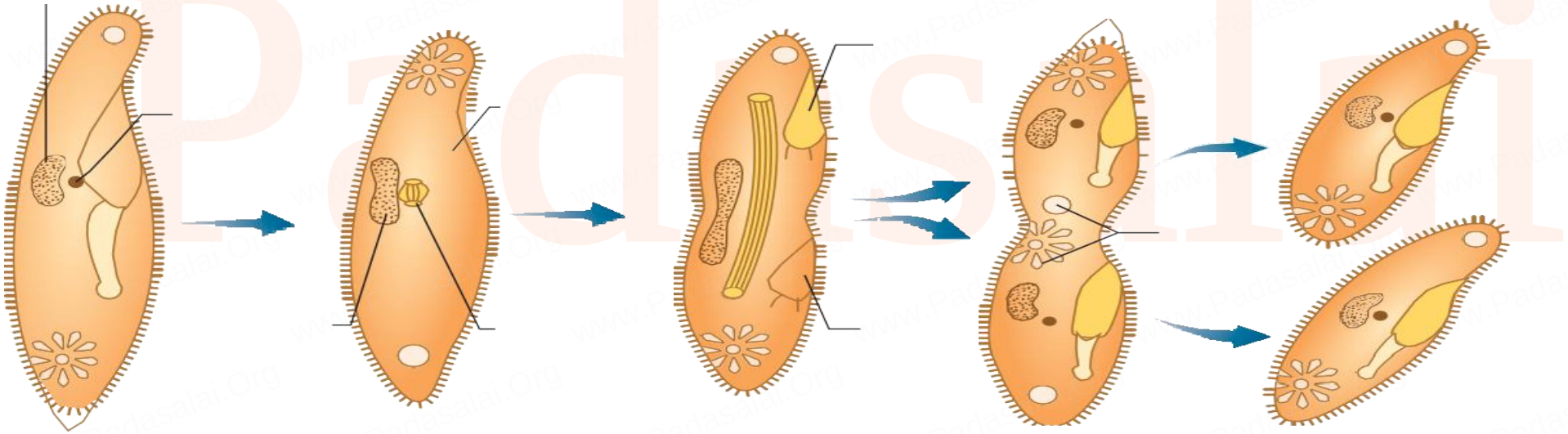


Fig. 1.2 Transverse binary fission in *Paramecium*

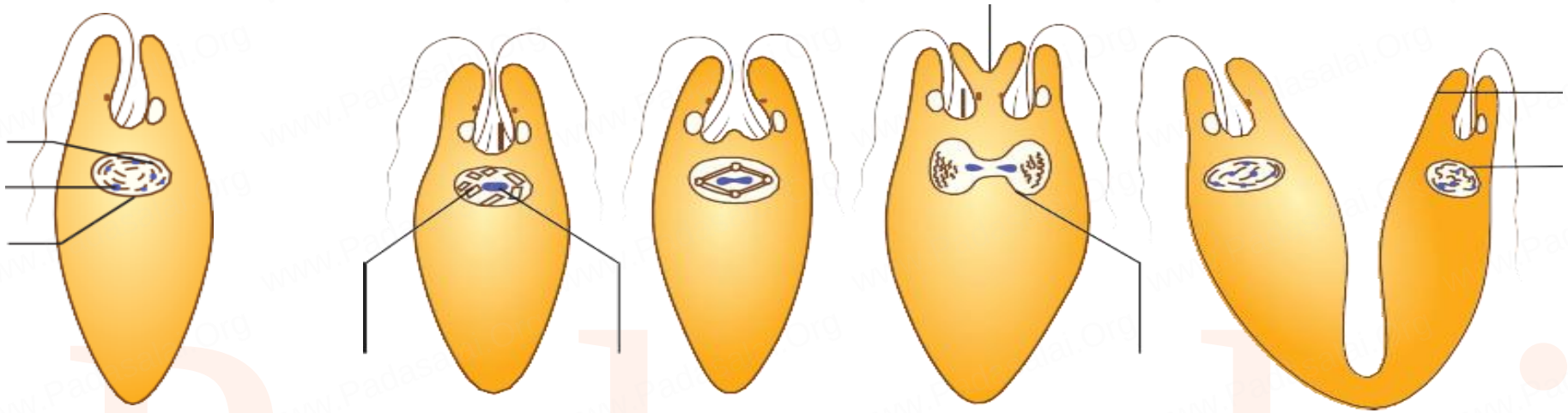


Fig. 1.3 Longitudinal binary fission in *Euglena*

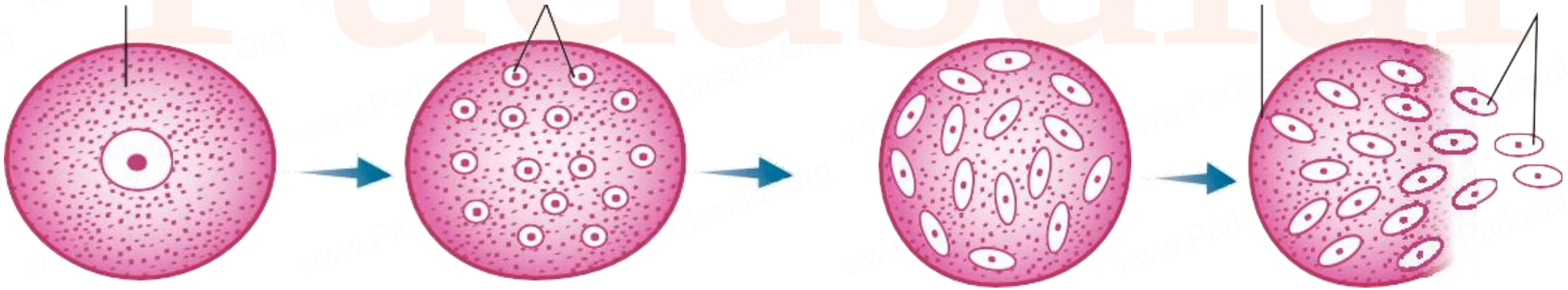


Fig. 1.4 Multiple Fission in *Plasmodium*

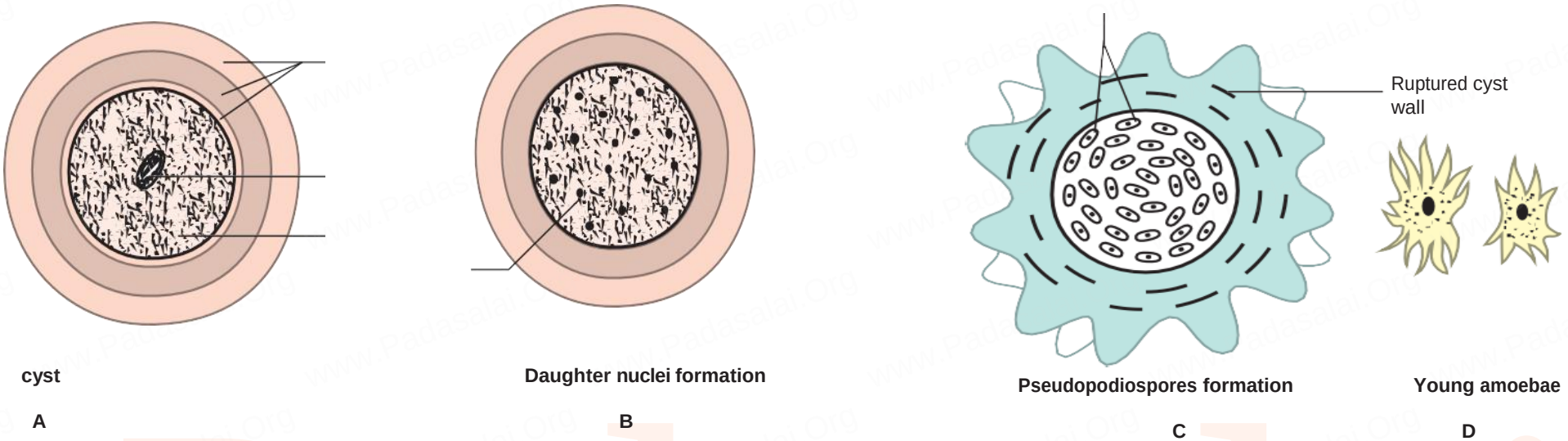


Fig. 1.5 Multiple fission in encysted *Amoeba*

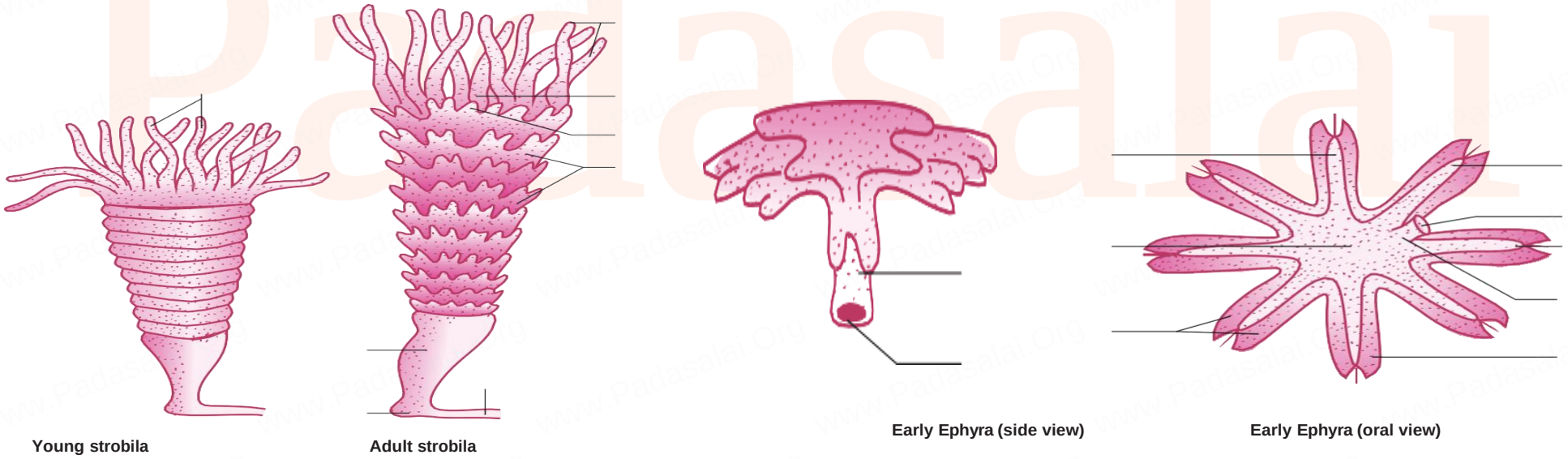


Fig. 1.6 Strobilation in *Aurelia*

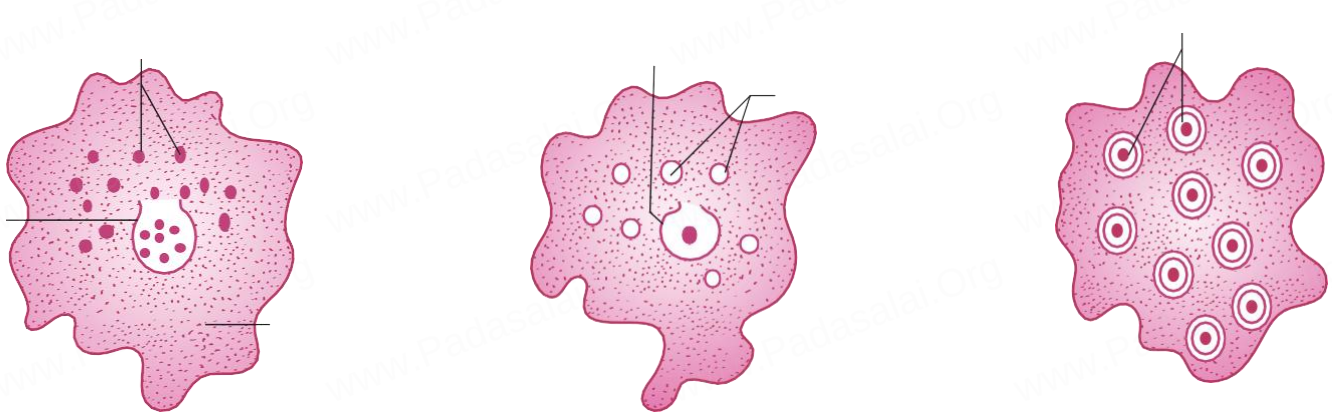


Fig. 1.7 Sporulation in *Amoeba*

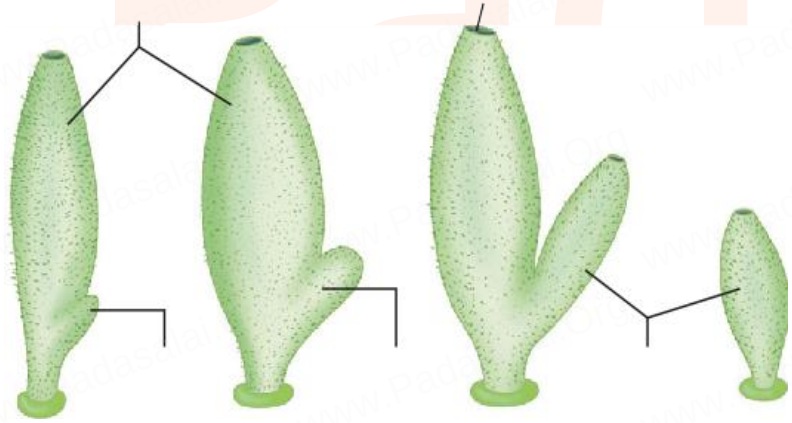


Fig. 1.8 Budding in *Leucosolenia* (Sponge)

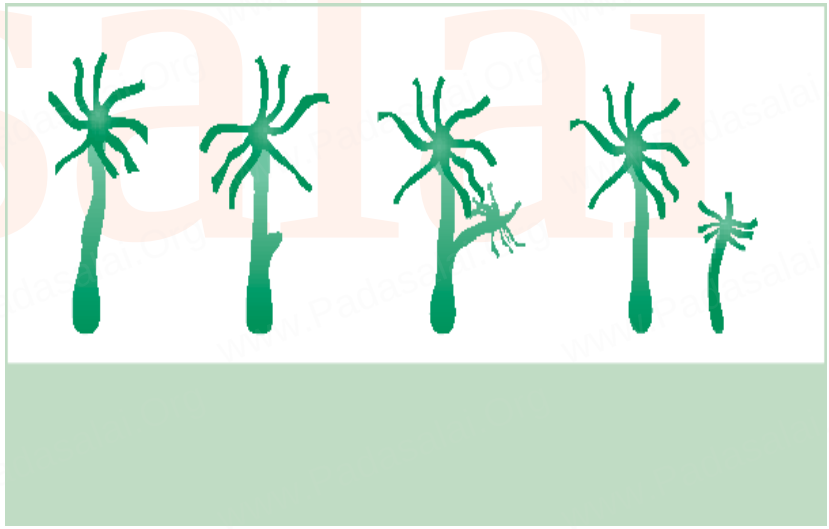


Fig. 1.9 Budding in *Hydra*

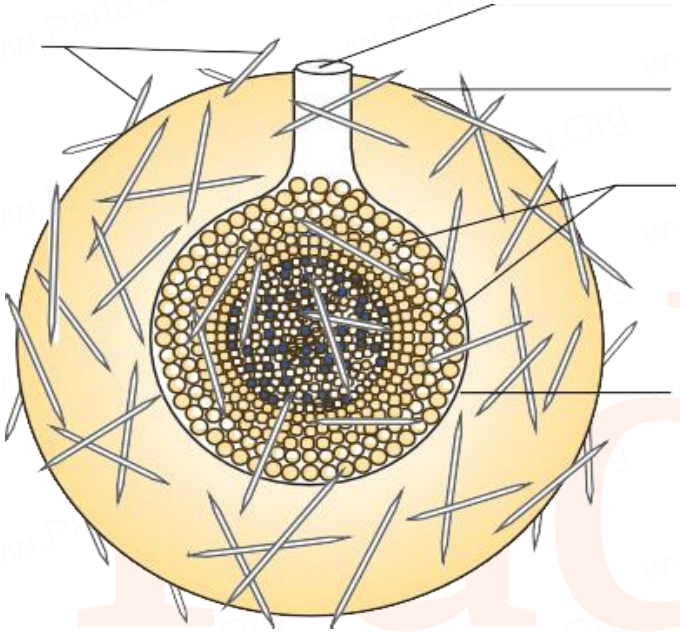


Fig. 1.10 Gemmule in *sponges*

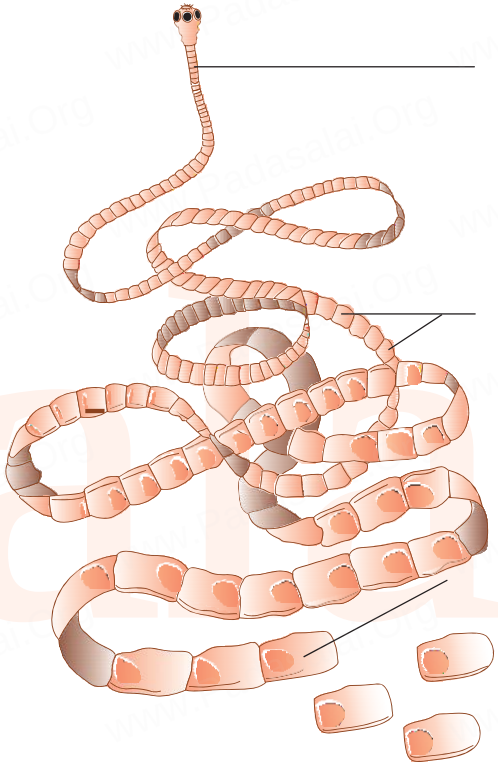


Fig. 1.11 Apolysis in *Taenia solium*

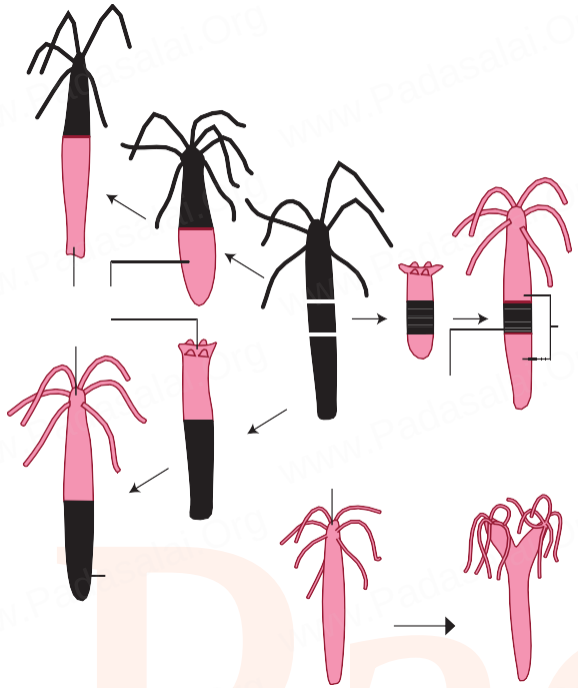


Fig. 1.12 Regeneration in *Hydra*

Fig. 1.13 Reparative regeneration in *star fish*

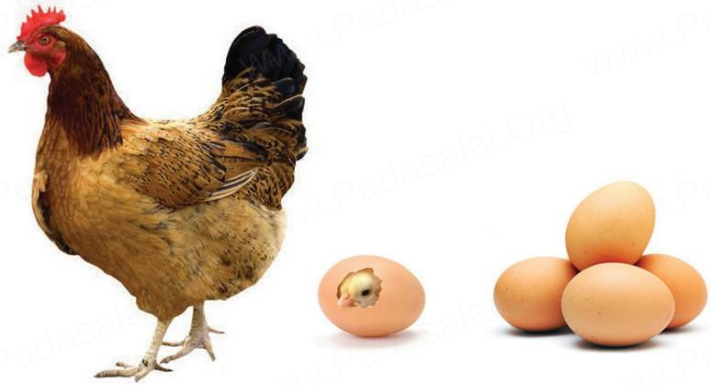


Fig. 1.14 Oviparous-Hen with Eggs

Fig. 1.15 Viviparous-Cow with calf

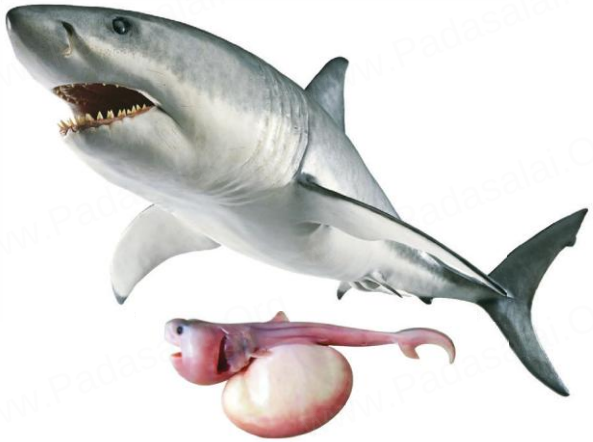


Fig. 1.16 Ovoviviparous-Shark and three months embryo

VIVIPAROUS LEMON SHARK

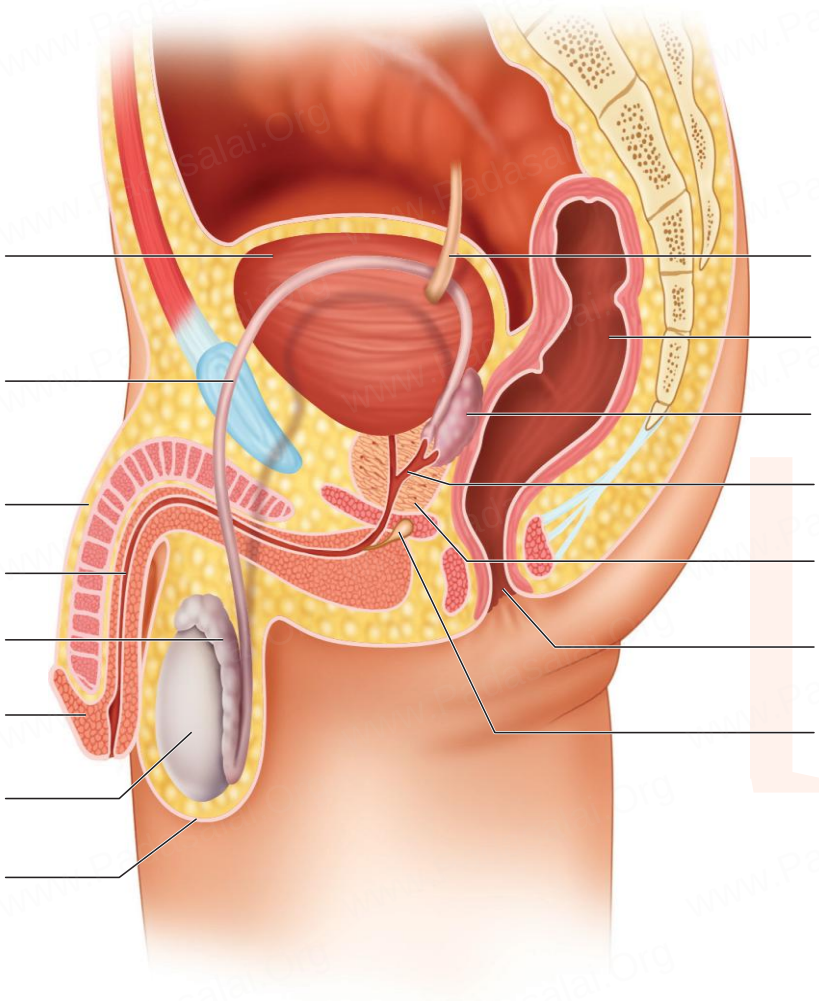


Fig. 2.1 Male reproductive system

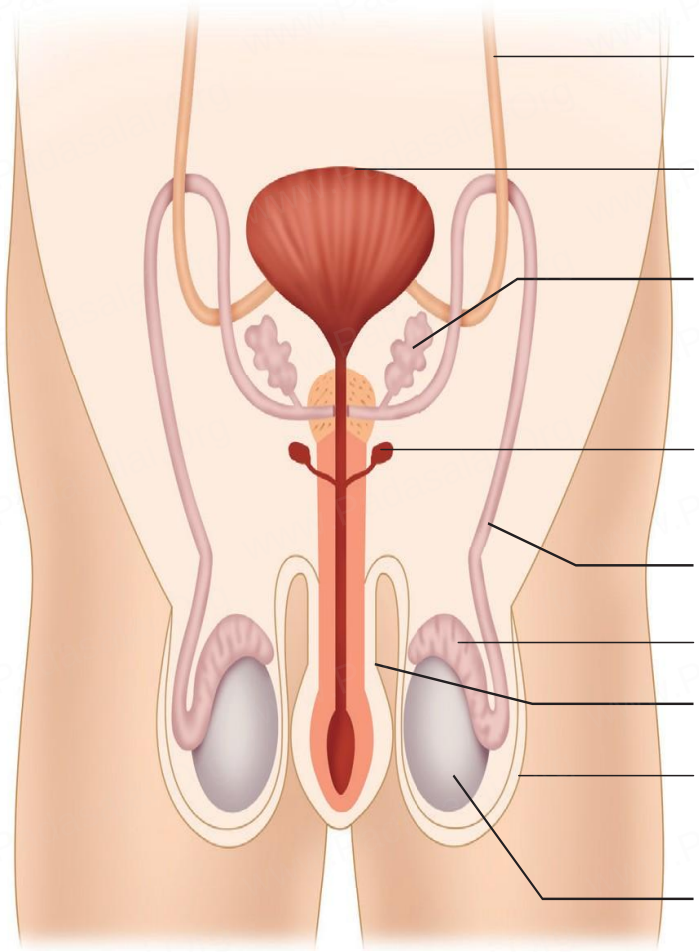


Fig. 2.2 (a)Diagrammatic view of the male reproductive system

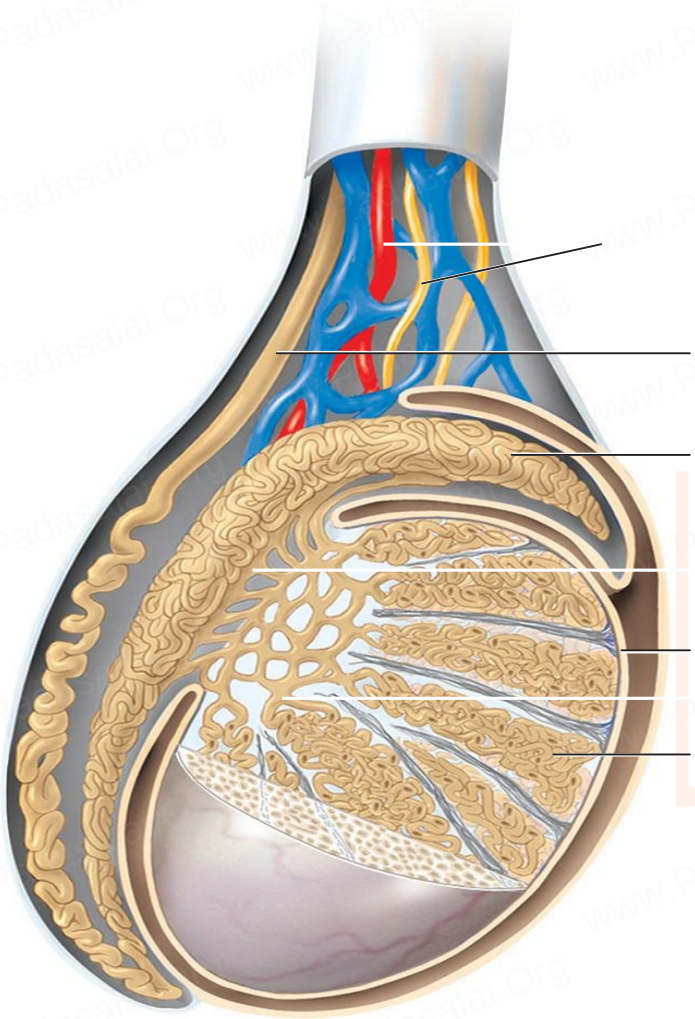


Fig. 2.2 (b)Testis showing inner details

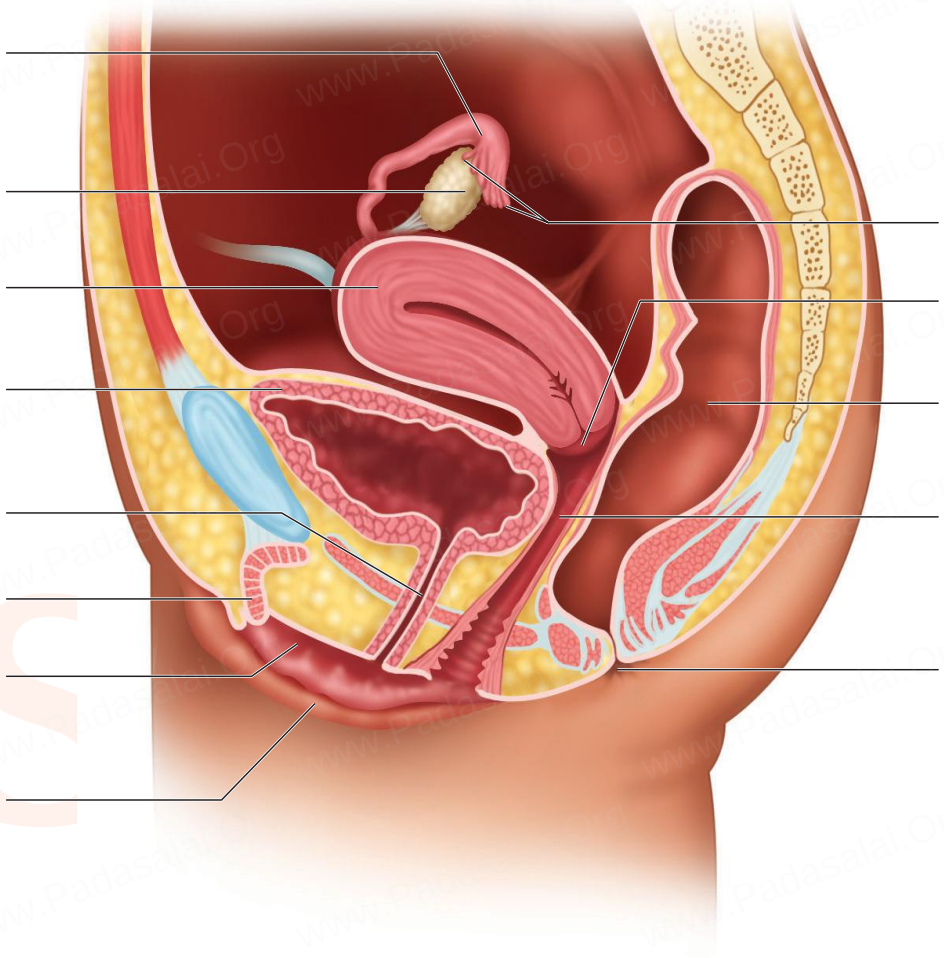


Fig. 2.3 (a) Female pelvis showing reproductive system

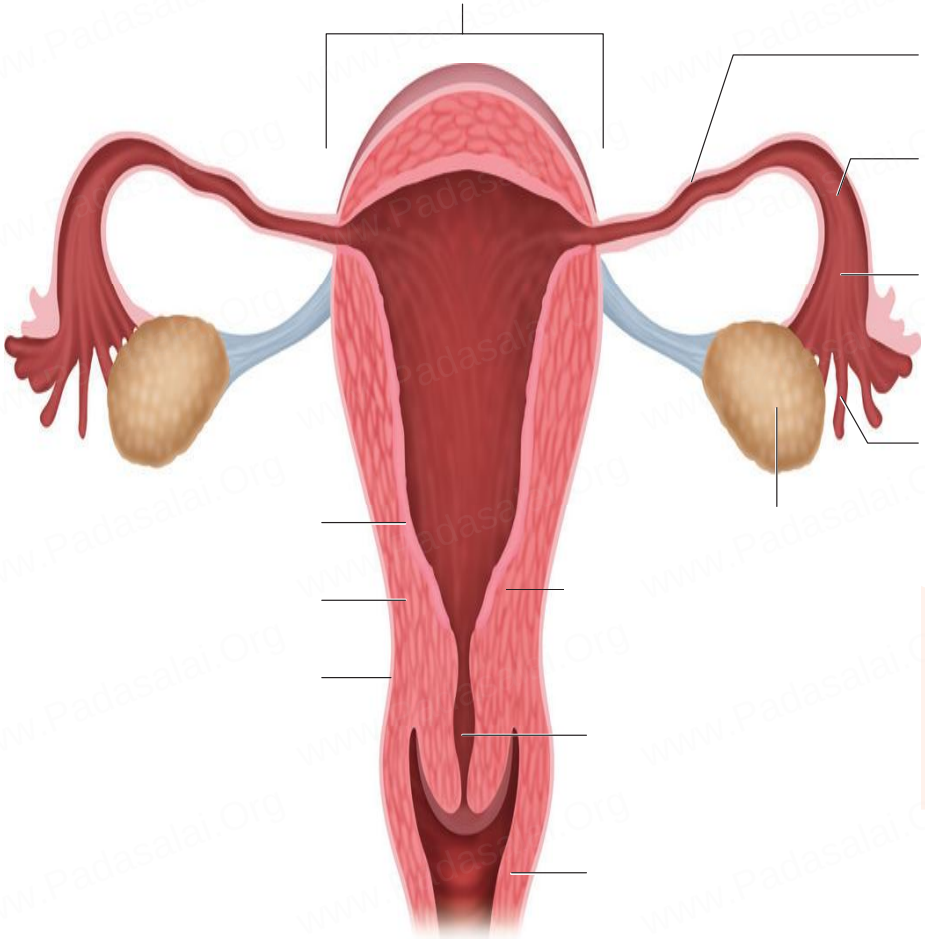


Fig. 2.3 (b) Diagrammatic view of female reproductive system

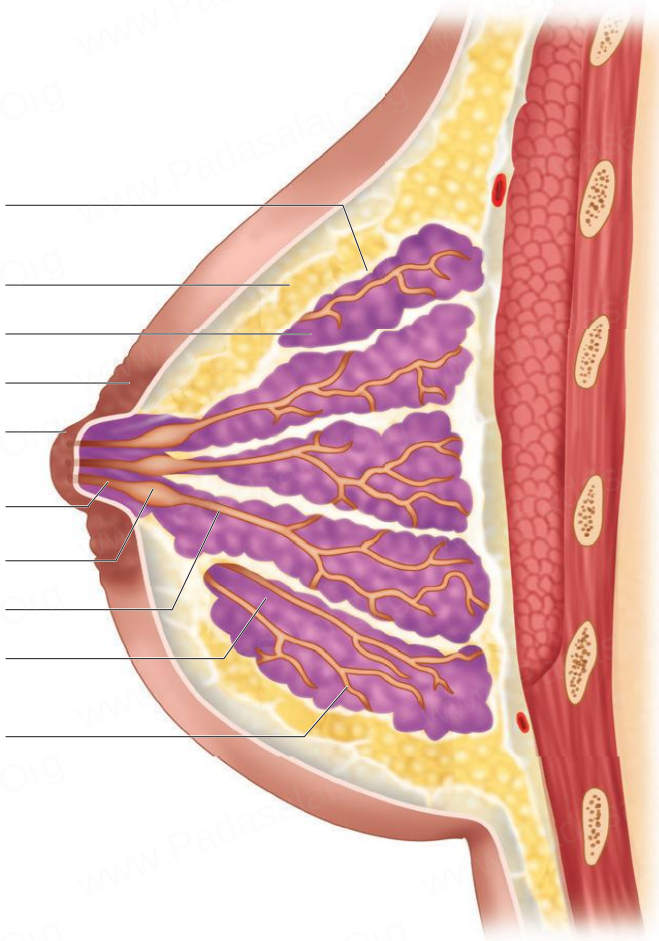


Fig. 2.4 Mammary gland

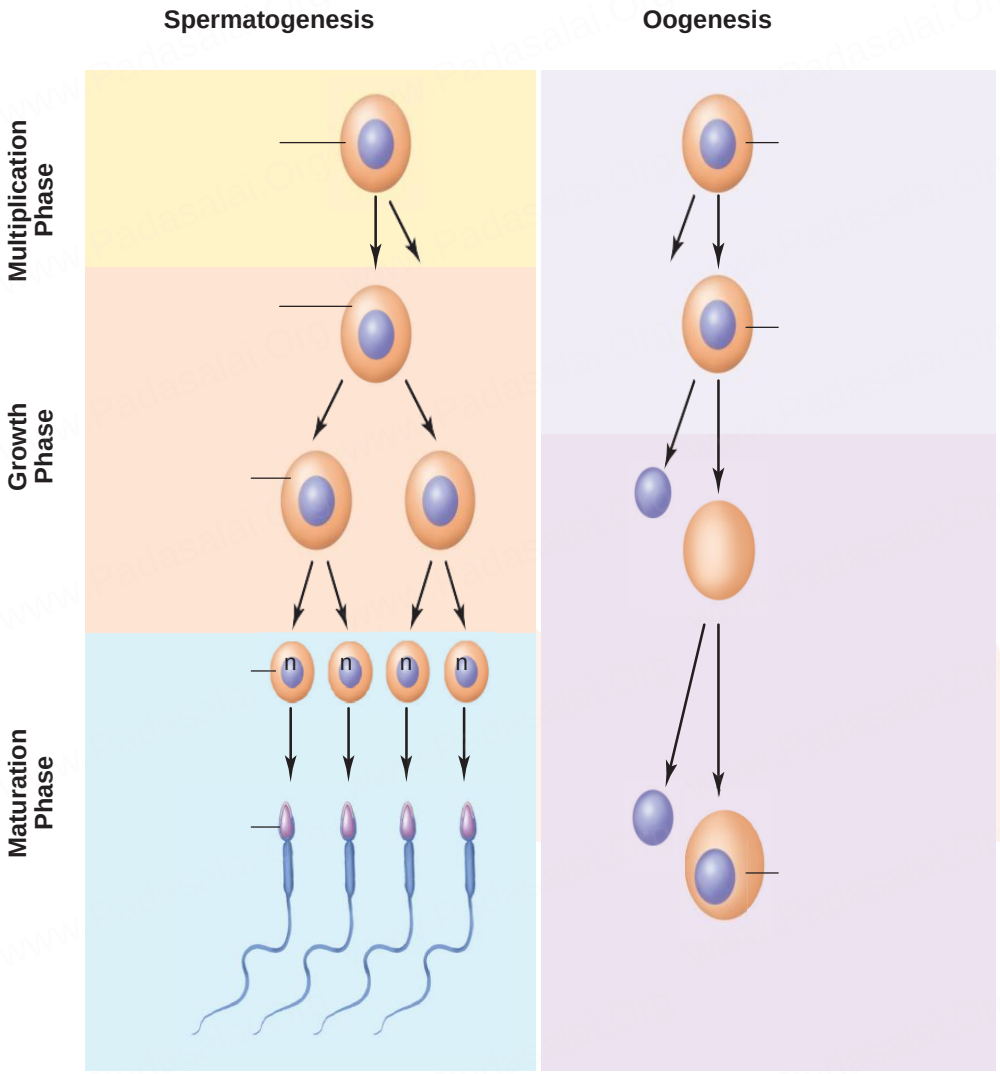


Fig. 2.5 Gametogenesis

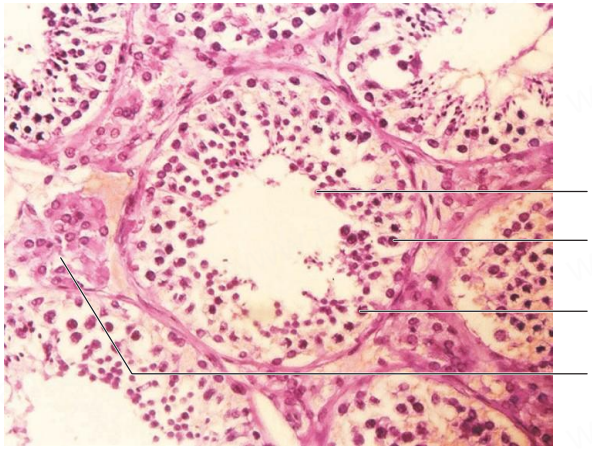


Fig. 2.6 (a) Cross sectional view of seminiferous tubule

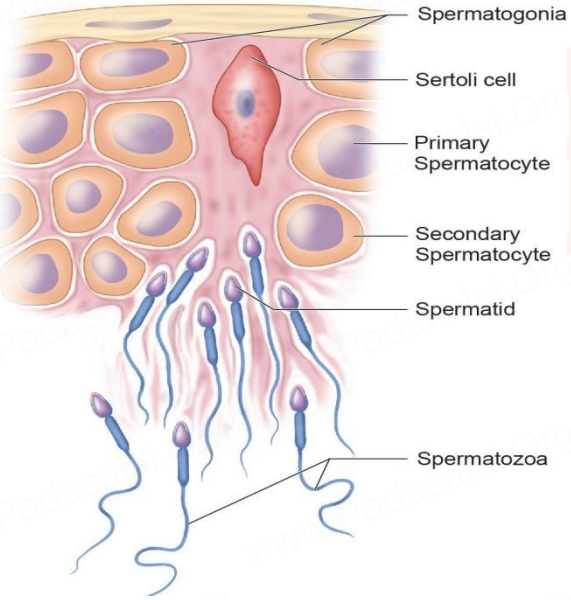


Fig. 2.6 (b) Seminiferous tubules (Enlarged)

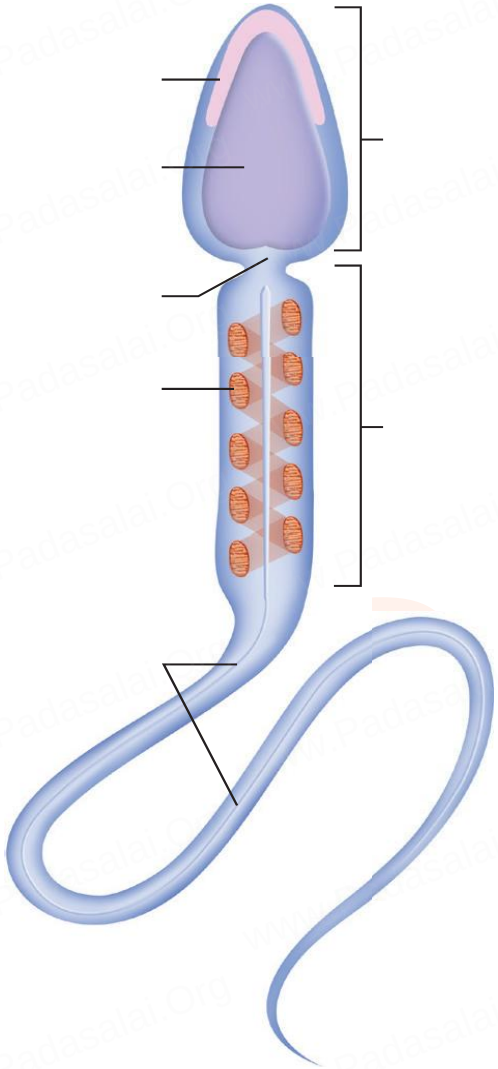


Fig. 2.7 Structure of human sperm

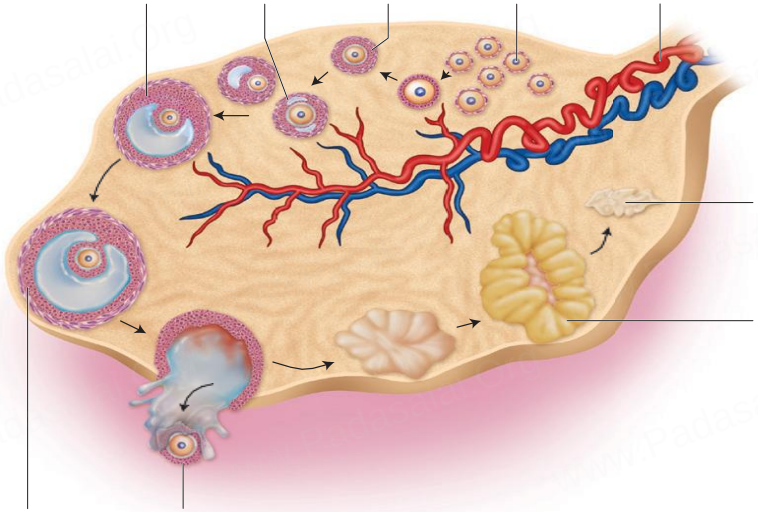


Fig. 2.8 (a) Sectional view of the ovary

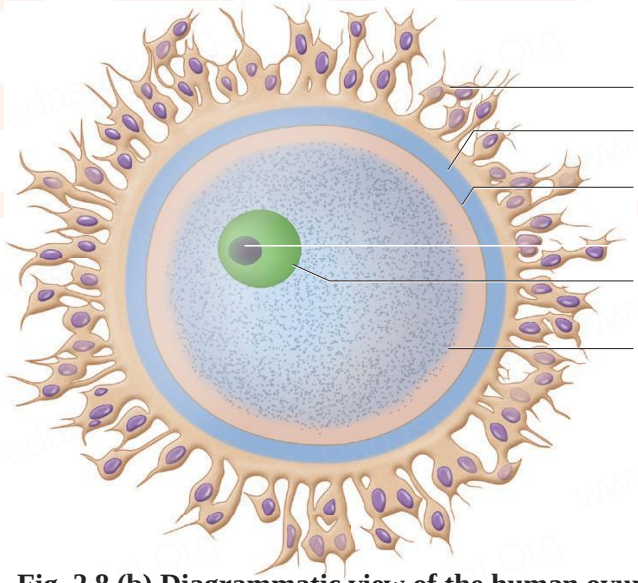


Fig. 2.8 (b) Diagrammatic view of the human ovum

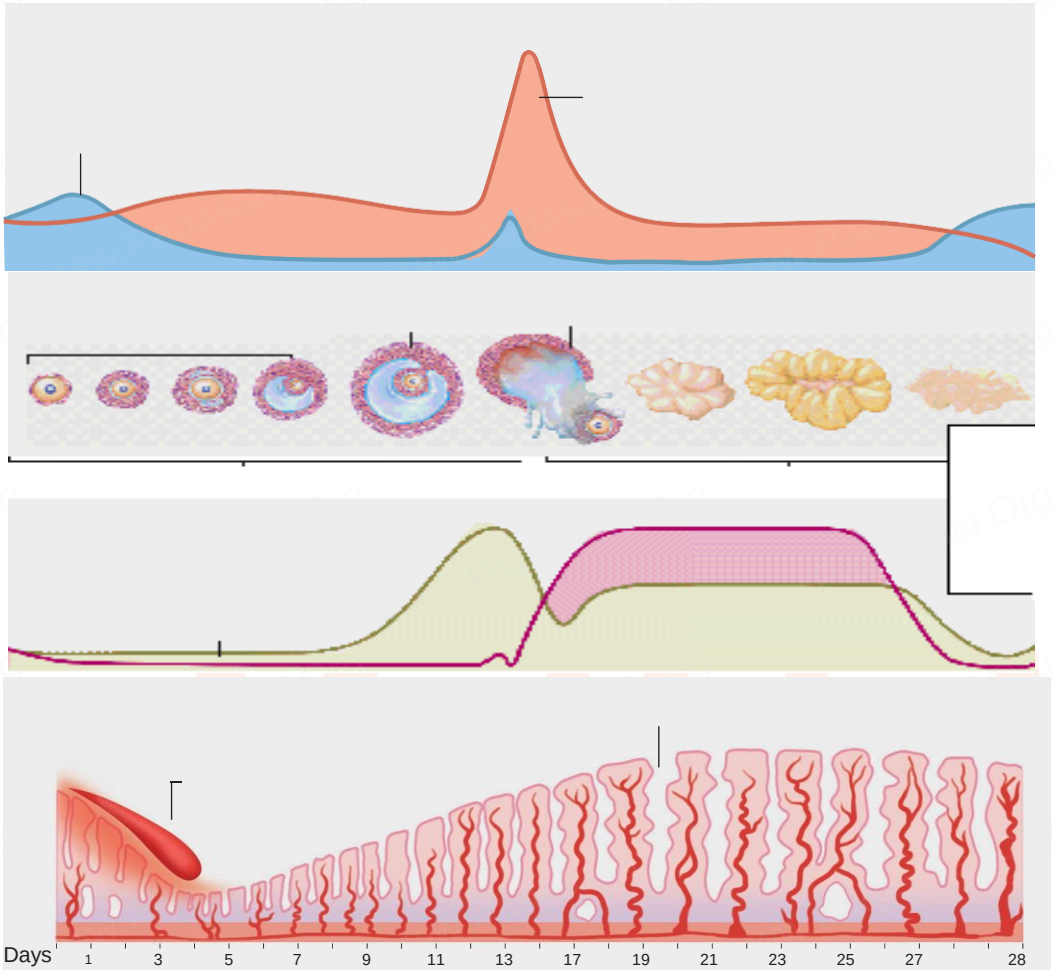


Fig. 2.9 Different phases of the menstrual cycle

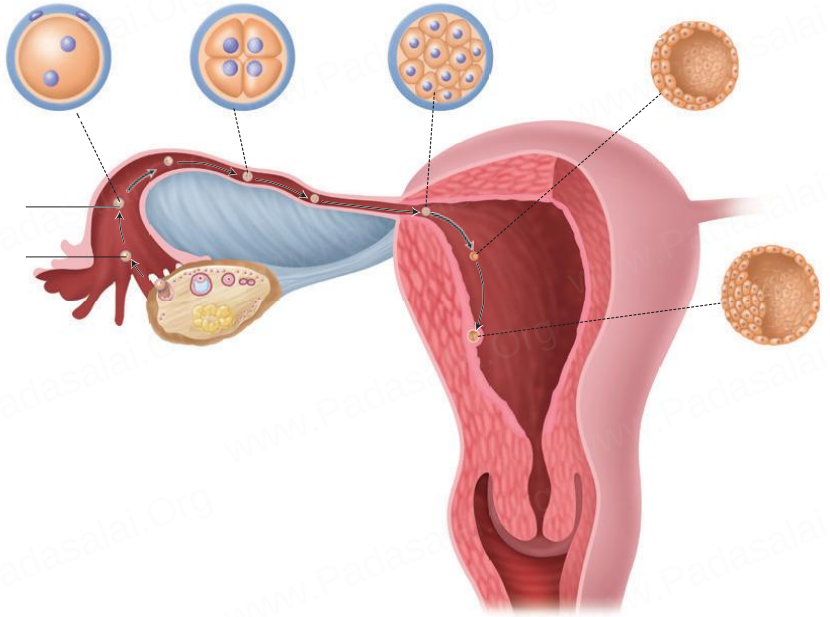


Fig. 2.11 From zygote to blastocyst : passage of growing embryo through the fallopian tube

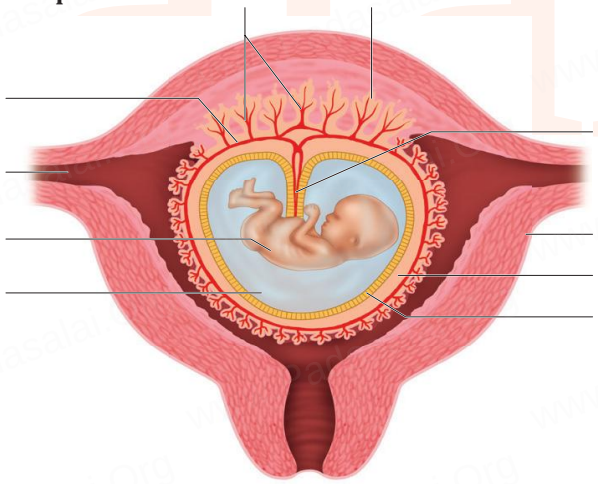


Fig. 2.12 Human foetus within the uterus

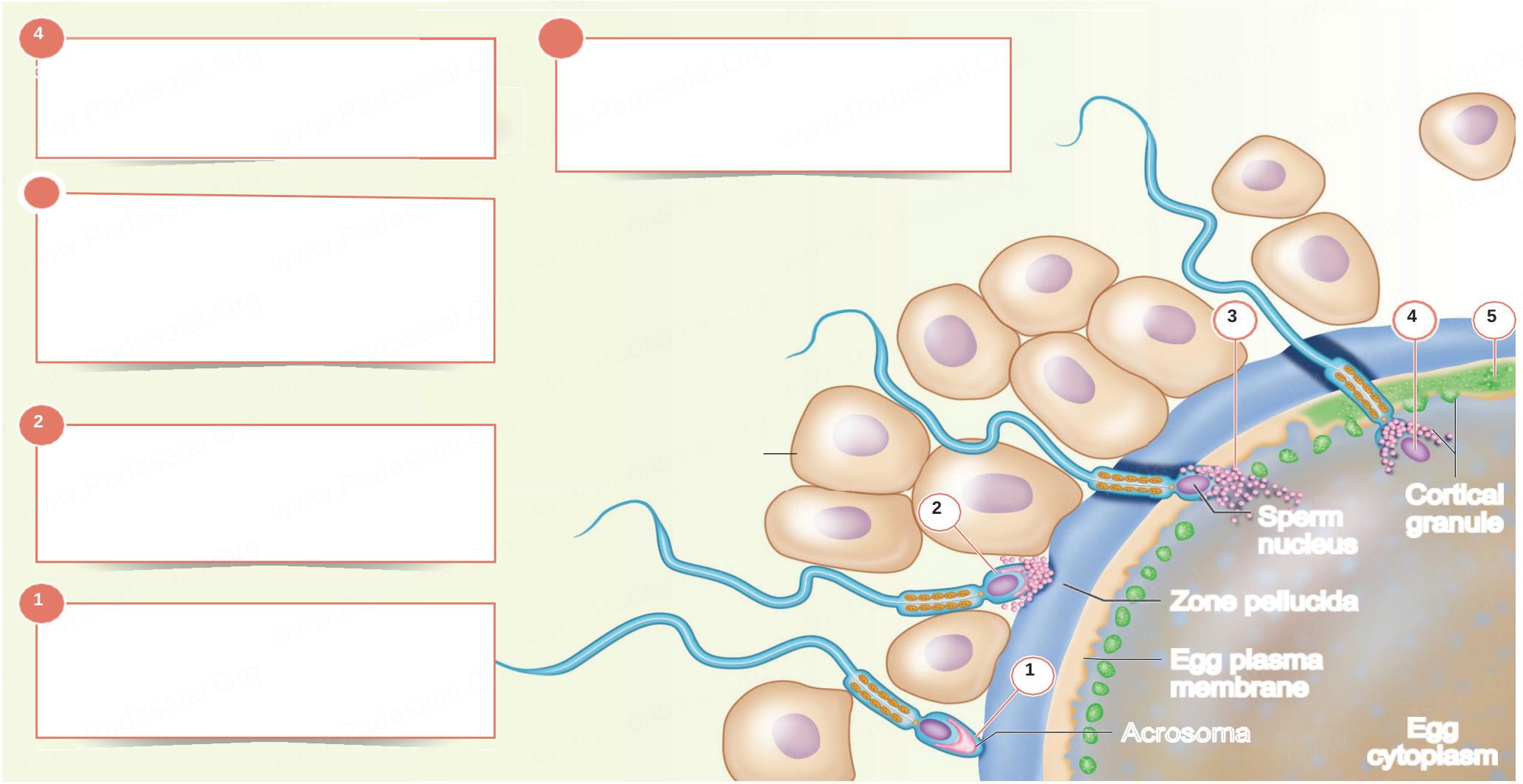
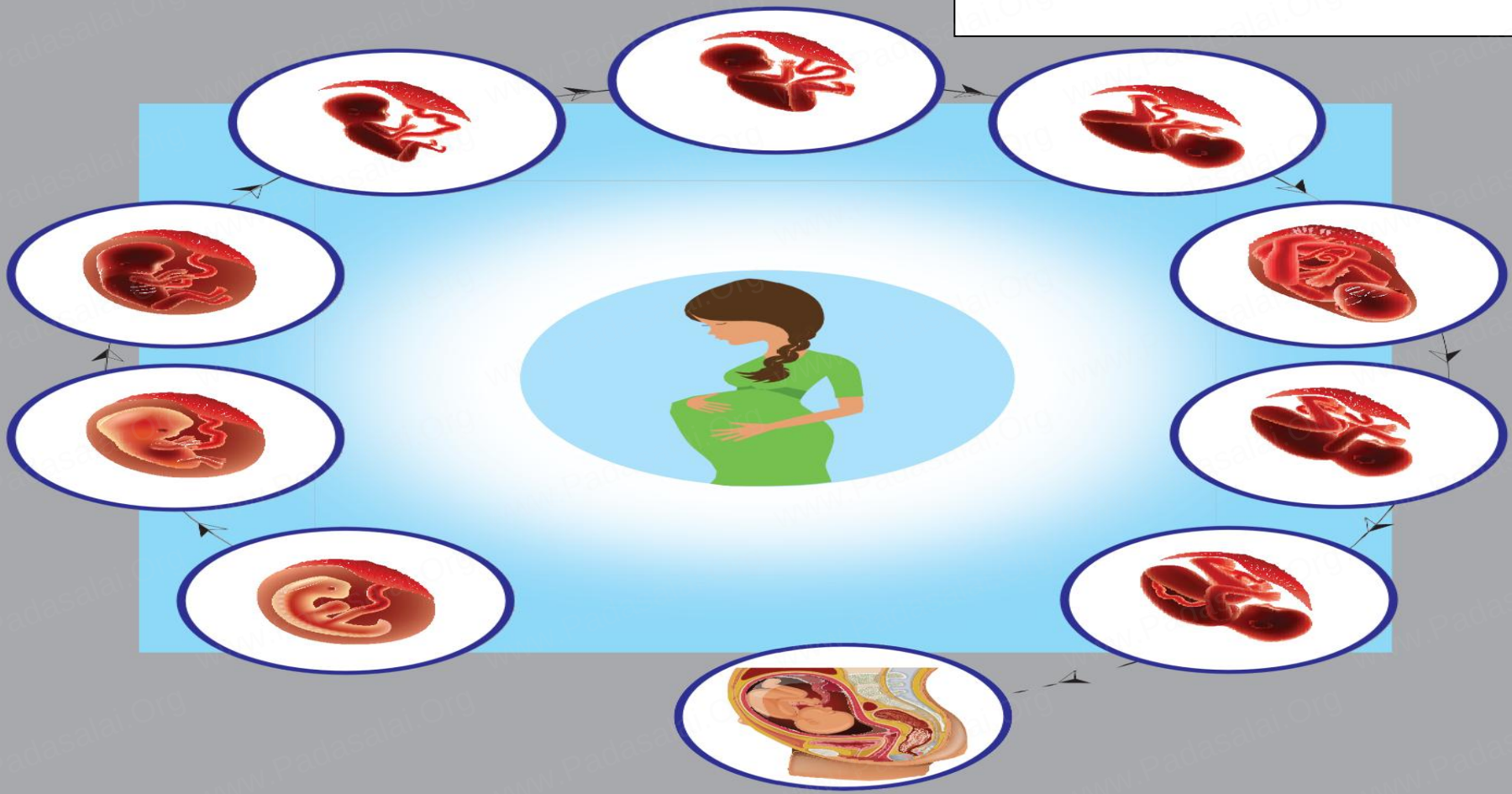


Fig. 2.10 Events of fertilisation

STAGES OF FOETAL DEVELOPMENT



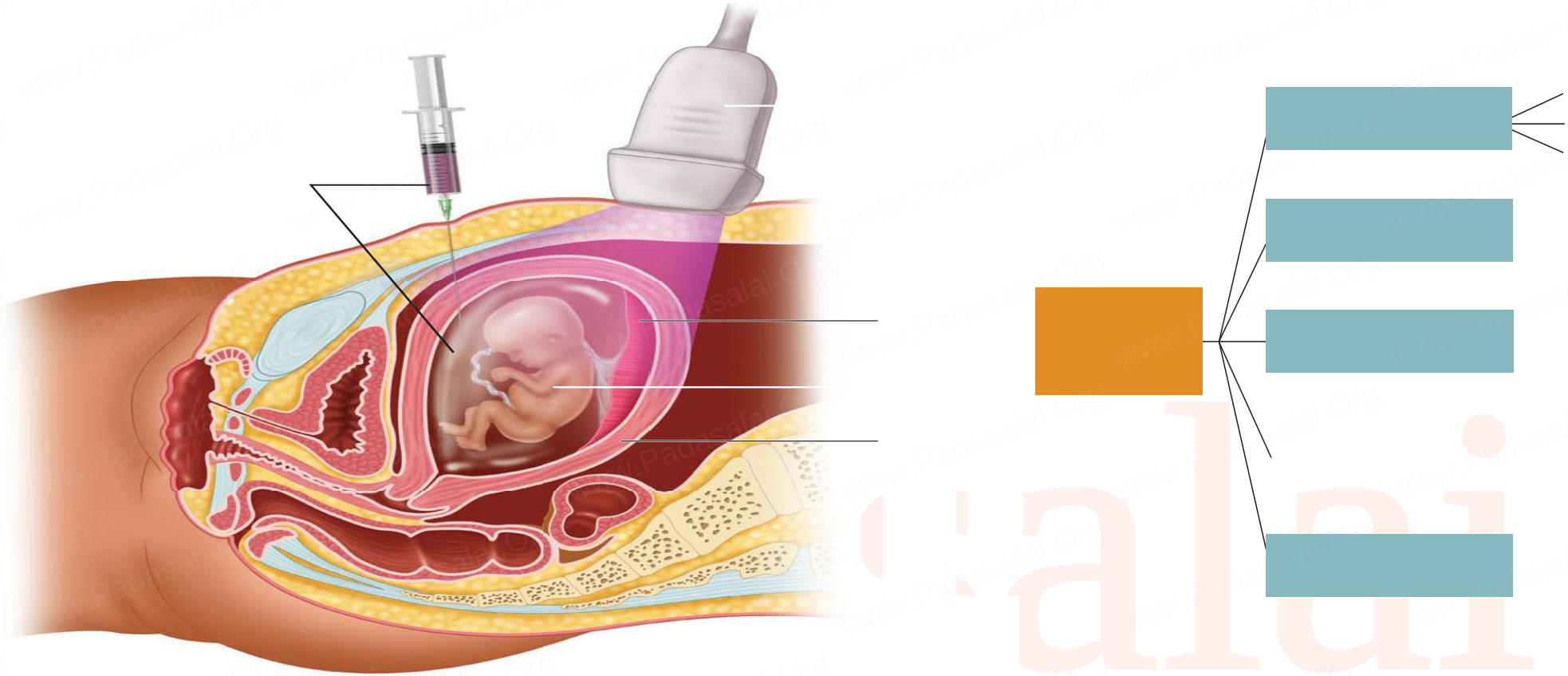


Fig. 3.1 Amniocentesis

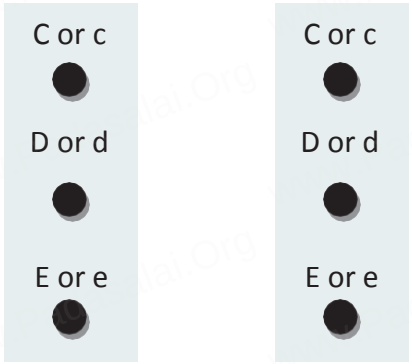


Fig. 4.1 Fischer and Race hypothesis – Rh Blood Type - Homologous Chromosome pair (showing 3 loci and 2 alleles per locus)

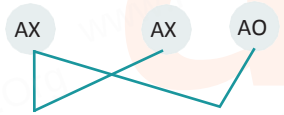


Fig. 4.2 XX-XO Type of sex determination

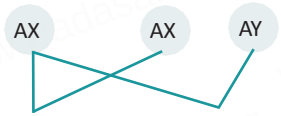


Fig. 4.3 XX-XY Type of sex determination

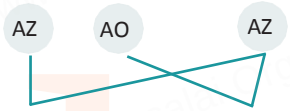


Fig. 4.4 ZO-ZZ type of sex determination

Fig. 4.5 ZW-ZZ type of sex determination

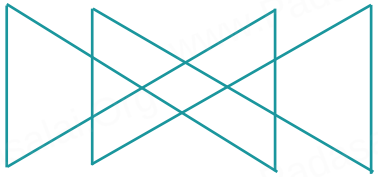
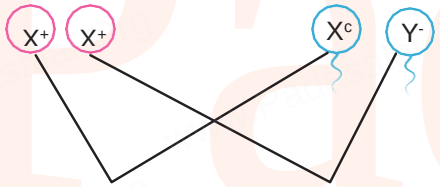


Fig. 4.6 Sex determination in human beings



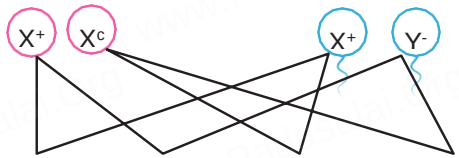
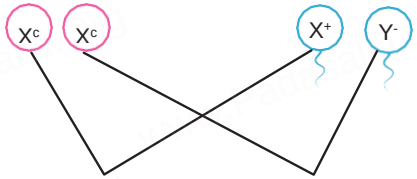


Fig. 4.7 Marriage between colour blind man and normal visioned woman



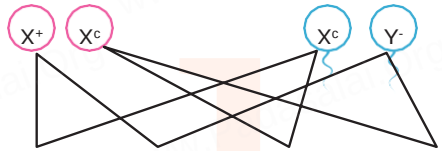


Fig. 4.8 Marriage between normal visioned man and colour blind woman

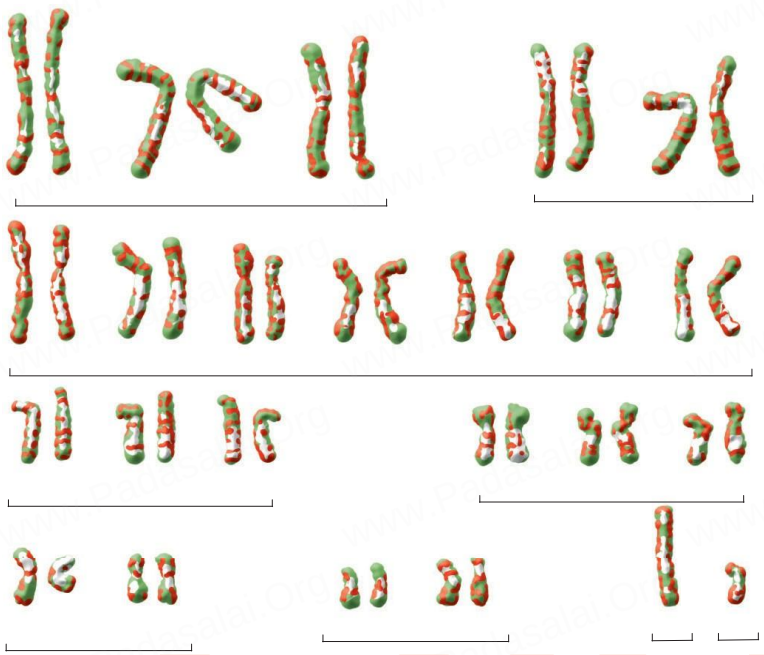


Fig. 4.9 - Human karyotype (male)

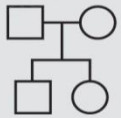
Symbol	Explanation	Symbol	Explanation
□	Male	♂ ♀	Affected individuals
○	Female	♂ ♀	Heterozygotes for autosomal recessives
□—○	Mating	♀	Carrier of sex-linked recessives
	Parents and children (1 boy: 1 girl in order of birth)	⊘	Death
	Dizygotic twins		Abortion or still birth (sex unspecified)
	Monozygotic twins	■	Propositus (proband)
◇	Sex unspecified	I II 1 2 3	Method of identifying persons in a pedigree : here the propositus in child 2 in generation 2 or II 2
2 ③	Number of children of sex indicated	□—○	Consanguineous marriage

Fig. 4.10 Symbols commonly used in pedigree charts

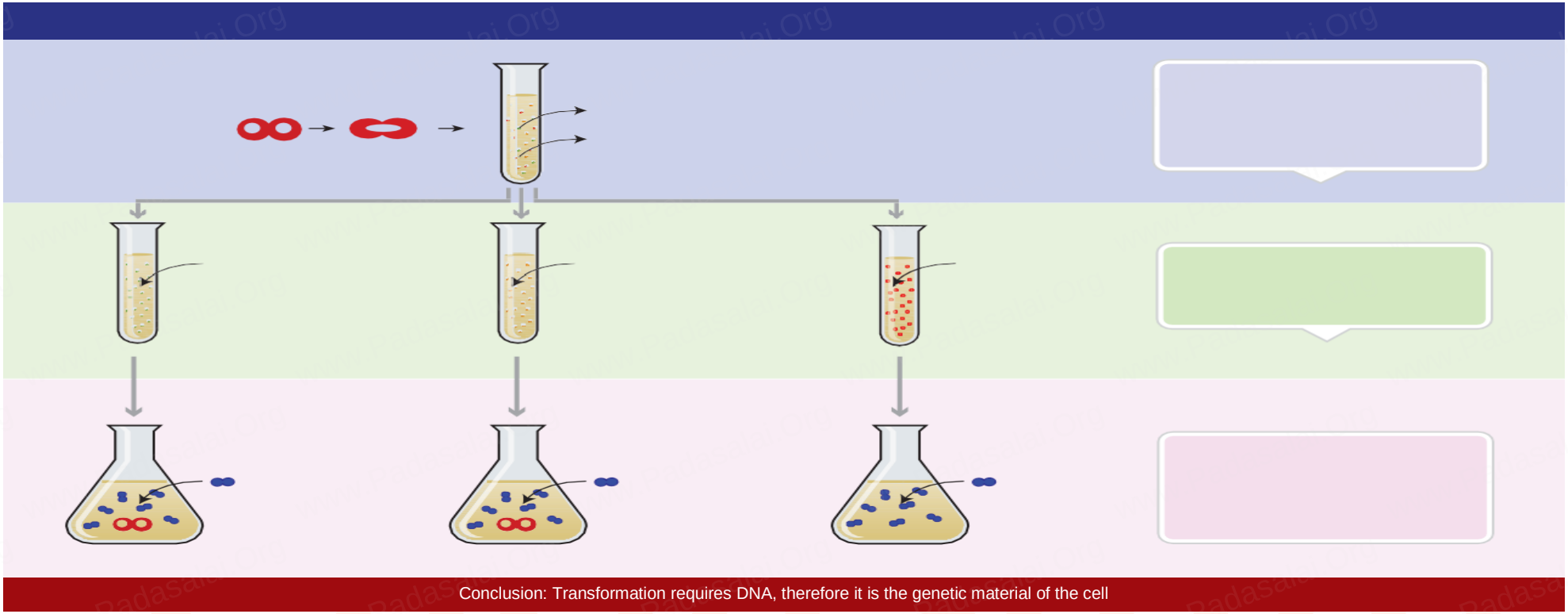
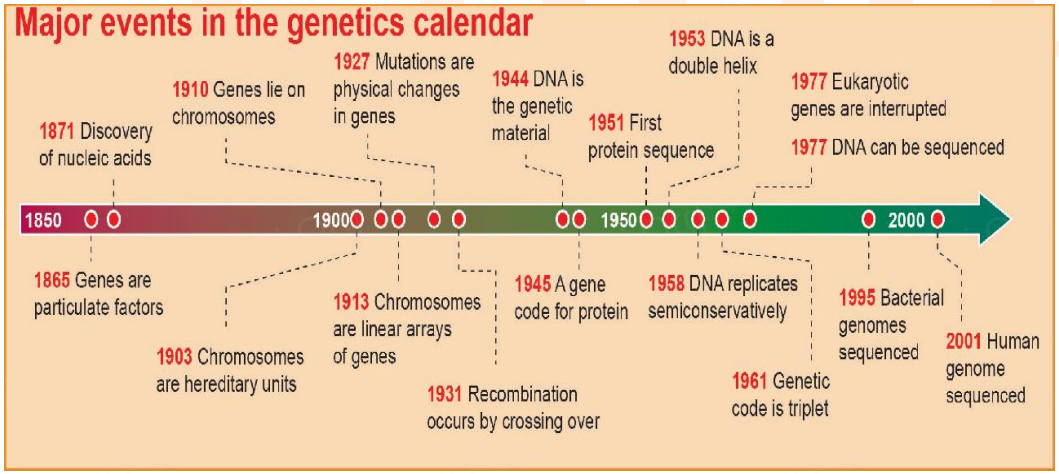


Fig. 5.1 Transformation experiment of Avery et. al., (1944)



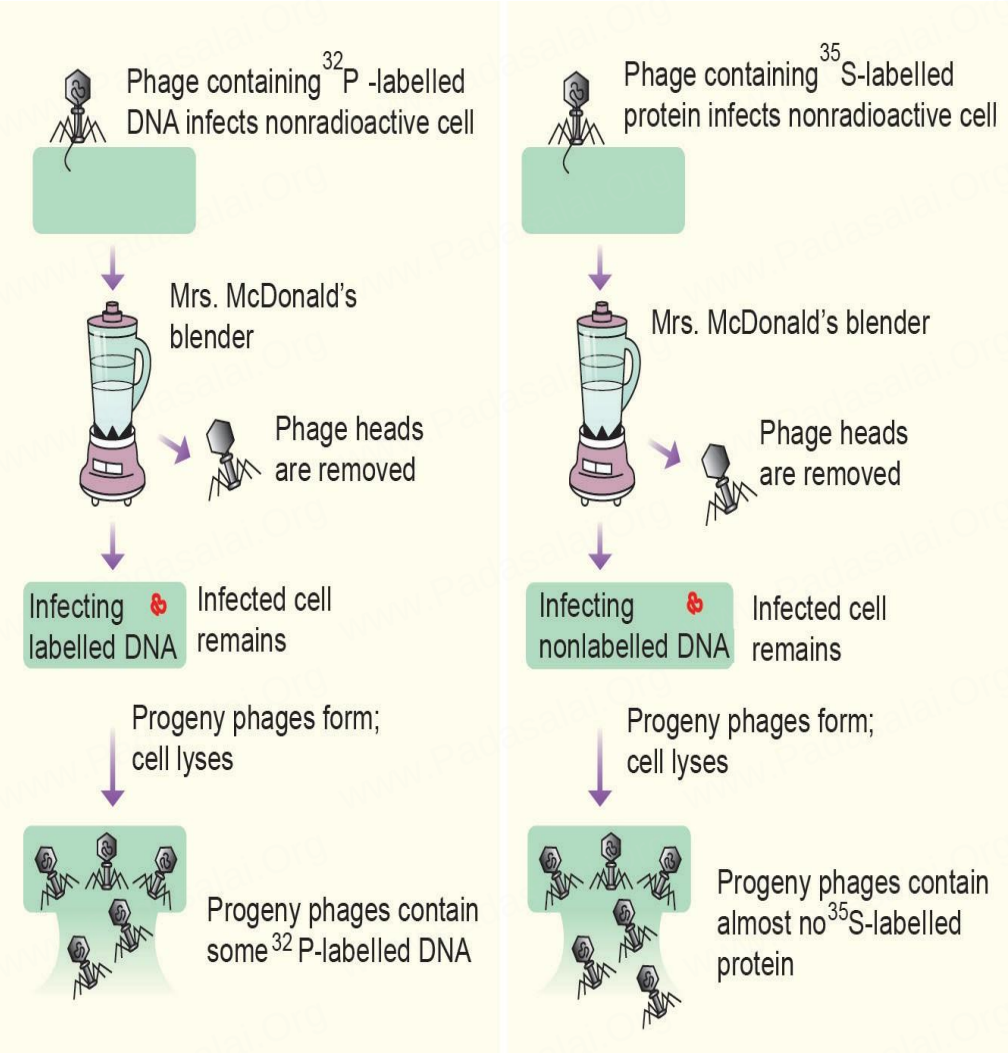


Fig. 5.2 The Hershey-Chase (blender) experiment

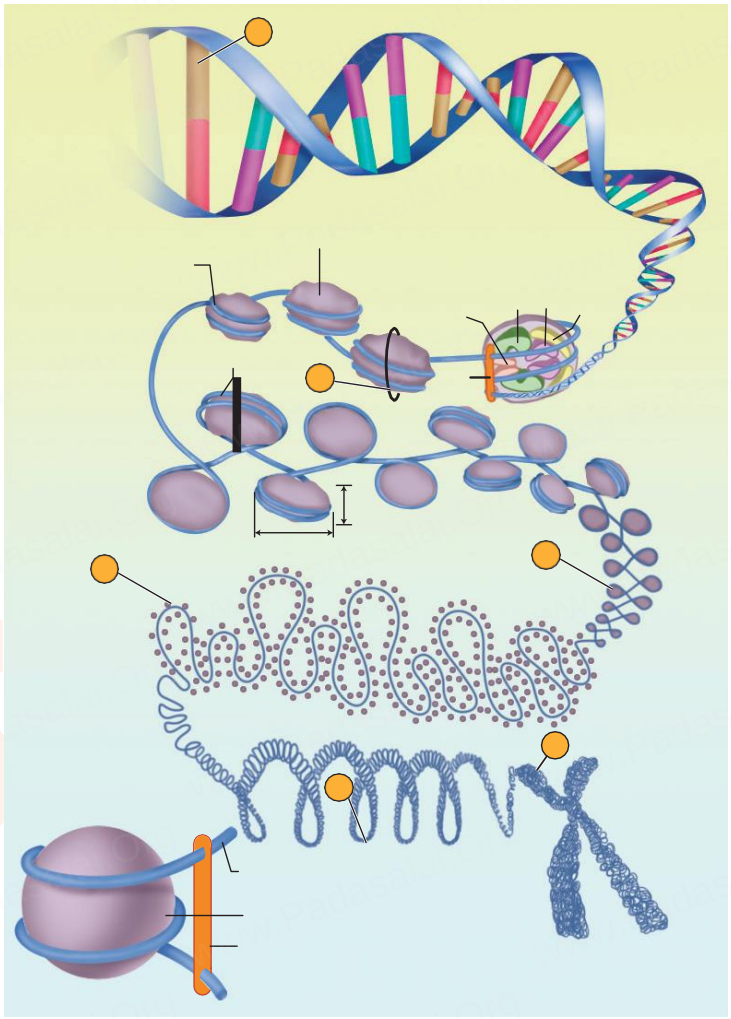


Fig. 5.3 Condensation of DNA - A - DNA, B-Nucleosomes *and Histones, C- Chromatin fiber, D- Coiled chromatin fiber, E- Coiled coil, F- metaphase chromatid*

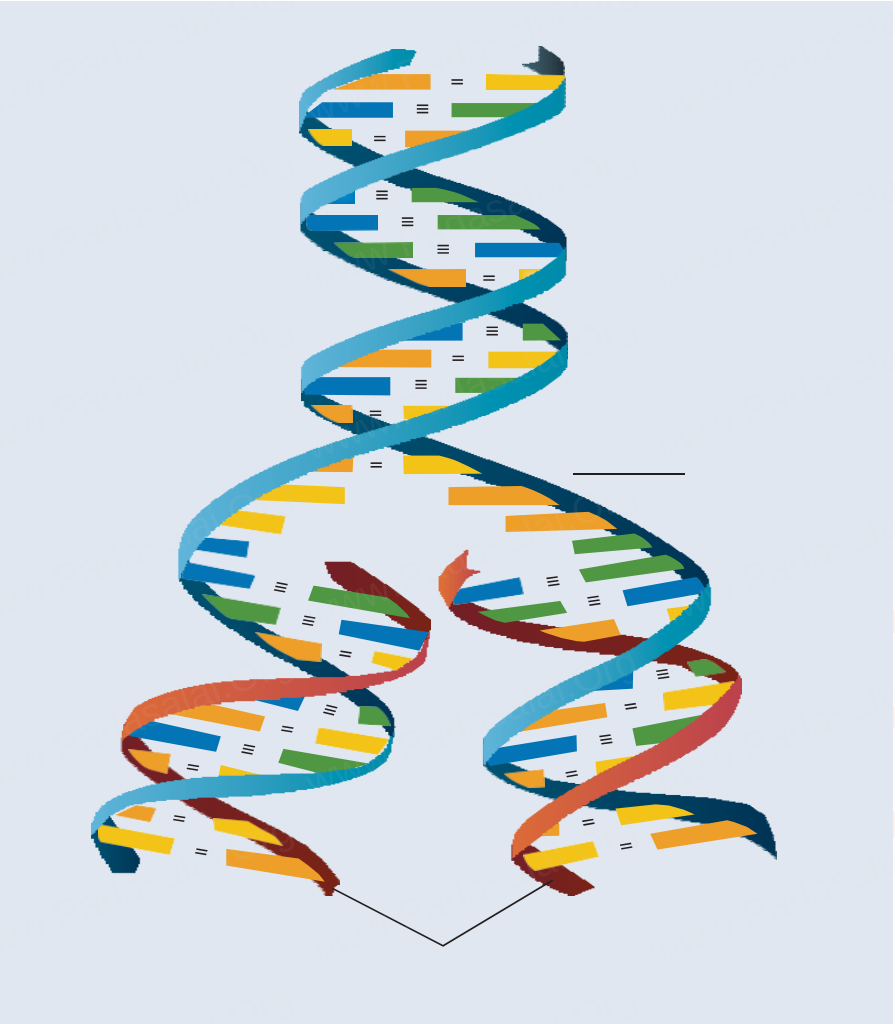


Fig. 5.4 Semiconservative DNA replication

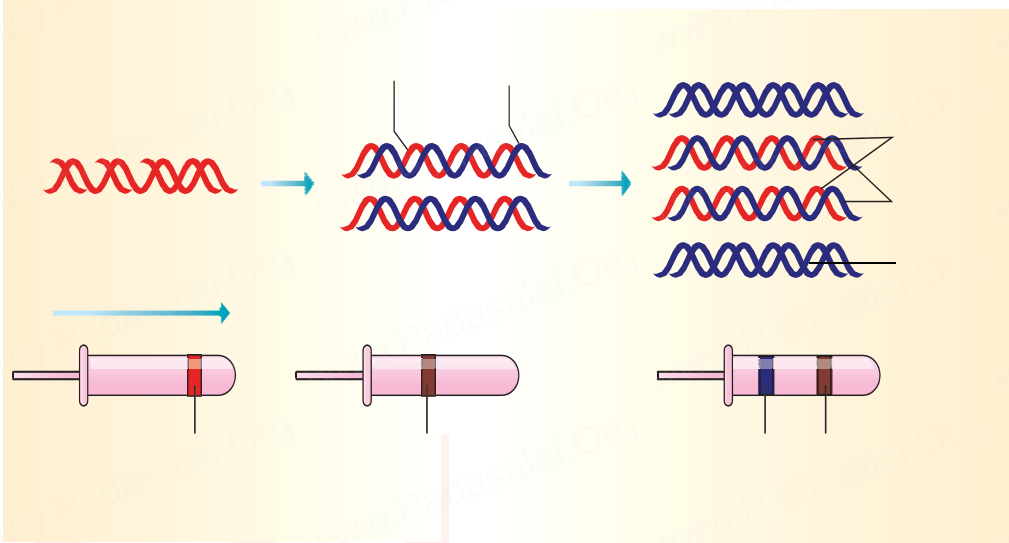


Fig. 5.5 Meselson and Stahl experiment to support semiconservative mode of DNAreplication

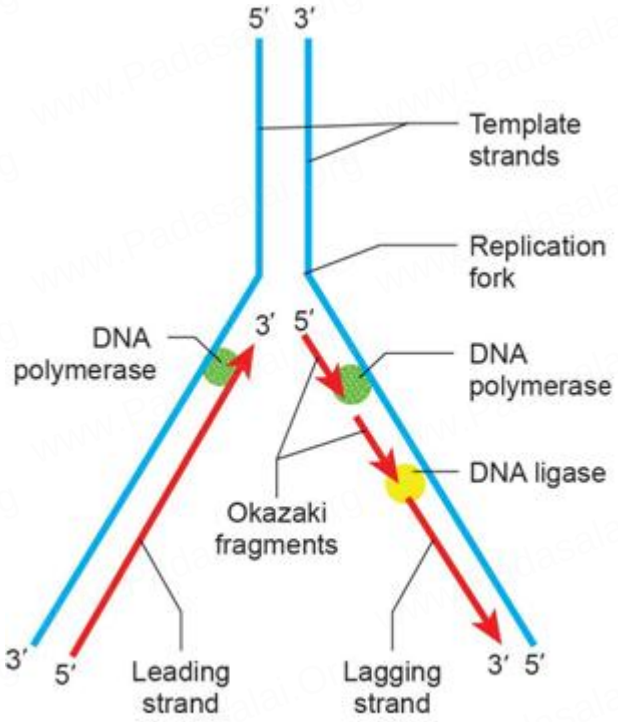
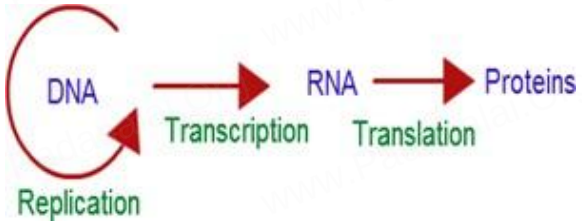


Fig 5.6 Mechanism of replication showing a replication fork



CENTRAL DOGMA

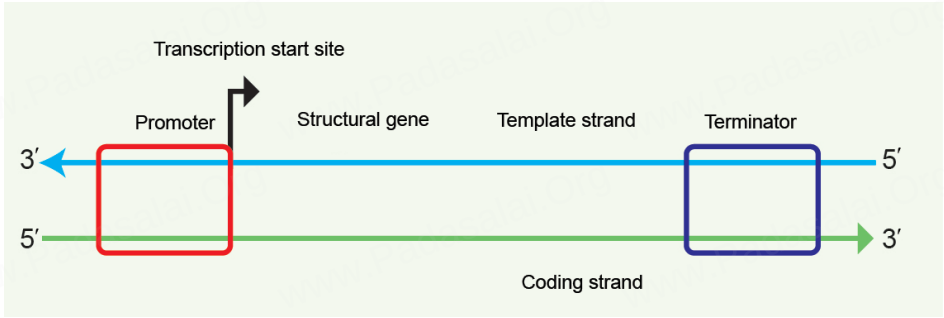


Fig. 5. 7 Schematic structure of a transcription unit

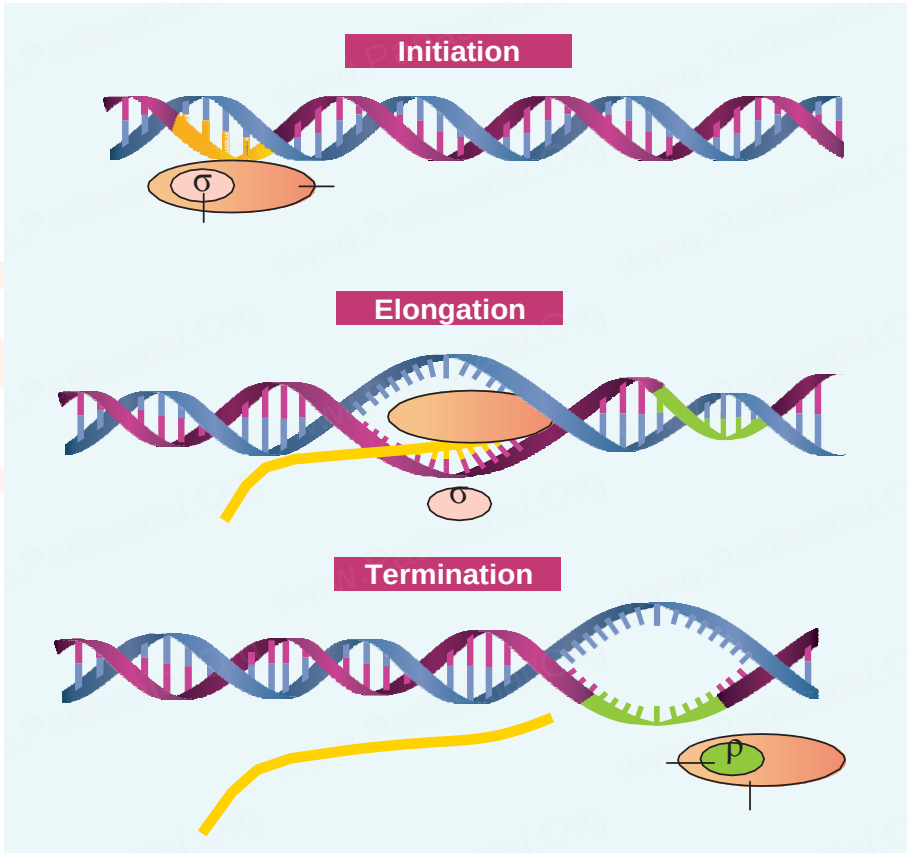


Fig. 5. 8 Process of transcription in prokaryotes

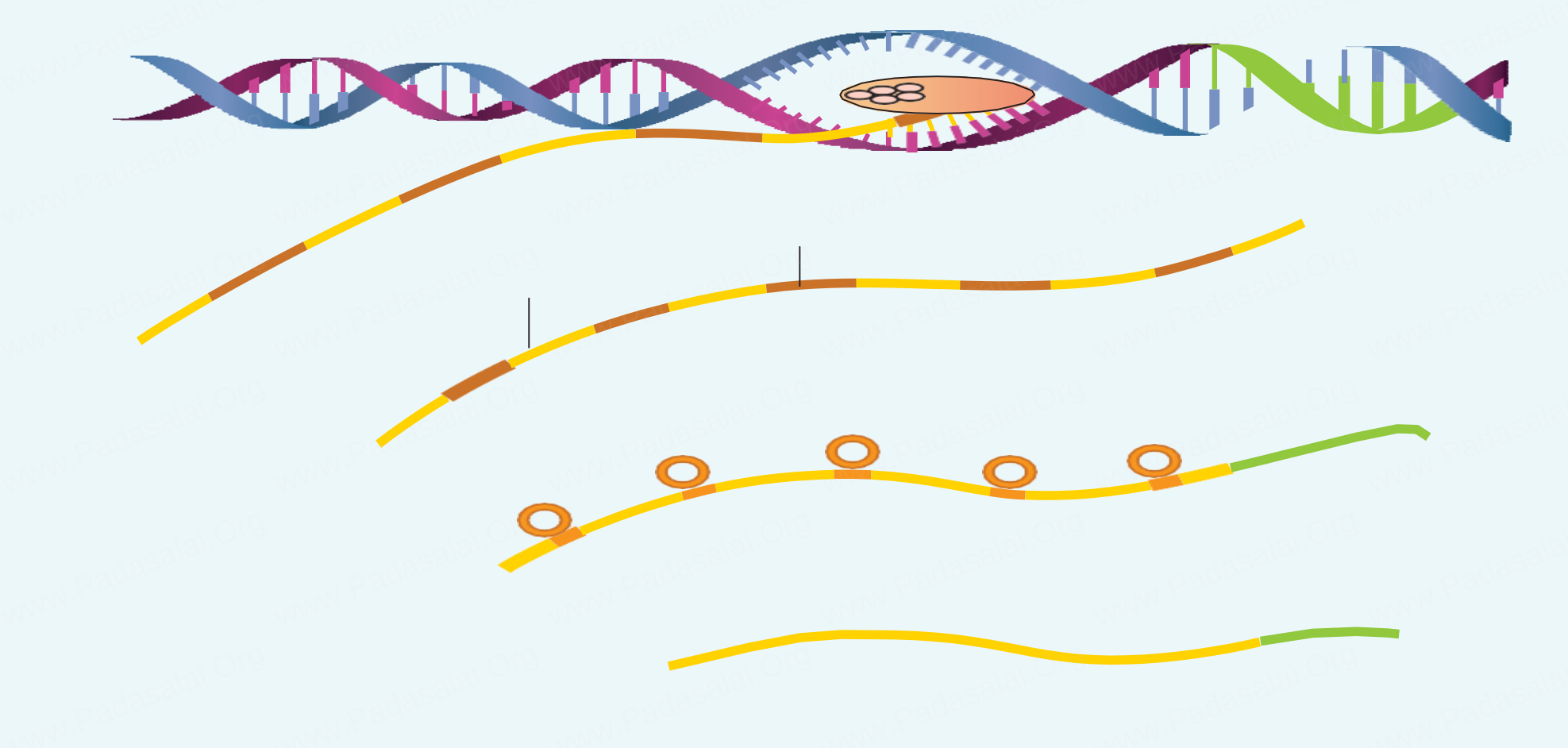


Fig. 5.9 Process of transcription in eukaryotes

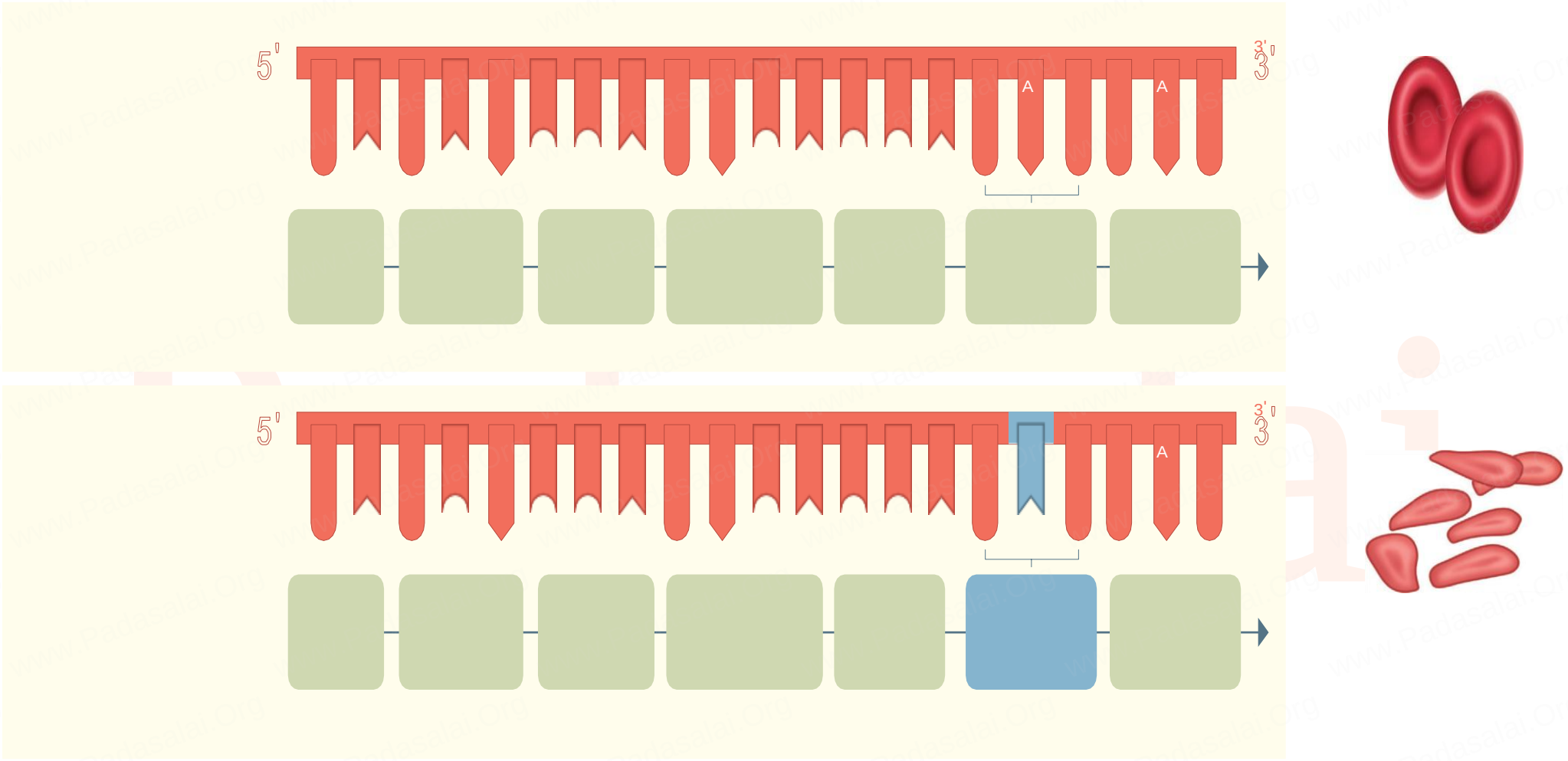


Fig. 5. 10 DNA point mutation

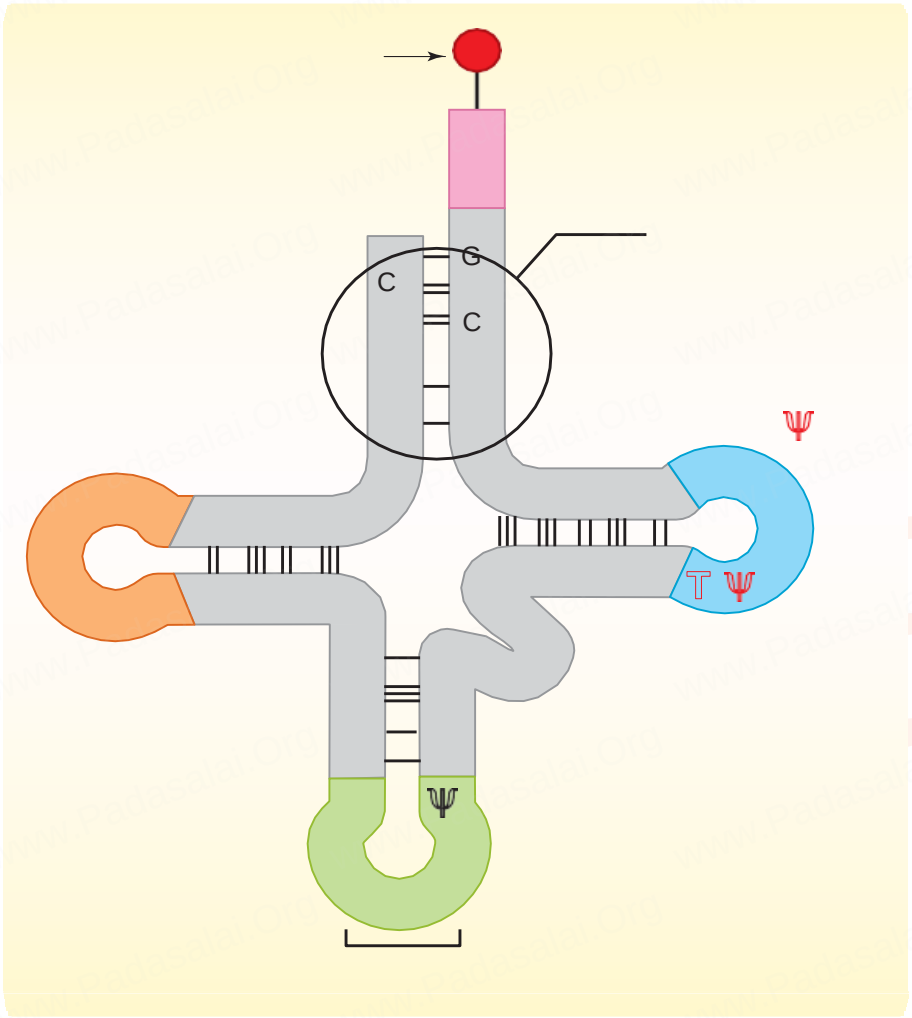


Fig. 5.11 Holley's two-dimensional clover leaf model of transfer RNA

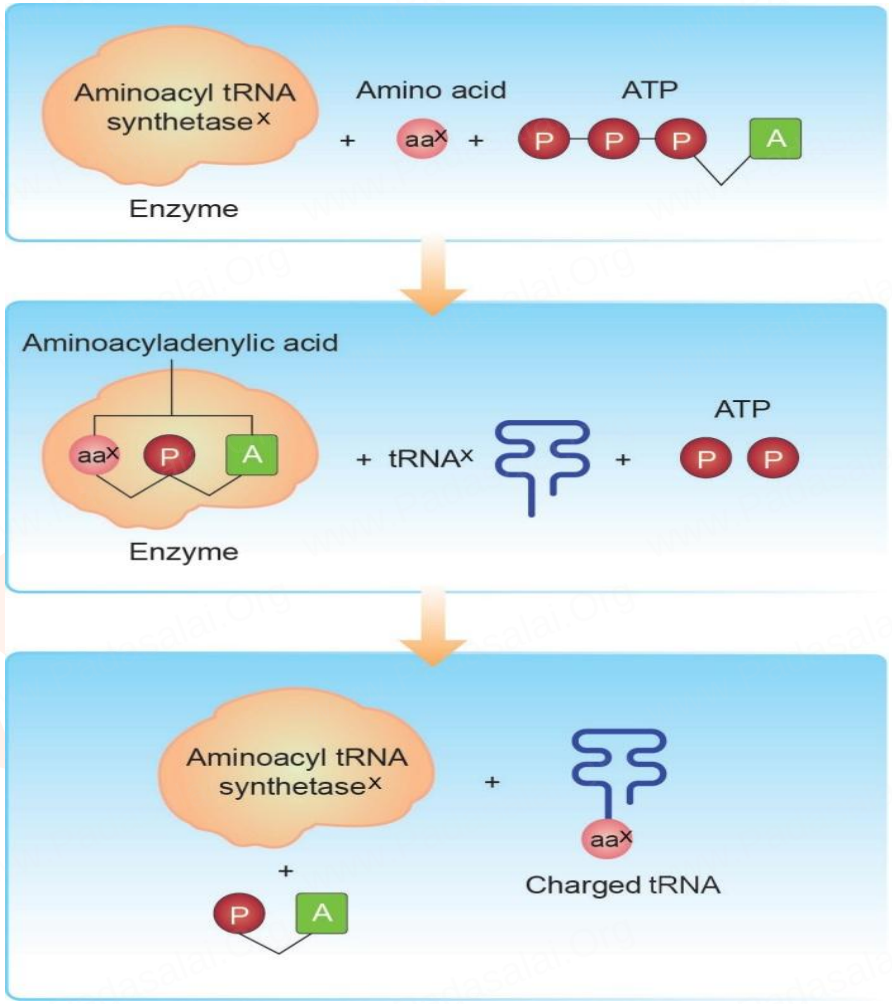


Fig. 5.12 Steps involved in charging tRNA. The 'X' denotes that for each amino acid only the corresponding specific tRNA and specific aminoacyl tRNA synthetase enzyme are involved in the charging process.

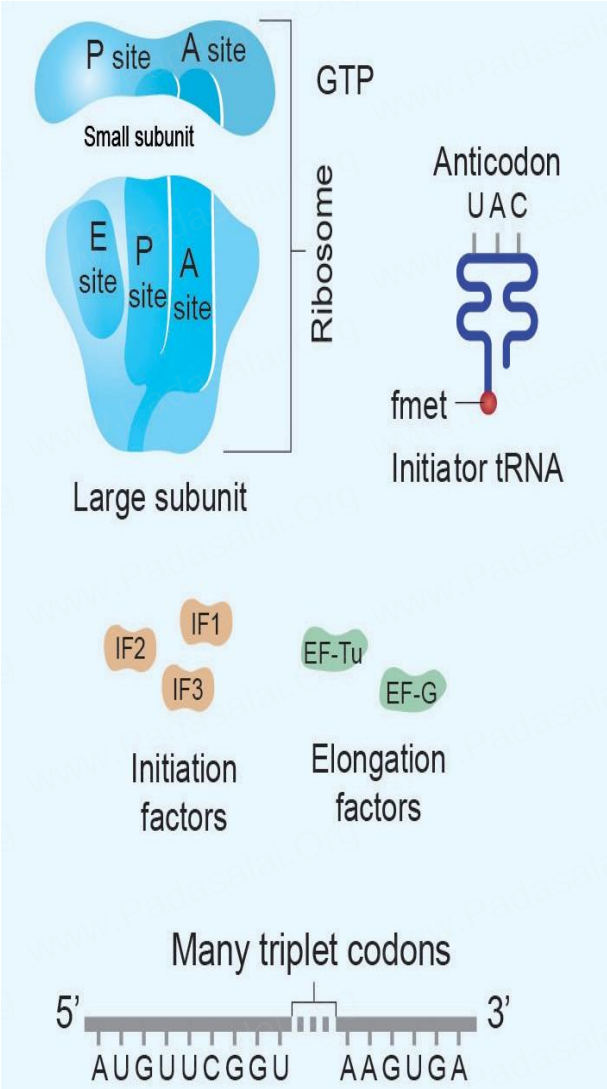


Fig. 5.13 a-Translation components

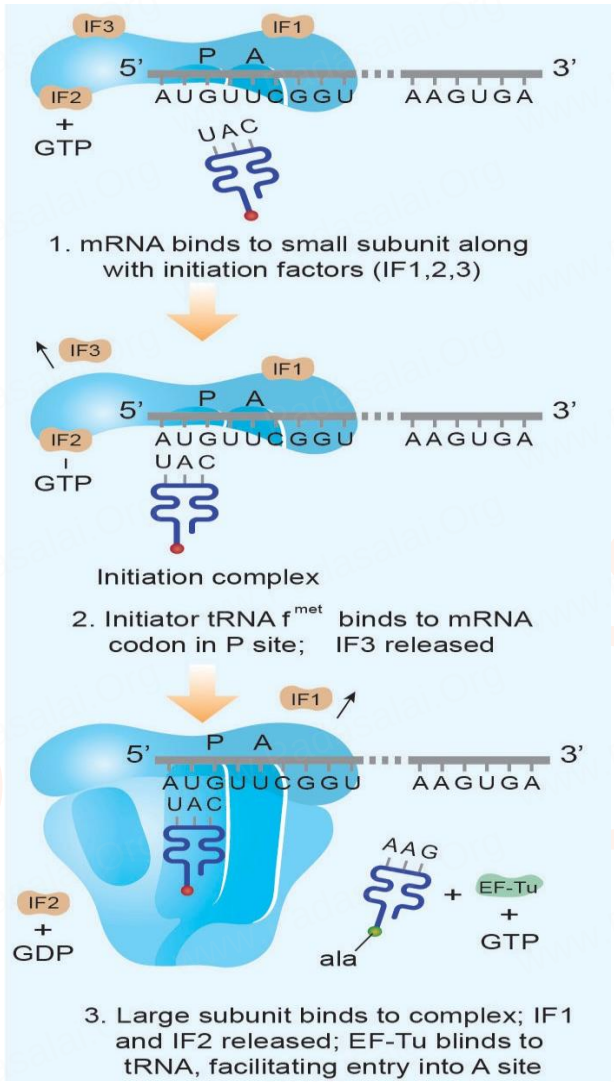


Fig. 5.13 b- Initiation

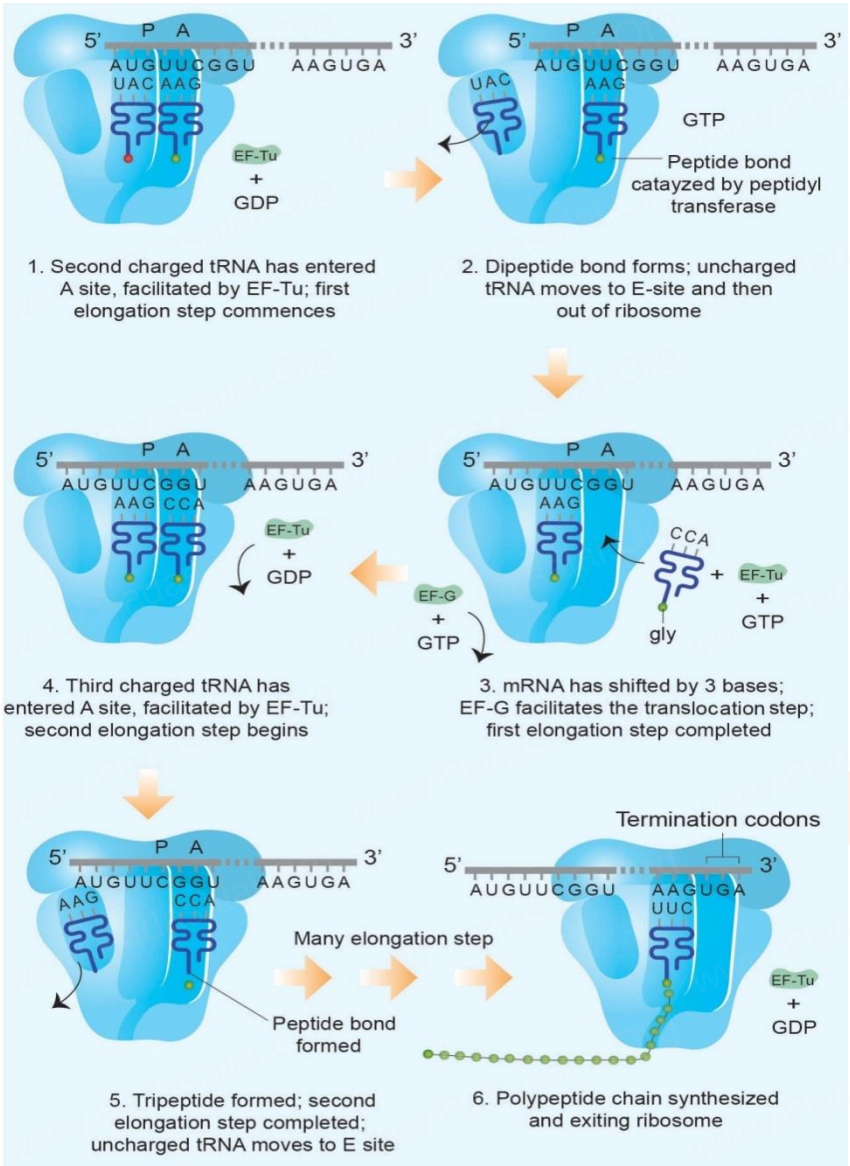


Fig. 5.13 c- Elongation of the growing polypeptide chain during translation

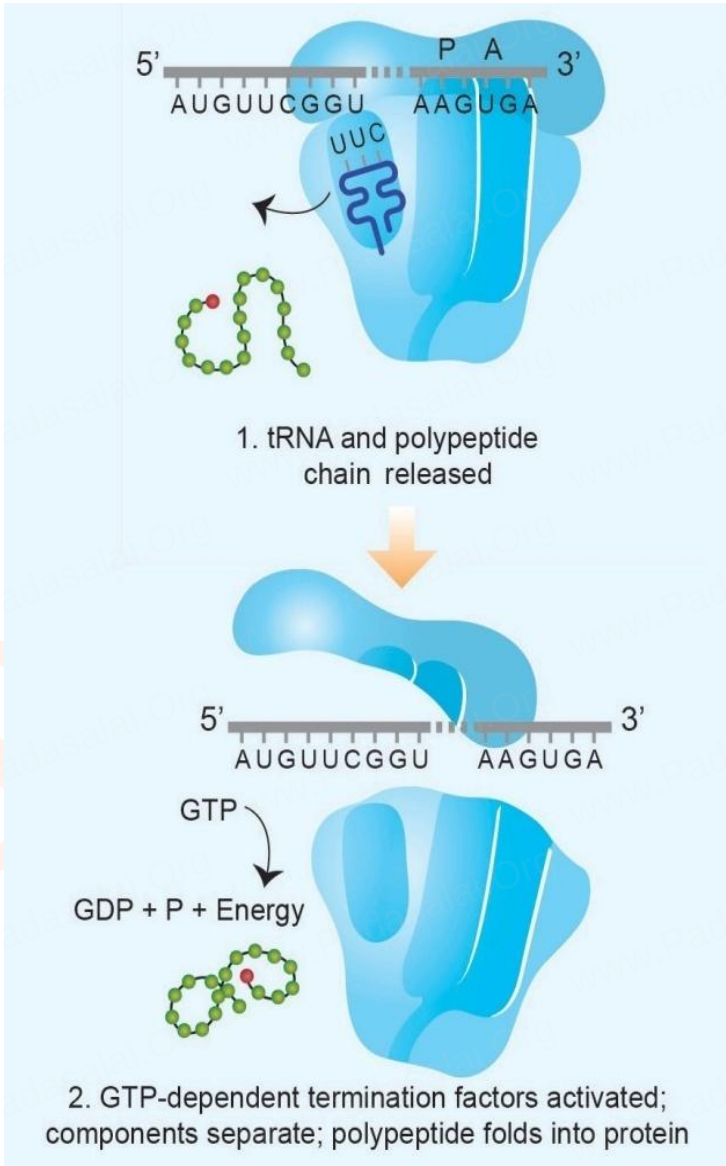


Fig. 5.13 d- Termination of the process of translation

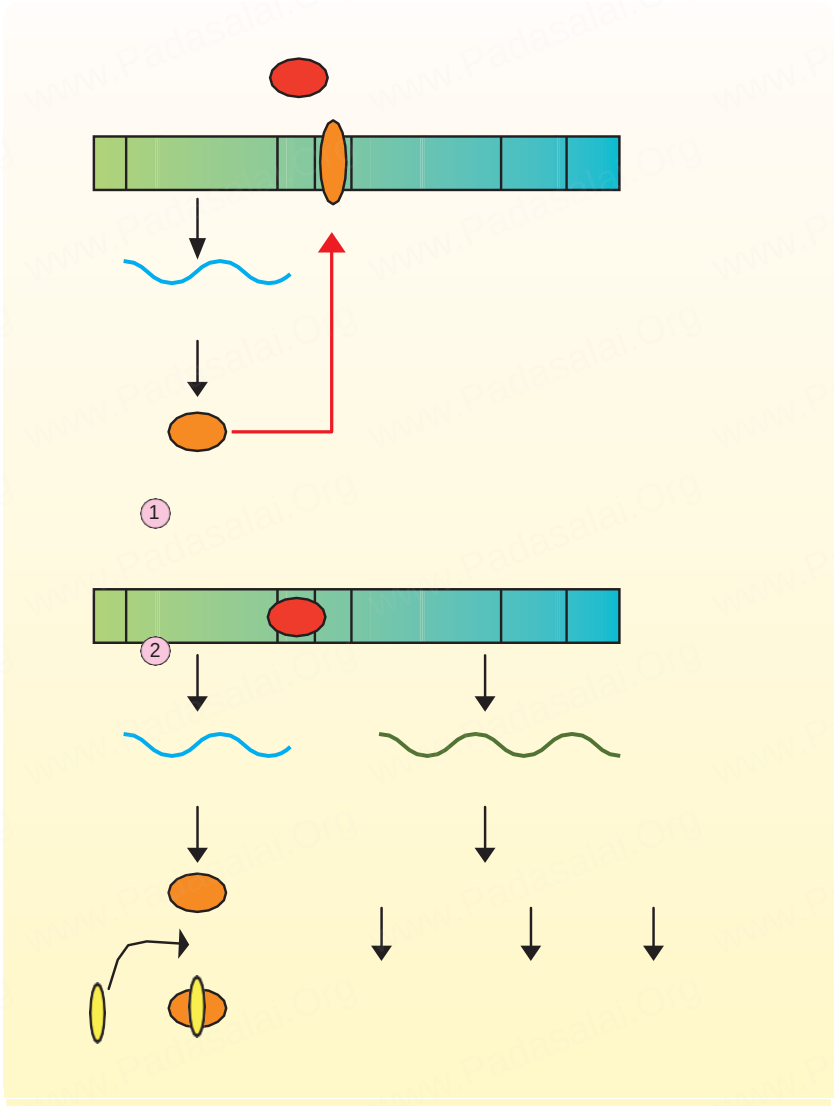


Fig. 5.14 *Lac* Operon model

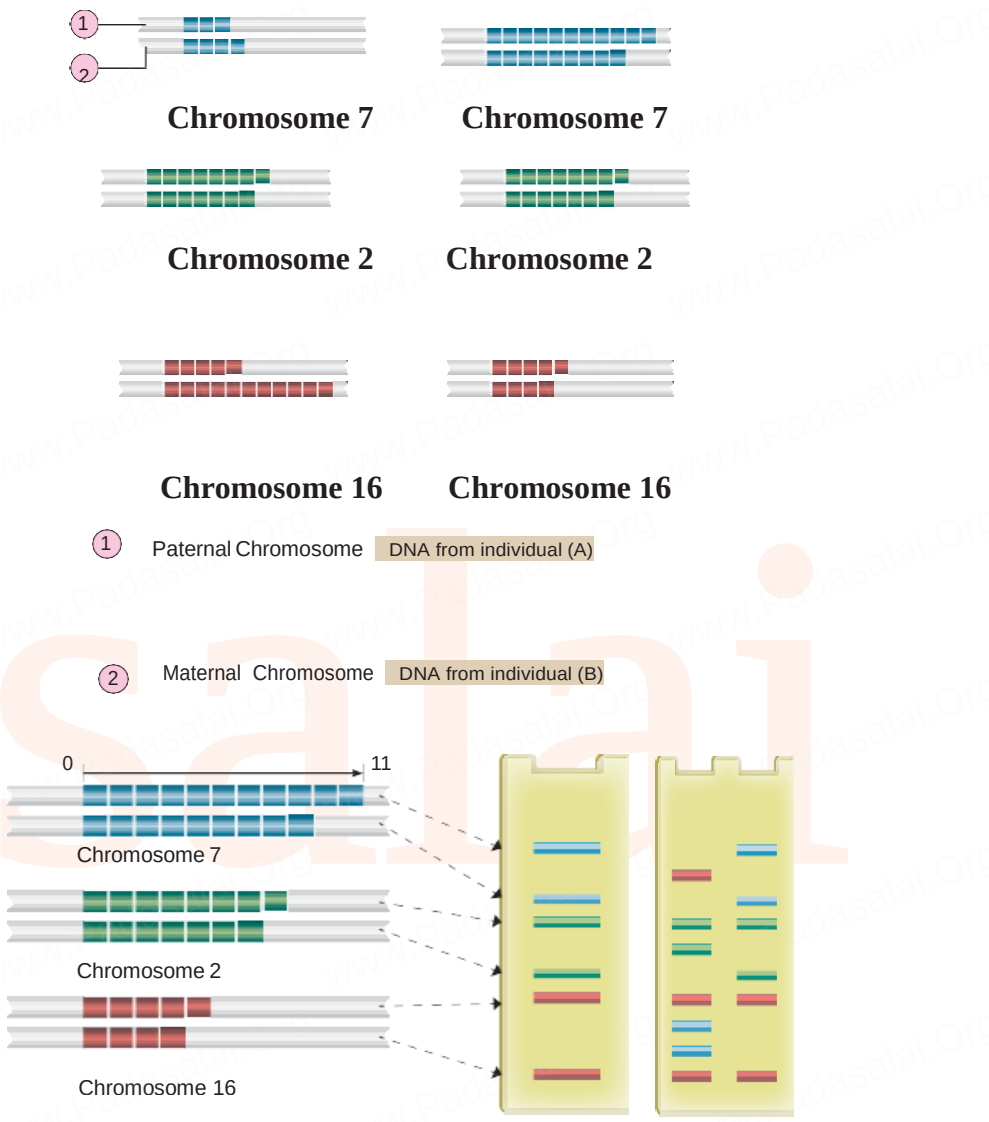


***Fig. 5.15 Schematic* representation of DNA fingerprinting: Few representative chromosomes have been shown to contain different copy number of VNTR**

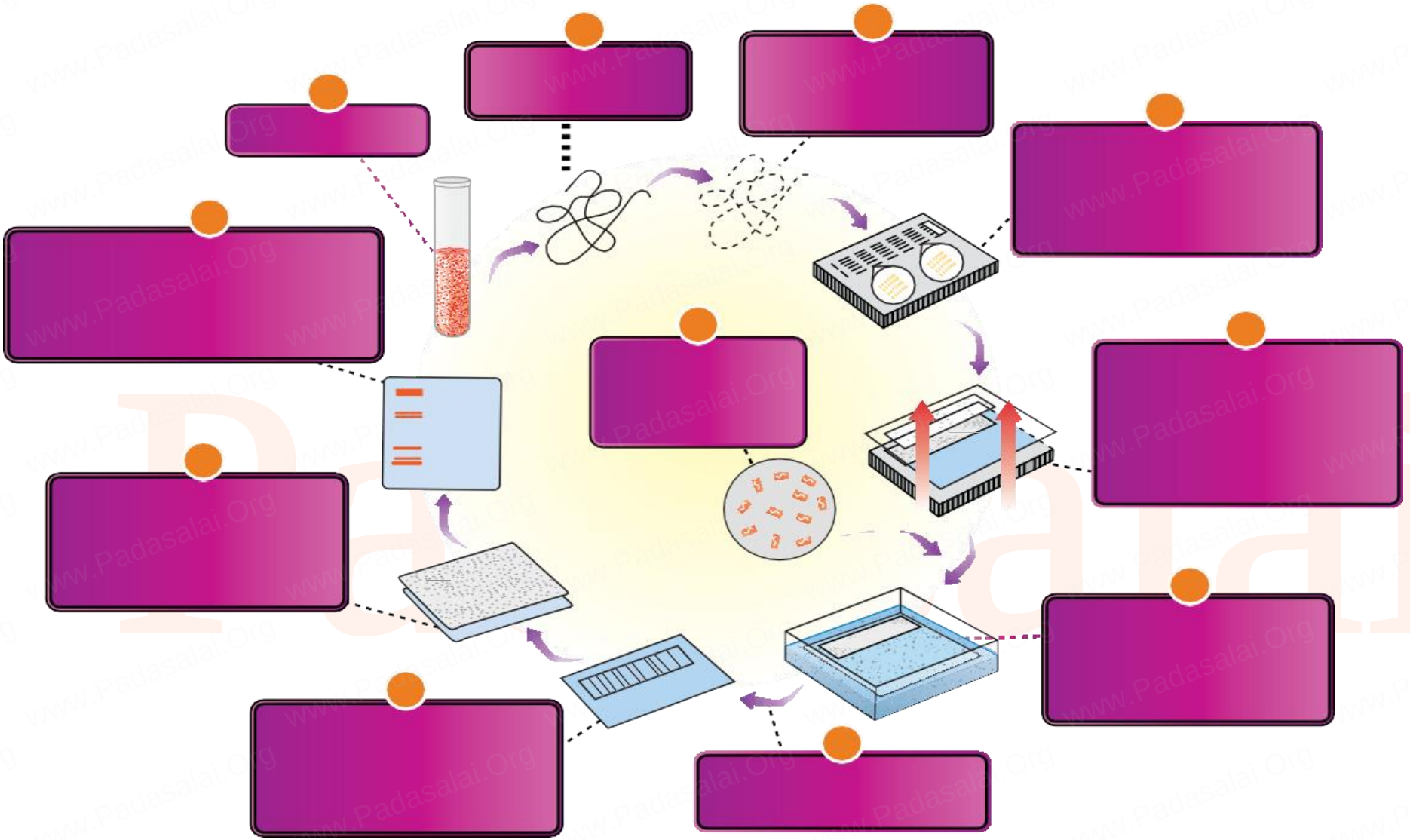


Fig. 5.16 Steps in DNA finger printing

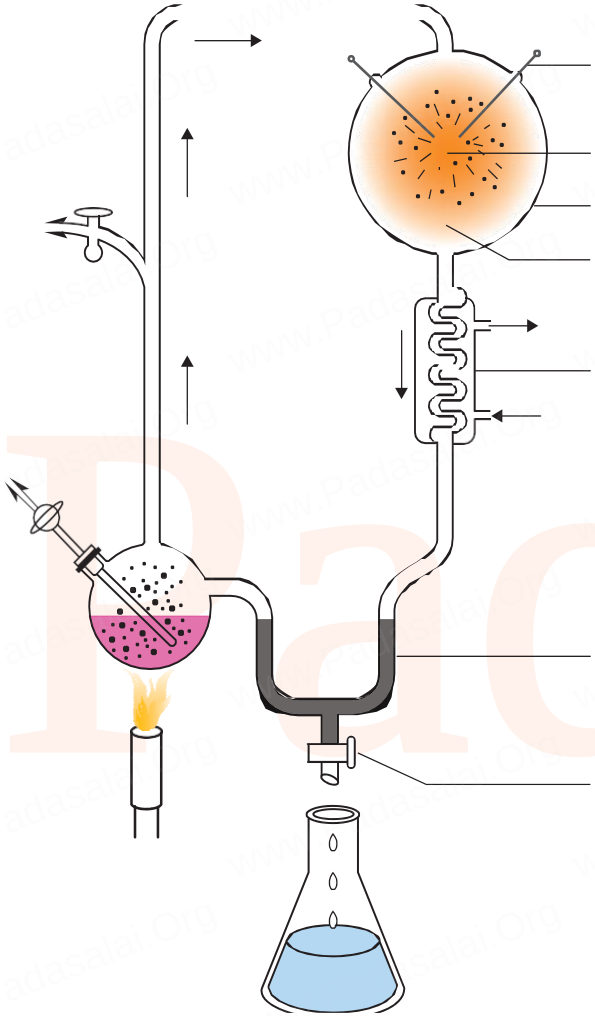


FIG. 6.1 DIAGRAMMATIC REPRESENTATION OF UREY-MILLER'S EXPERIMENT

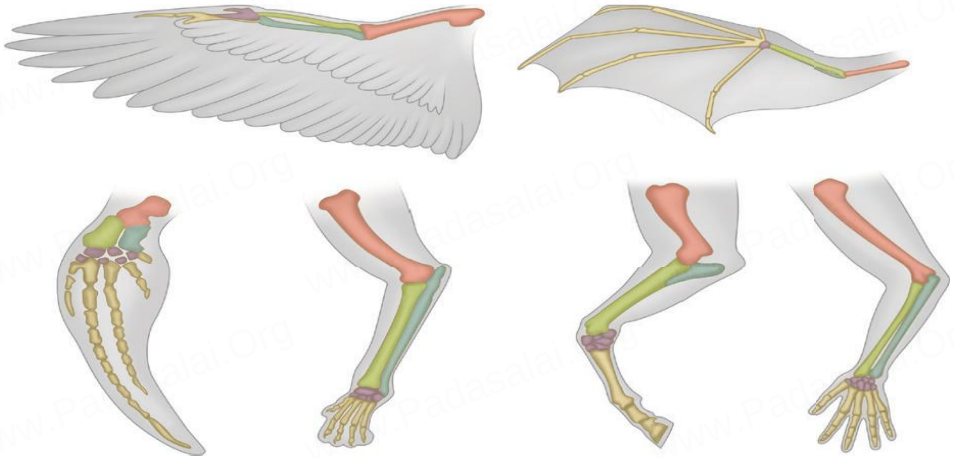


FIG. 6.2 FORELIMBS OF TERRESTRIAL VERTEBRATES TO SHOW HOMOLOGY

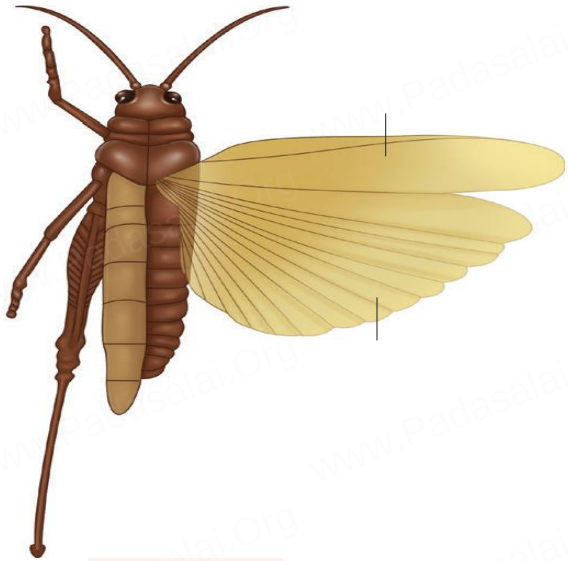


FIG. 6.3 COMPARISON OF INSECT AND BIRD WING TO SHOW THEIR ANALOGY

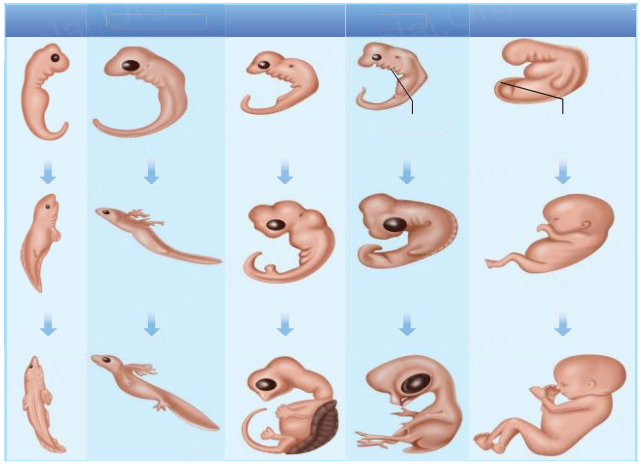


FIG 6.4 EMBRYOLOGICAL EVIDENCES

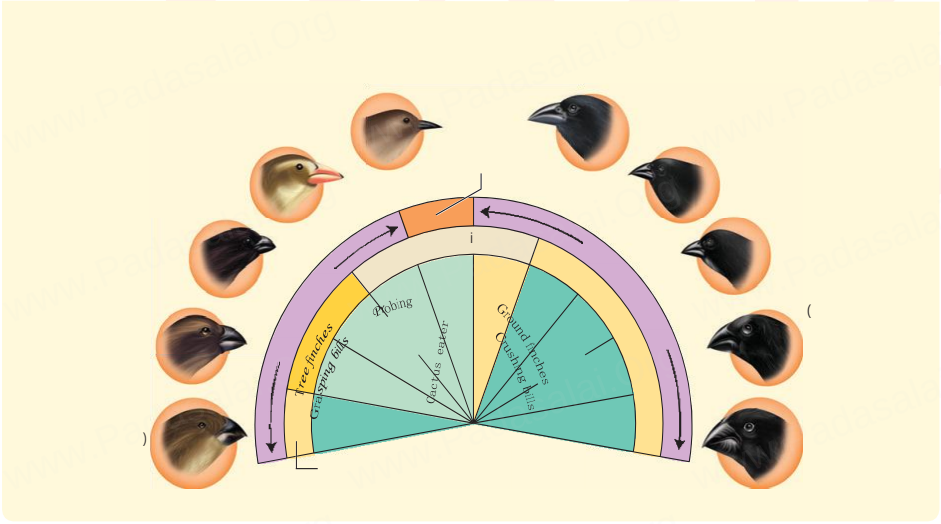


FIG 6.5 DARWIN'S FINCHES

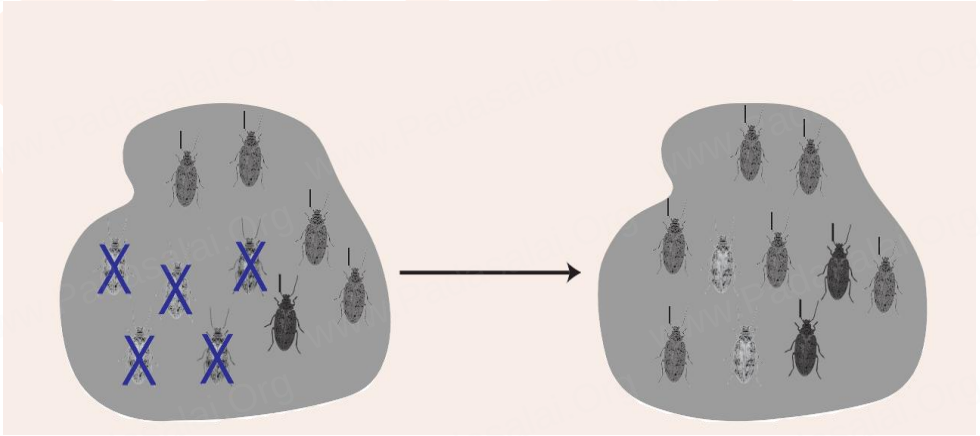


FIG 6.6 NATURAL SELECTION

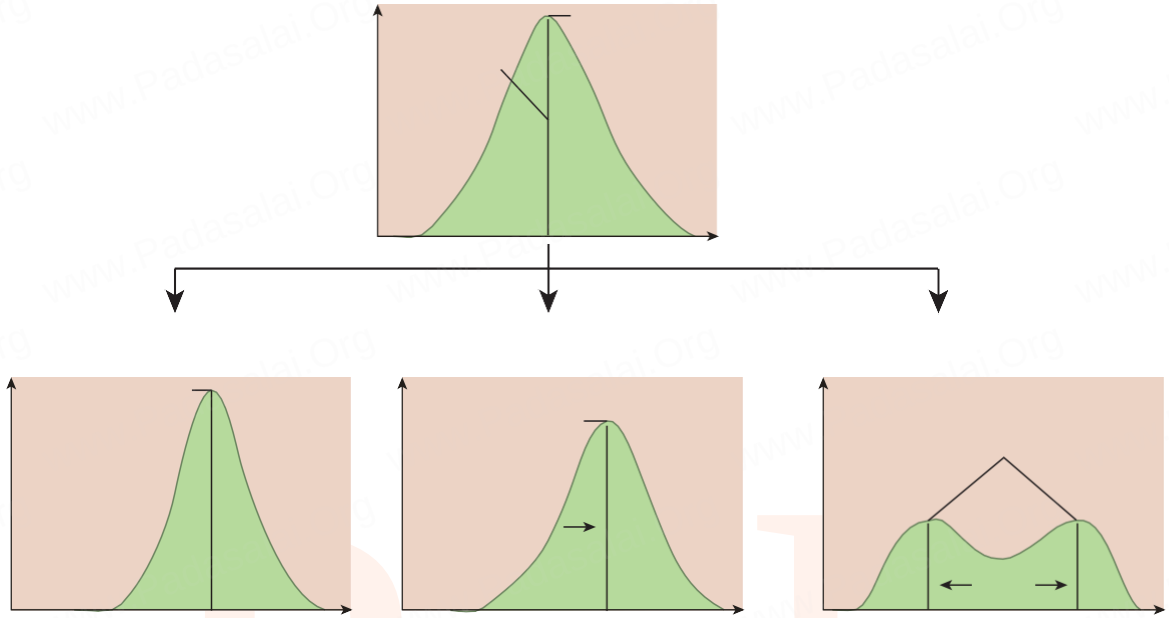


Fig 6.7 Operation of natural selection on different traits (a) Stabilising (b) Directional and (c) Disruptive

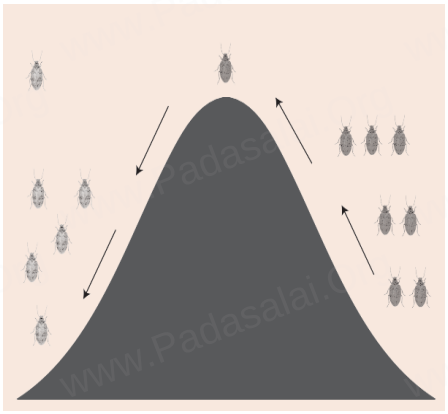


Fig 6.8 Gene flow

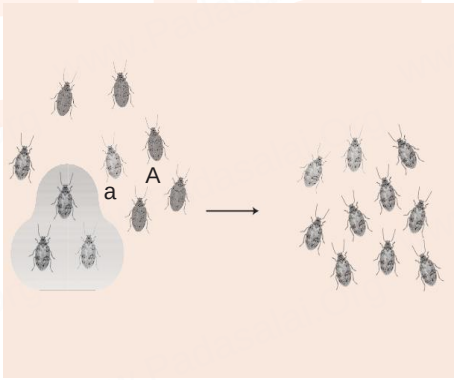


Fig 6.9 Genetic drift

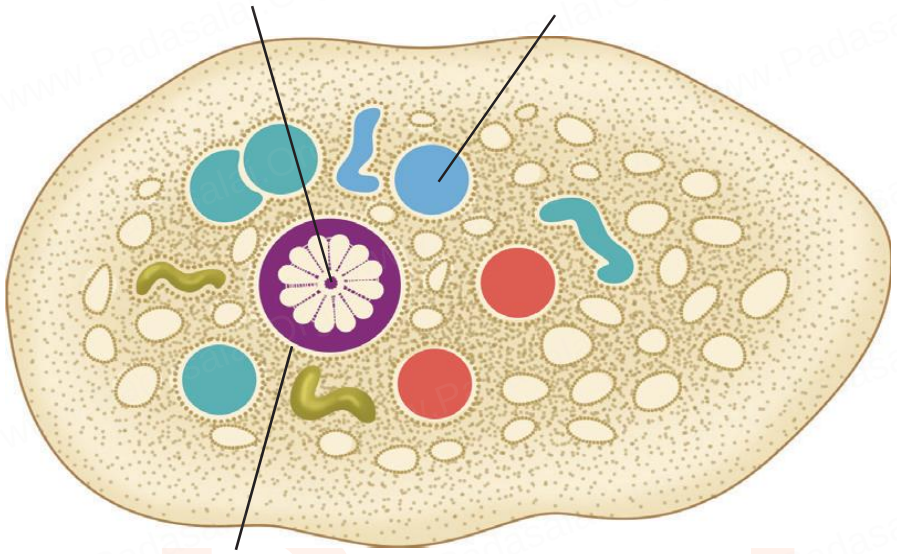


FIG. 7.1 ENTAMOEBA HISTOLYTICA

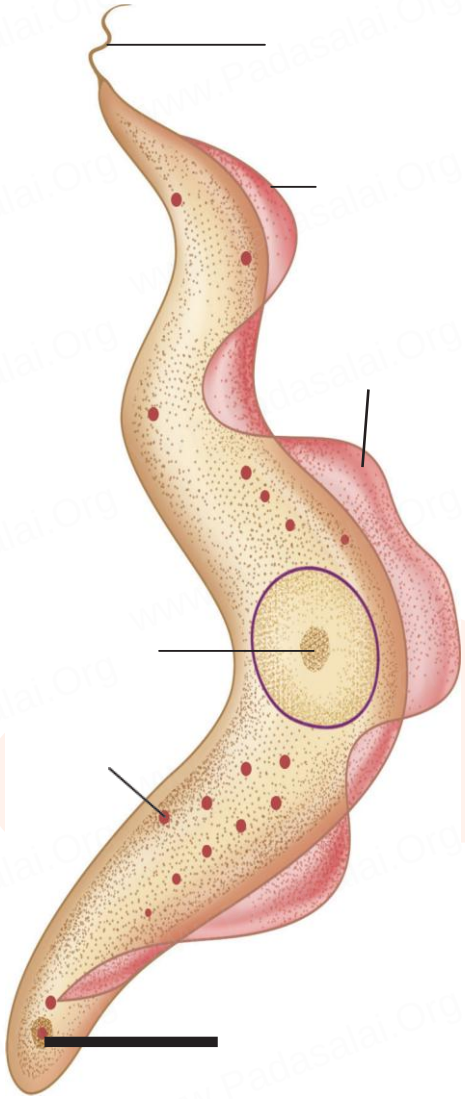


FIG. 7.2. TRYPANOSOMA GAMBIENSE

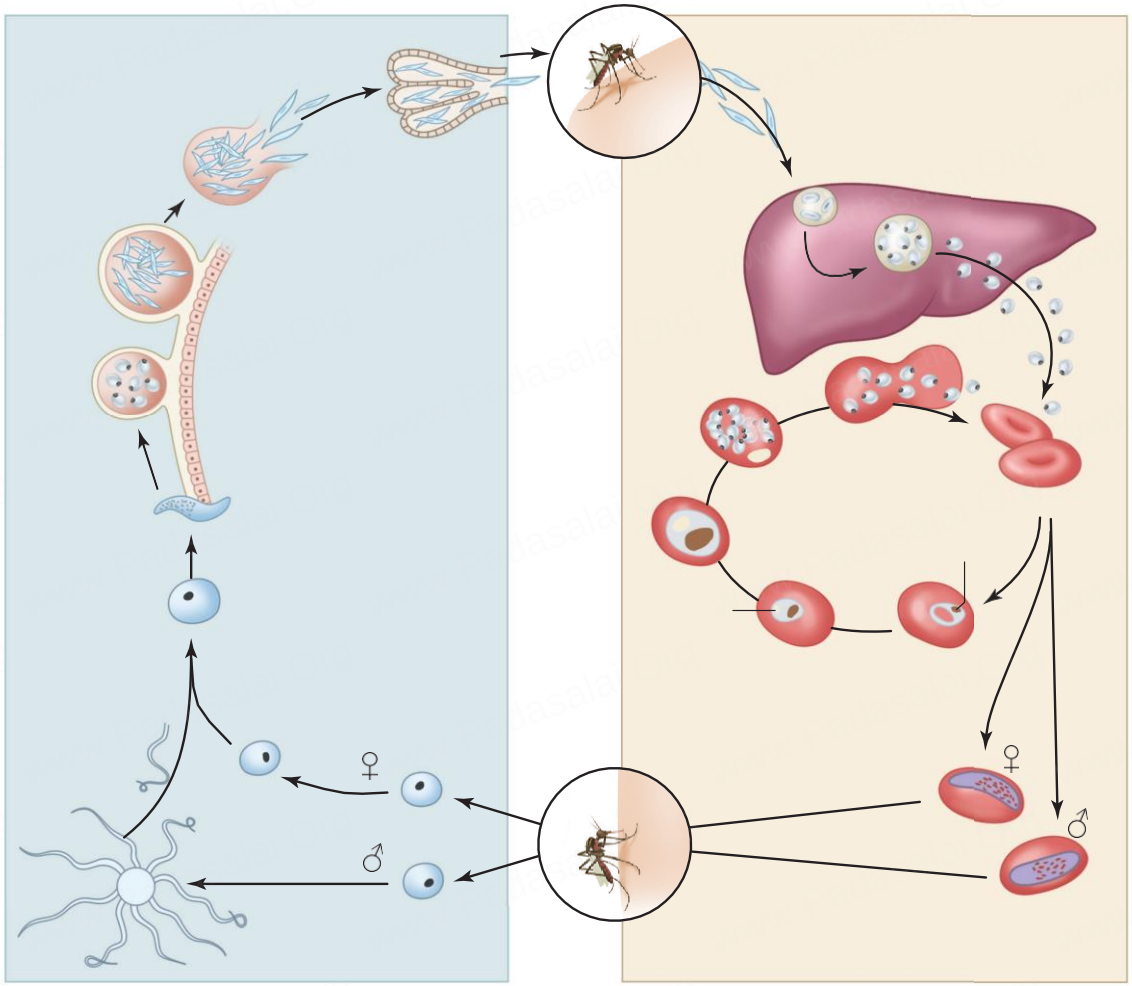


FIG. 7.3 LIFE CYCLE OF *PLASMODIUM*

FIG. 7.4 SYMPTOMS OF RINGWORM

FIG. 7.5 SYMPTOMS OF ATHLETE'S FOOT

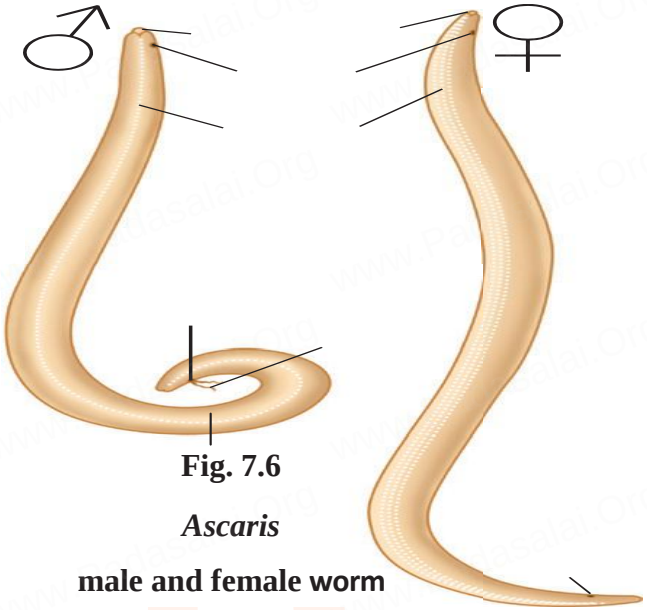


Fig. 7.6

Ascaris

male and female worm

Fig 7.7 *Wuchereria bancrafti*

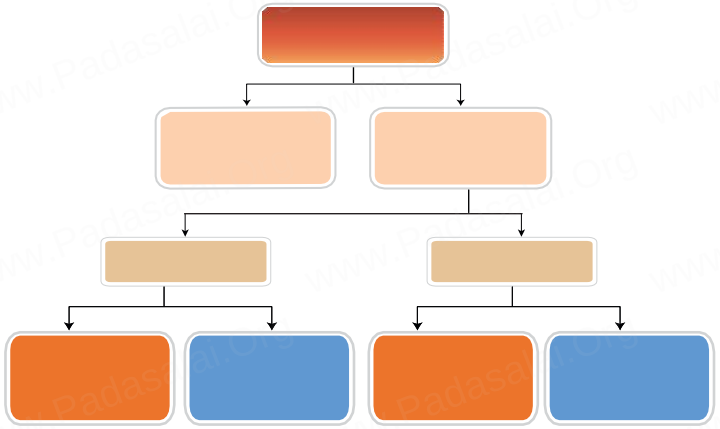


FIG. 7.9 IMMUNE SYSTEM

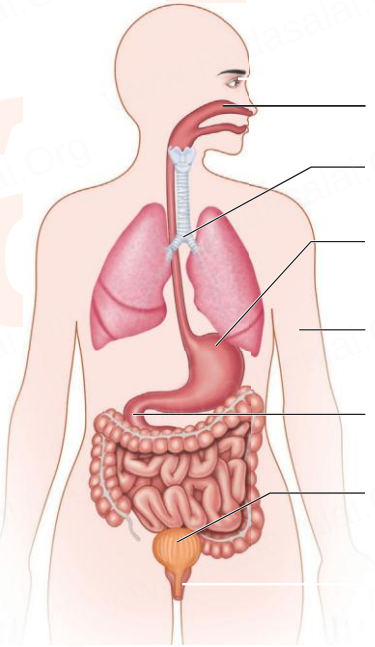


Fig. 7.10 Various anatomical and physiological barriers to microbial attack

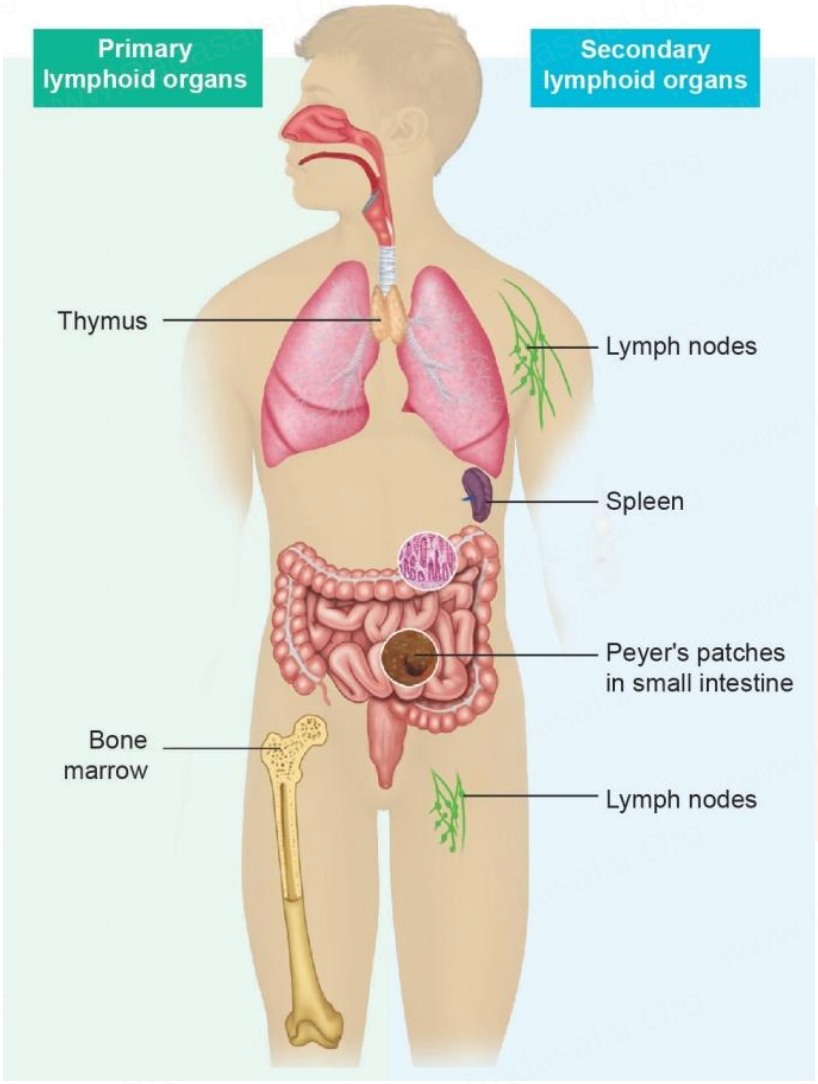


FIG. 7.11 LYMPHOID ORGANS IN HUMAN BODY

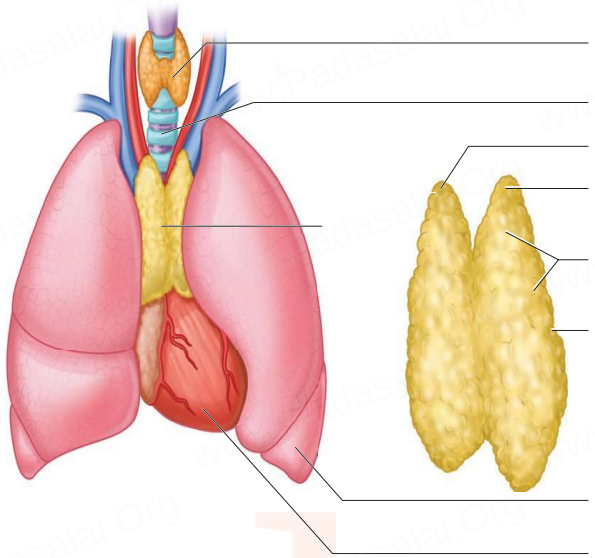


FIG. 7.12 PRIMARY LYMPHOID ORGAN – THYMUS LOCATION B) STRUCTURE

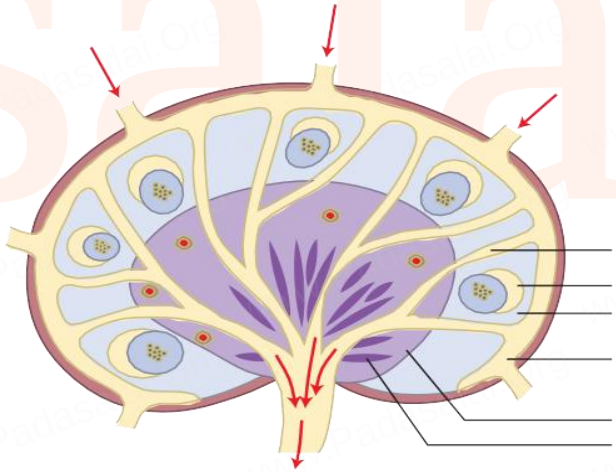


Fig. 7.13 Secondary lymphoid organ – Structure of lymph node

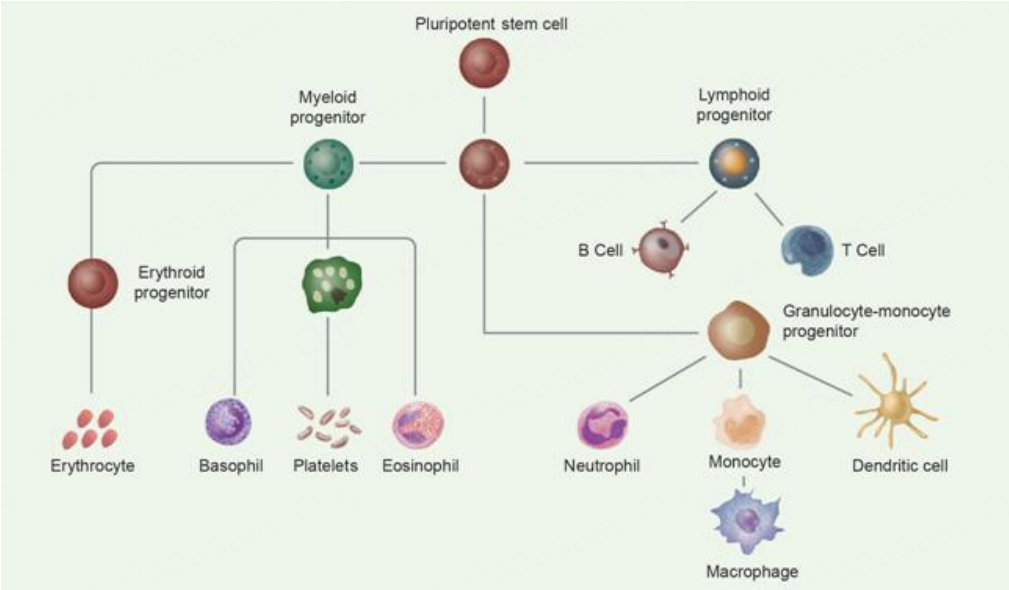


FIG. 7.14 CELLS OF THE IMMUNE SYSTEM

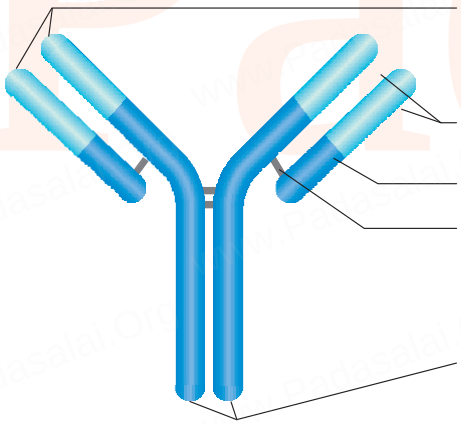


FIG. 7.15 STRUCTURE OF IMMUNOGLOBULIN

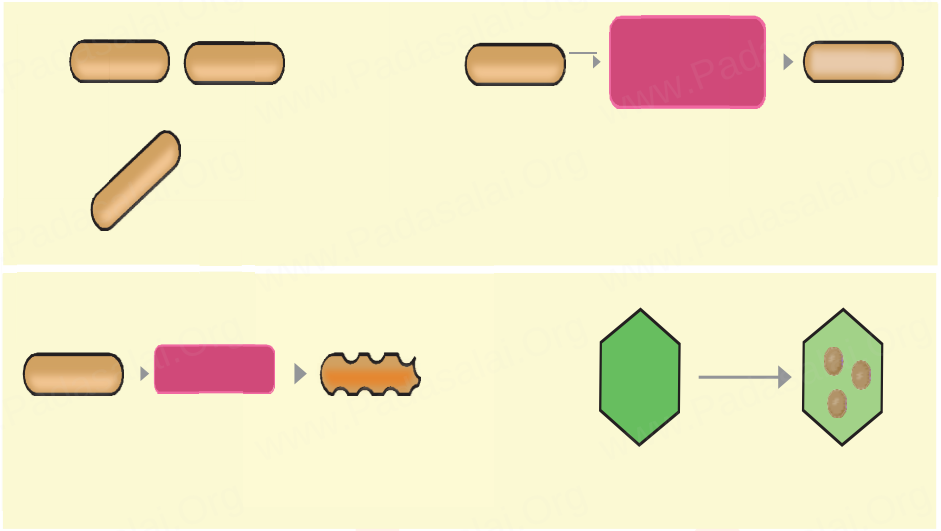


FIG.7.17 TYPES OF VACCINES

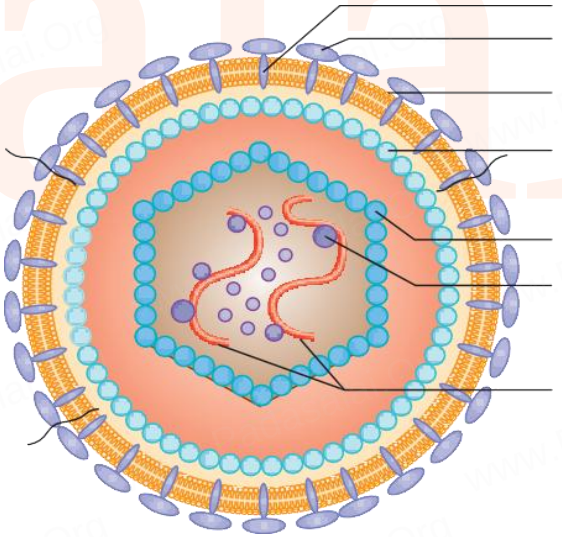


FIG. 7.18 STRUCTURE OF HIV

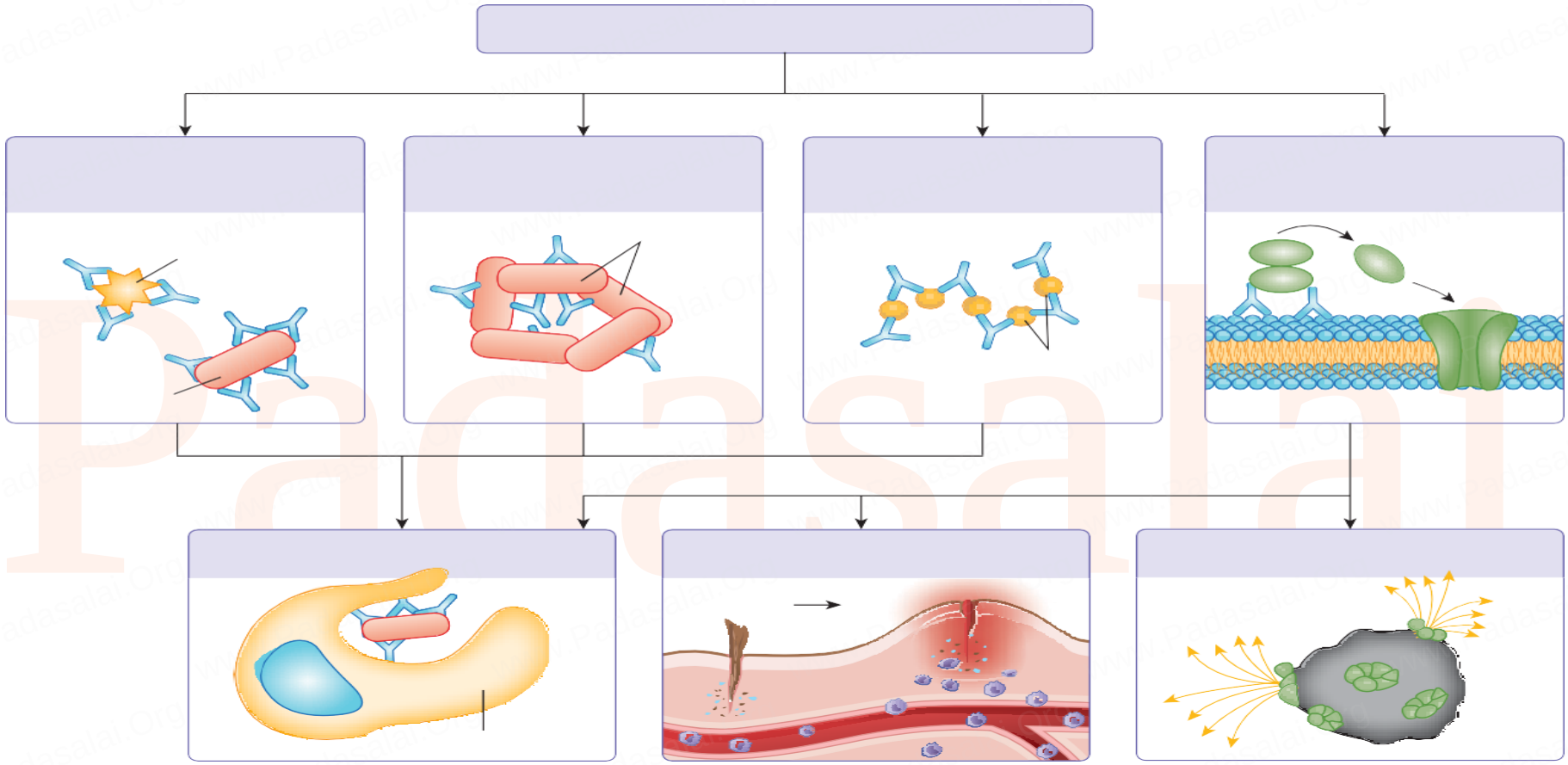


FIG. 7.16 ANTIGEN AND ANTIBODY REACTION

FIG. 7.19 OPIUM PLANT (POPPY PLANT)

Fig. 7.20 *Cannabis sativa* (Hemp plant)

Fig. 7.21 *Atropa belladonna*

Fig. 7.22 *Datura*

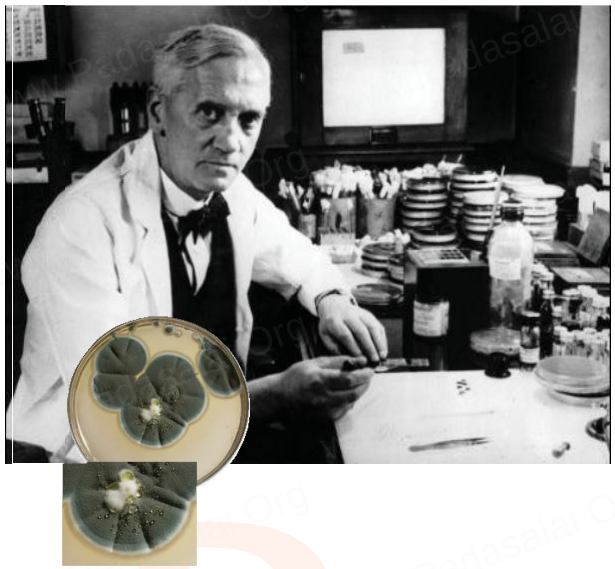


FIG. 8.1 DISCOVERY OF PENICILLIN

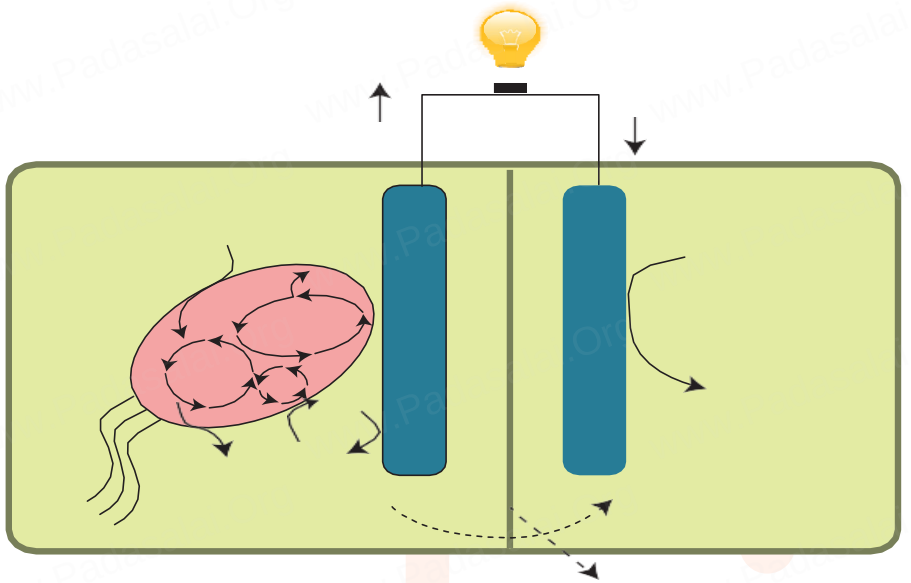


FIG. 8.3 MICROBIAL FUEL CELL

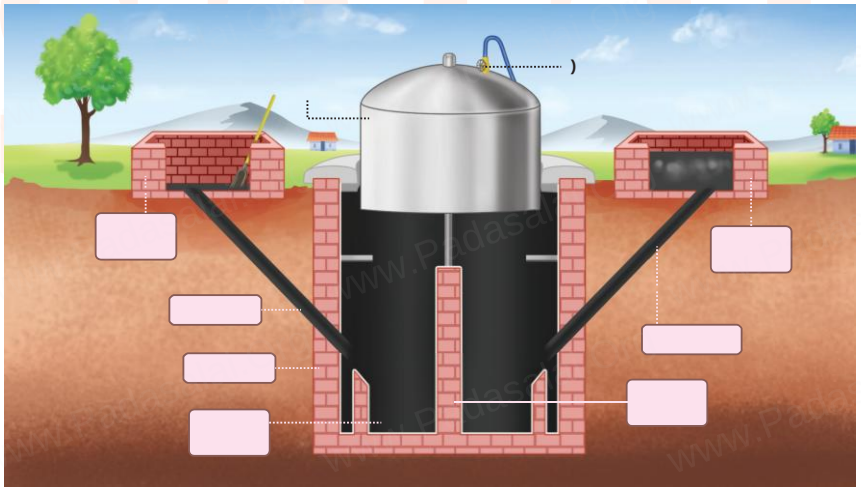


FIG. 8.4 BIOGAS UNIT

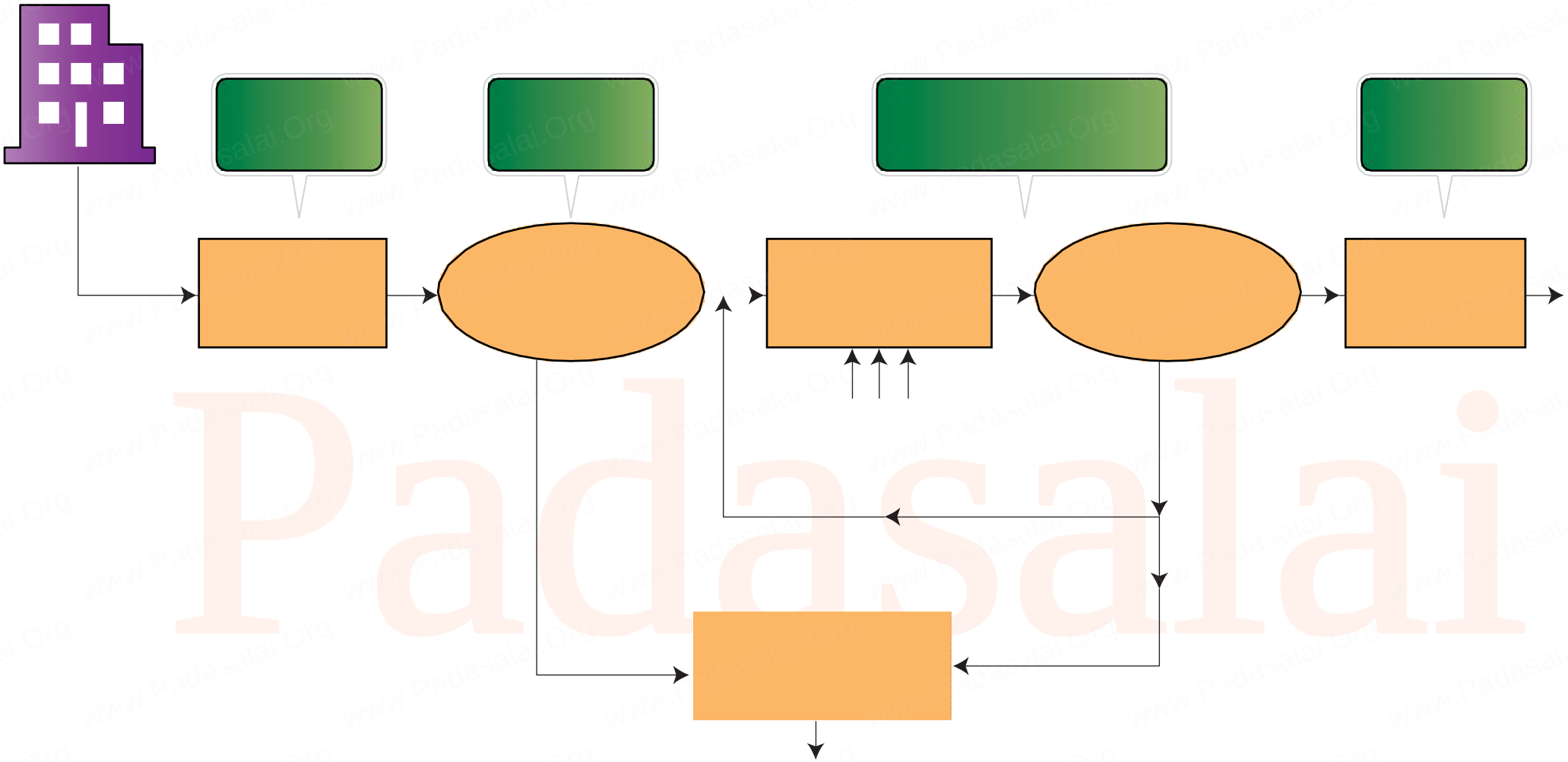


FIG. 8.2 SEWAGE TREATMENT PROCESS

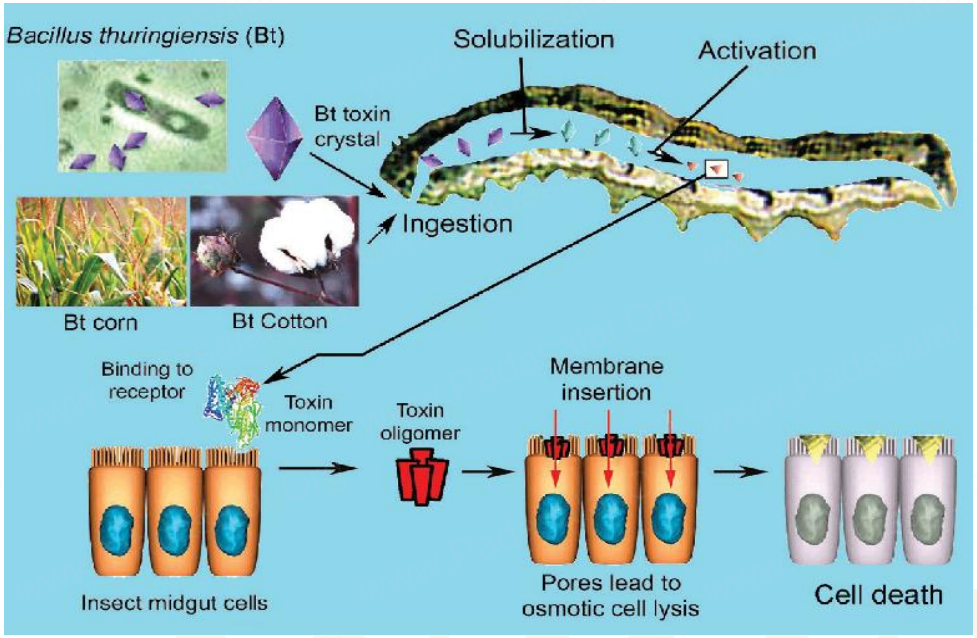


FIG. 8.5 ACTIONS OF CRY TOXIN

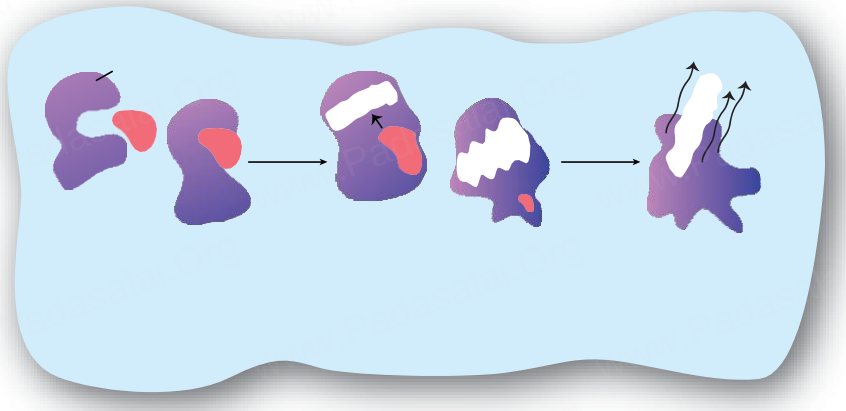


Fig. 8.6 The process ofbioremediation

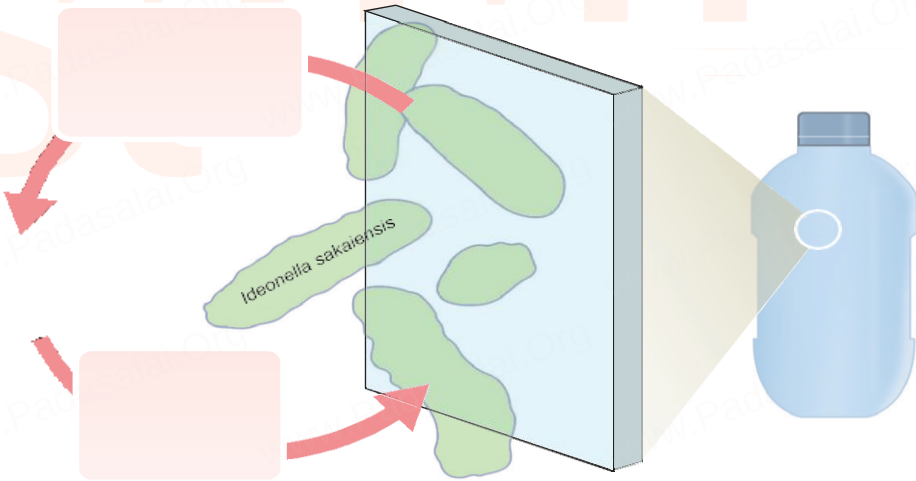


FIG. 8.7 ACTIONS OF *Ideonella sakaiensis*

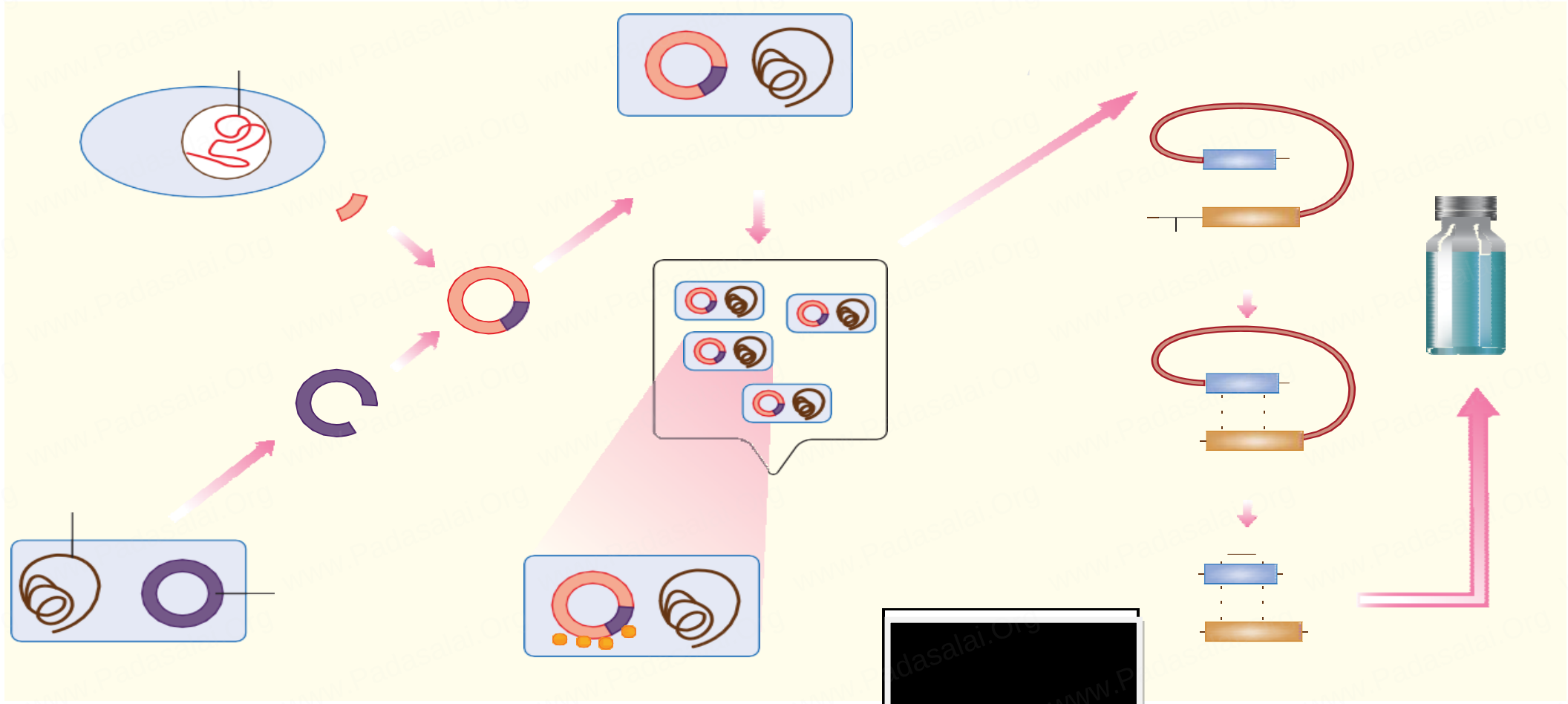


FIG. 9.1 HUMAN INSULIN PRODUCTION

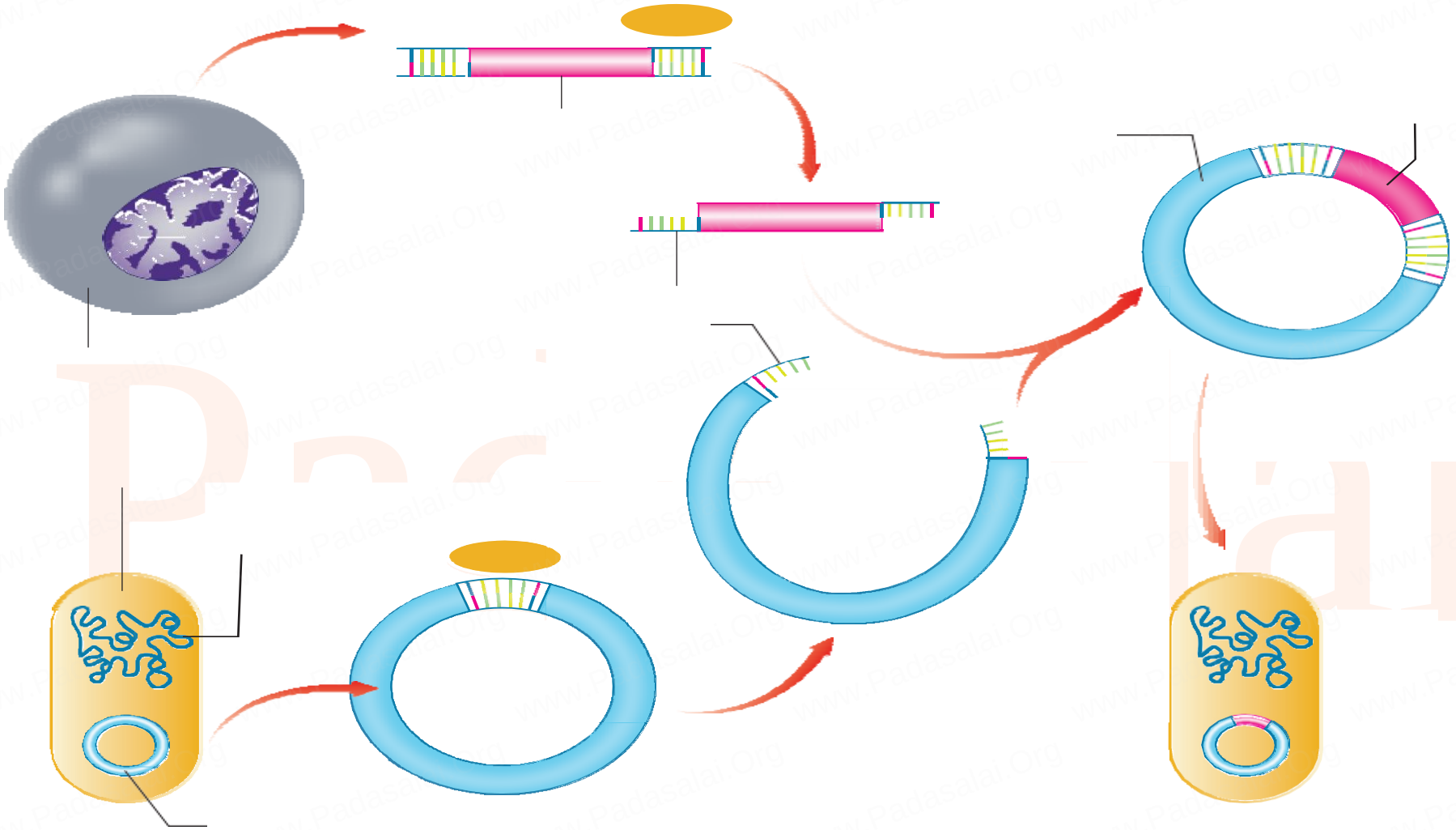


Fig. 9.2 Production of human growth hormone

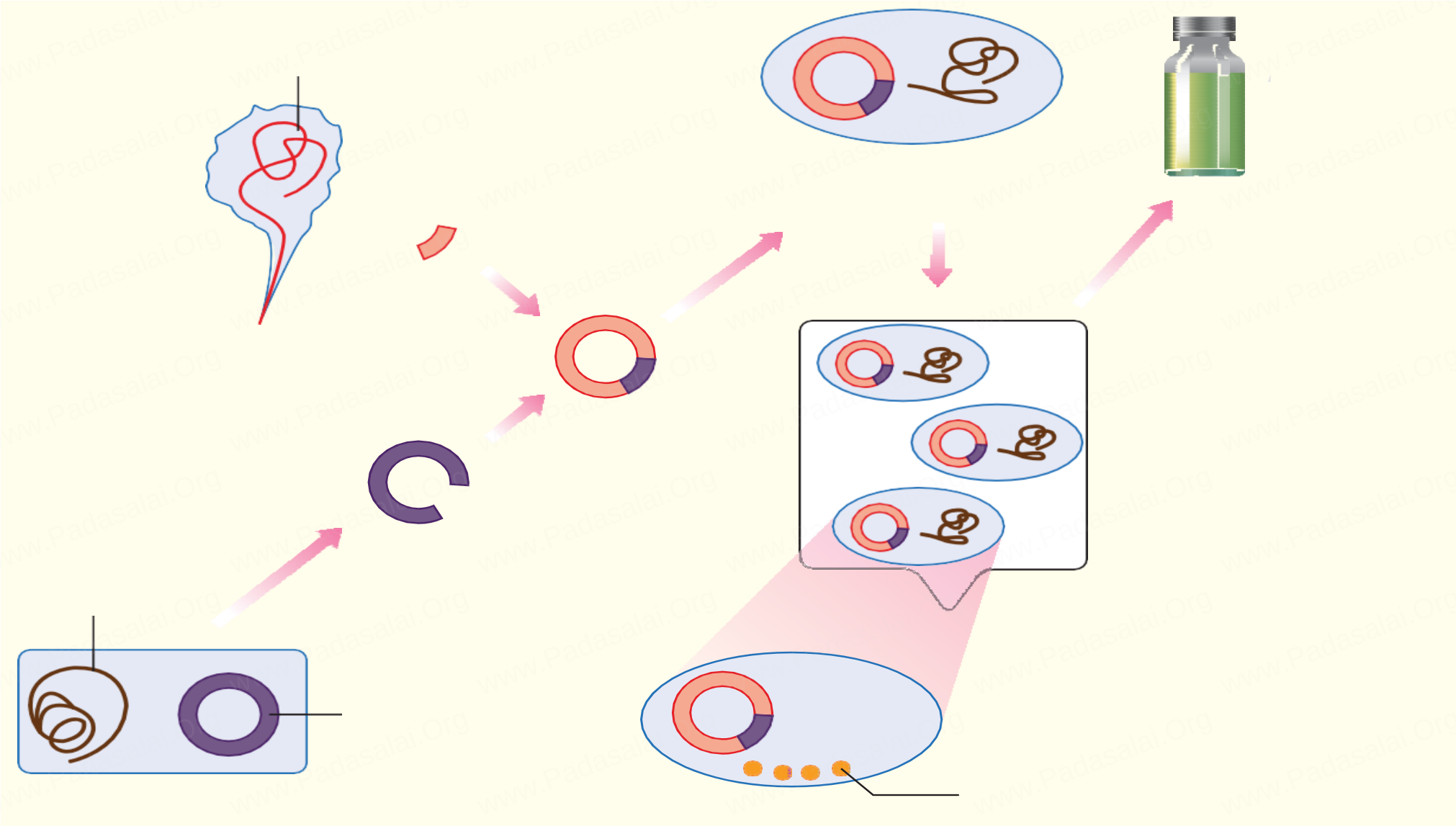


FIG. 9.3 PRODUCTION OF RECOMBINANT HB VACCINE

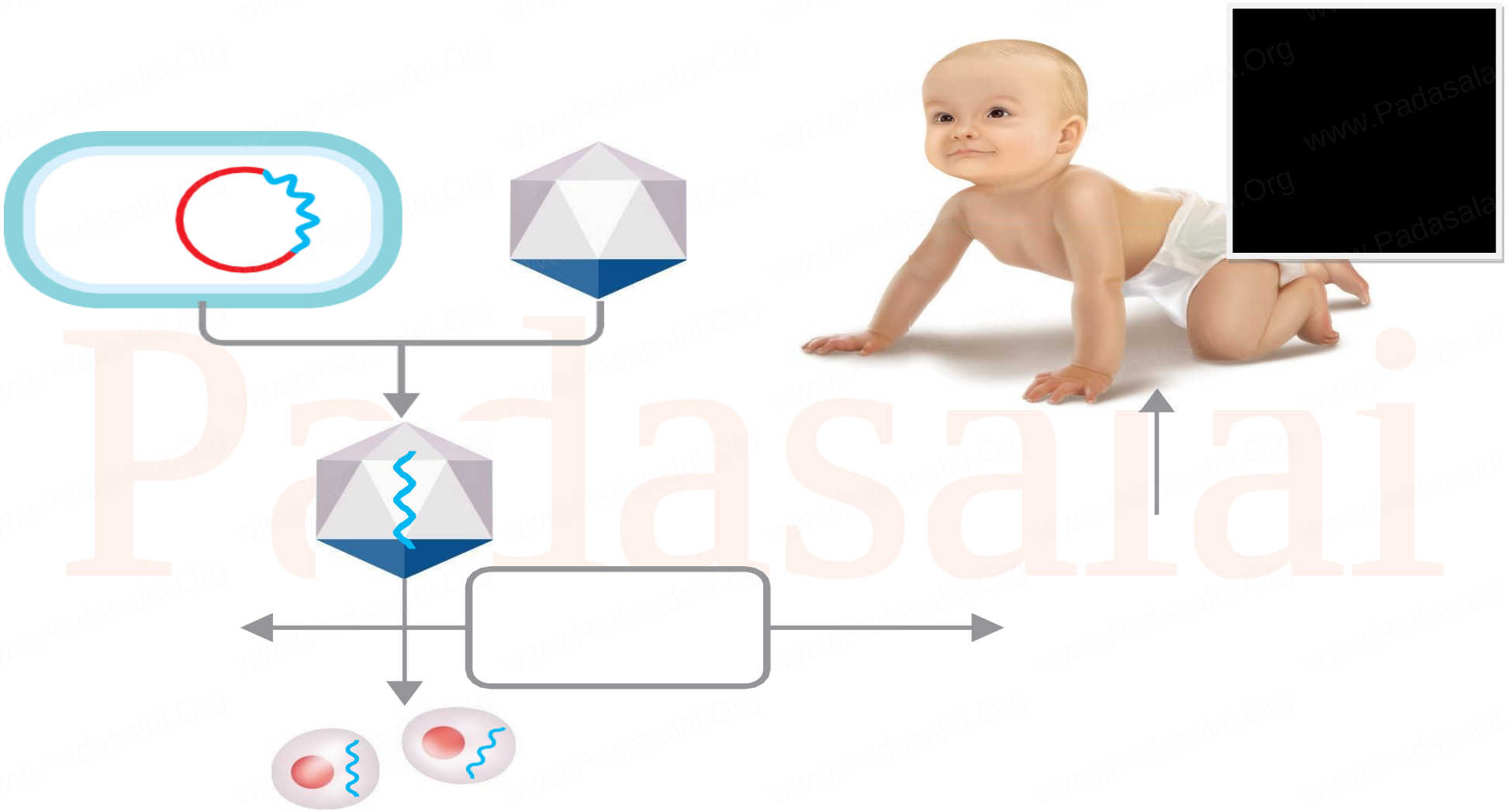


FIG. 9.4 PROCESS OF GENE THERAPY

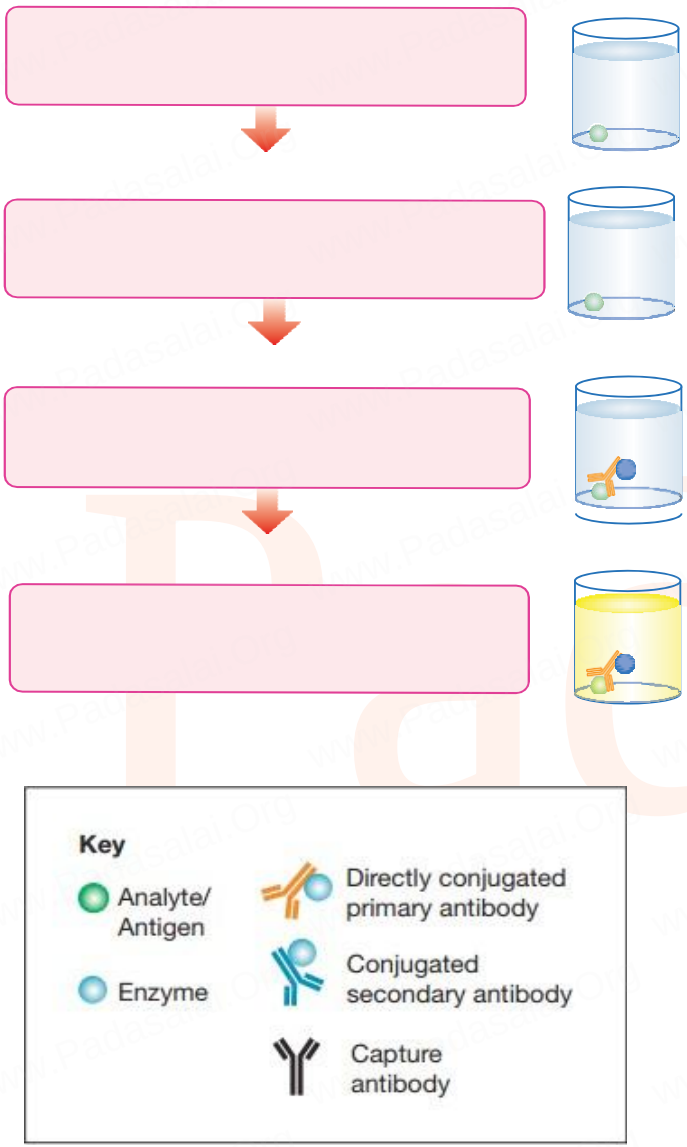


Fig. 9.6 Enzyme Linked ImmunoSorbent Assay

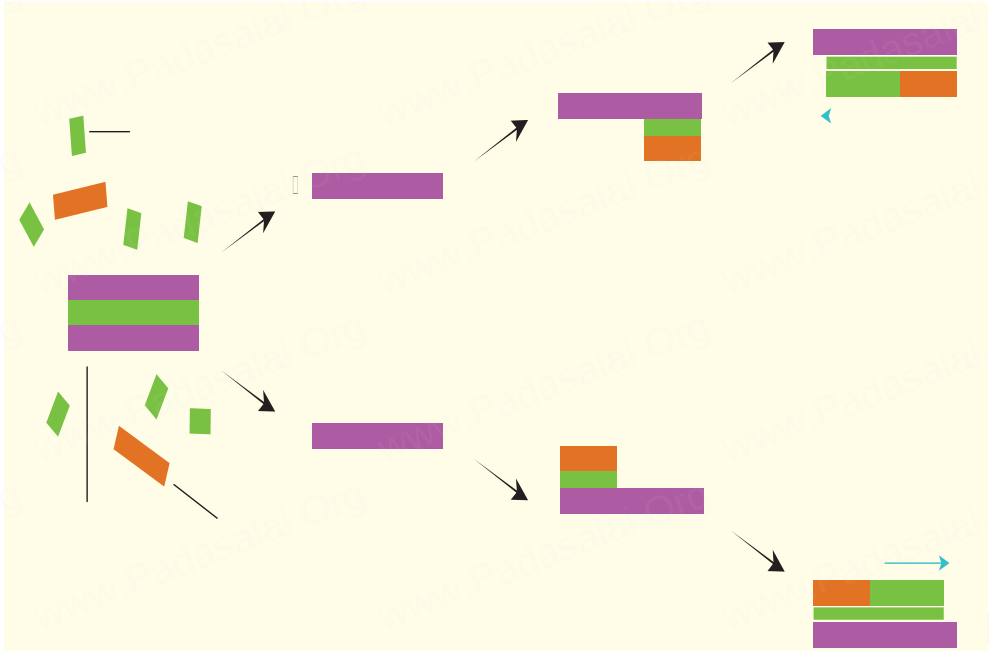


FIG. 9.7 STEPS INVOLVED IN PCR

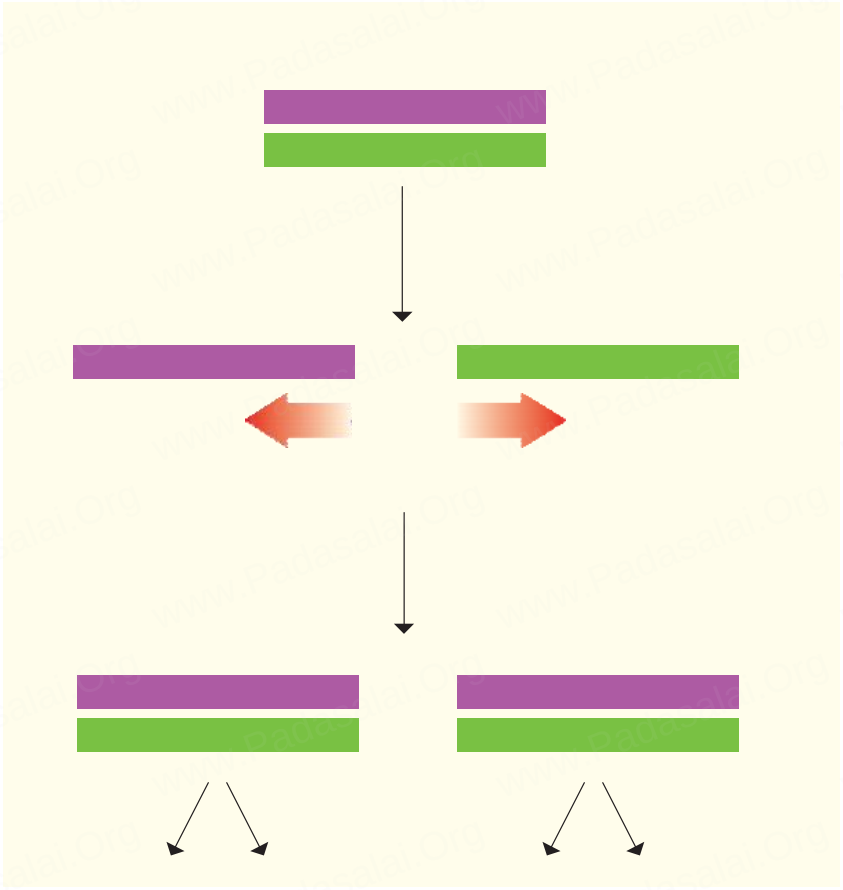


FIG. 9.8 POLYMERASE CHAIN REACTION

FIG.9. 9 PRODUCTION OF TI ALS

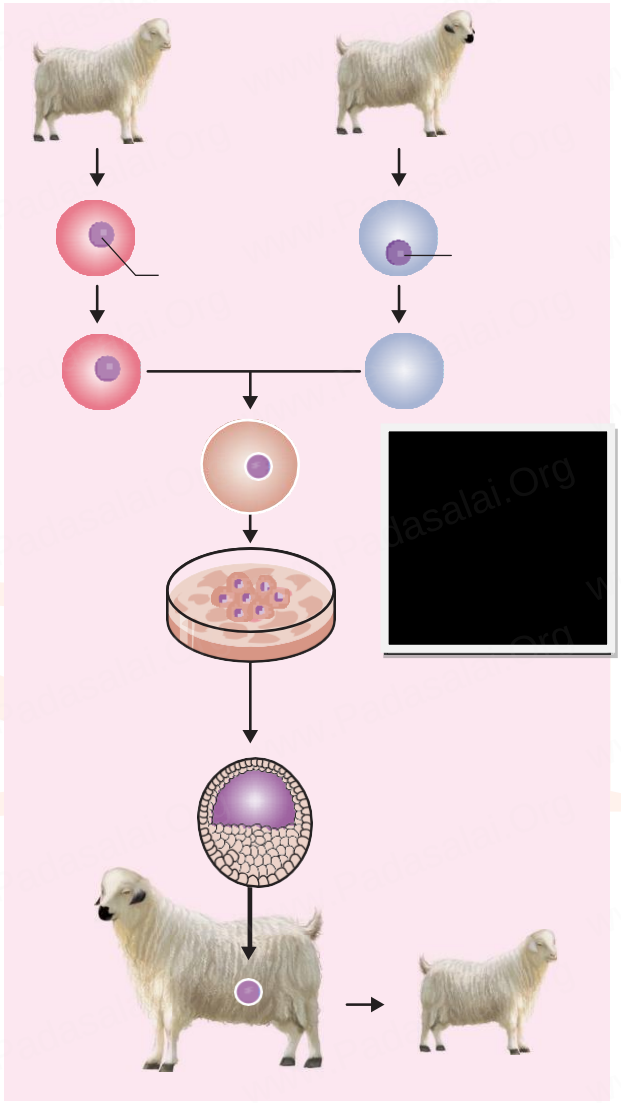


FIG. 9. 10 CLONING OF DOLLY

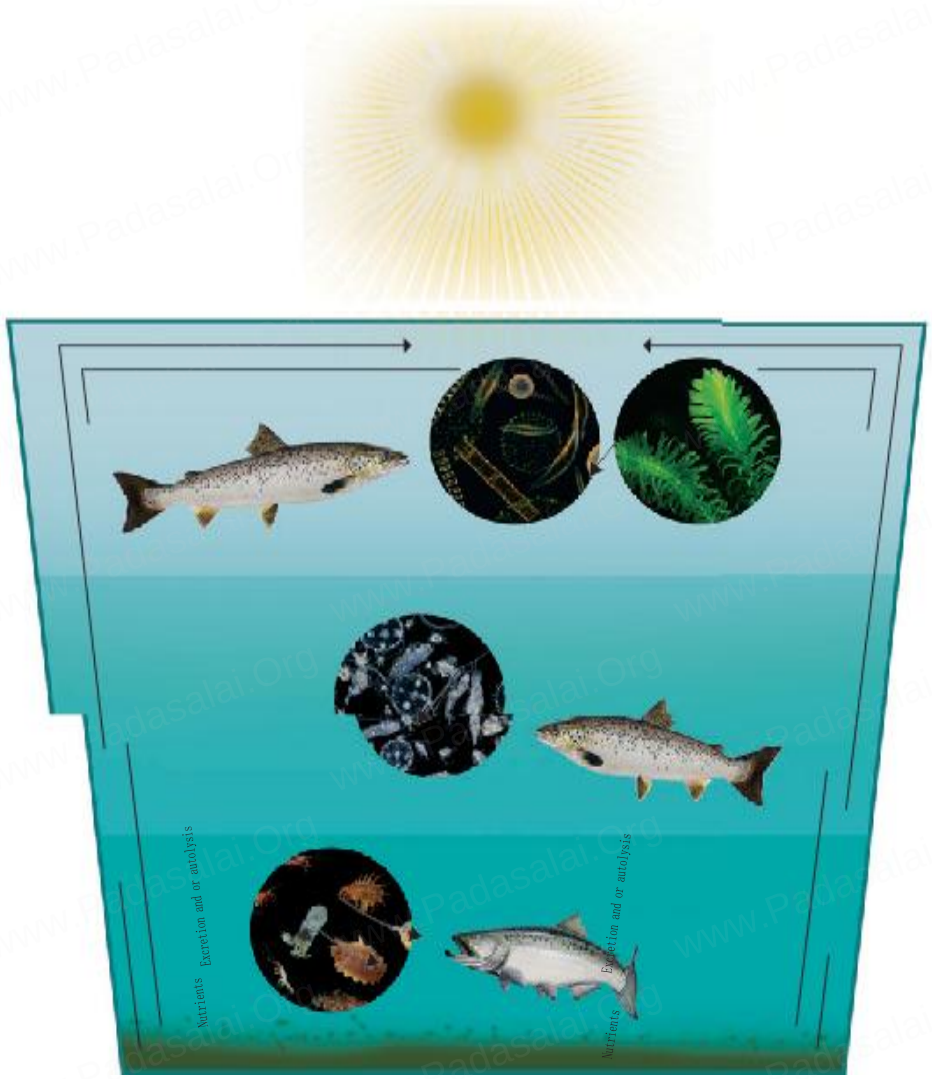
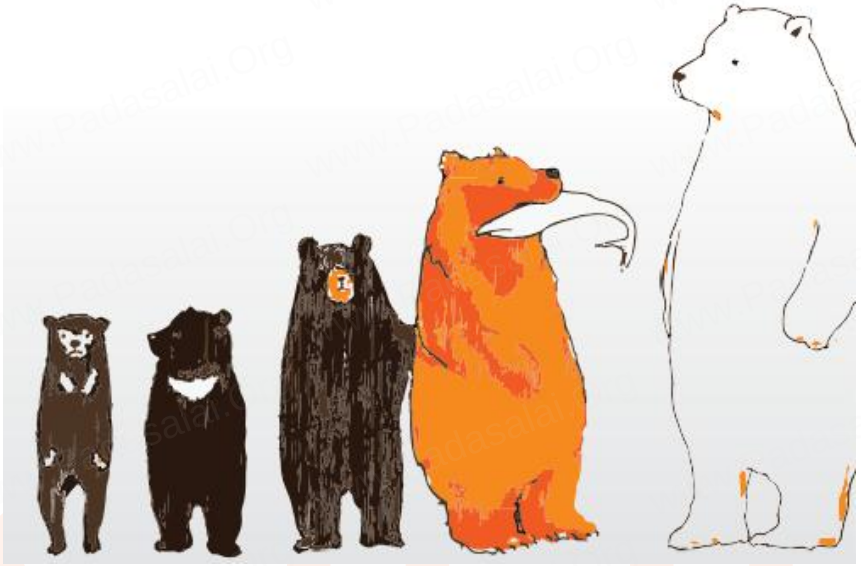
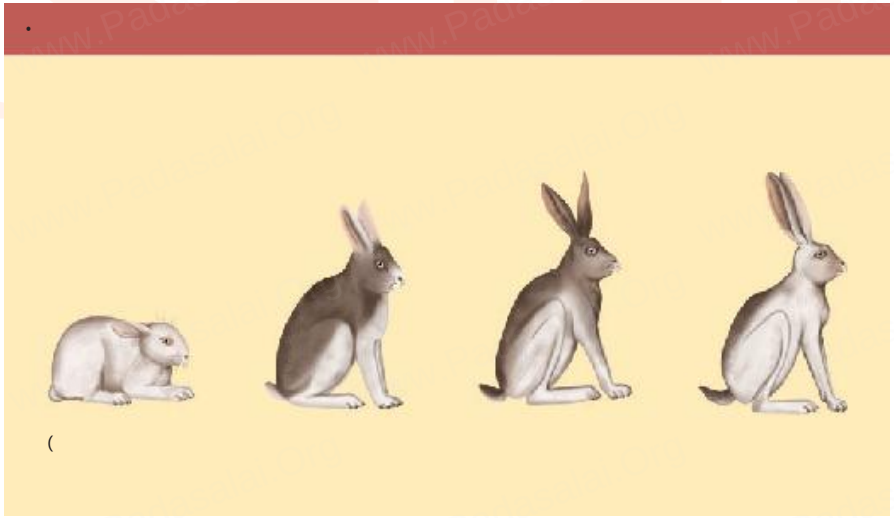


FIG.10.1 TYPES OF FEEDERS (NICHE) IN POND ECOSYSTEM





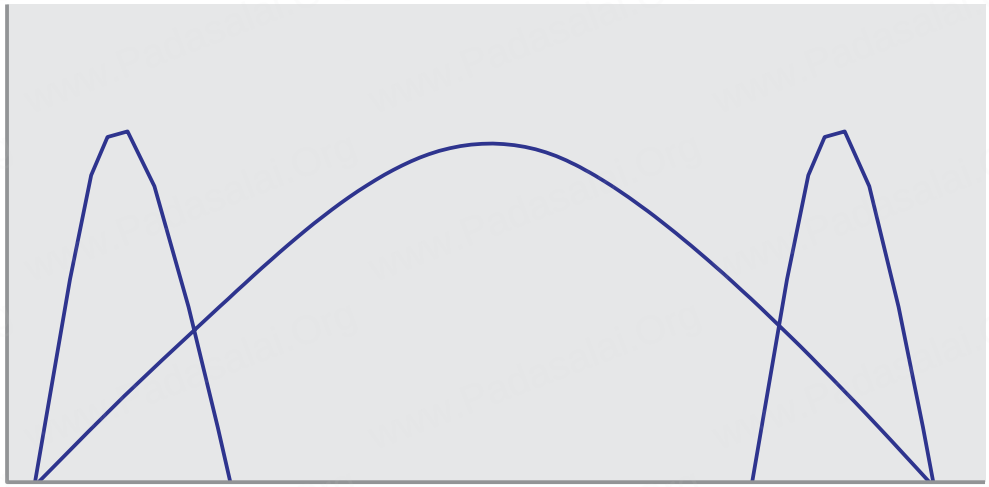


FIG. 10.2 TYPES OF ORGANISMS BASED ON TEMPERATURE TOLERANCE

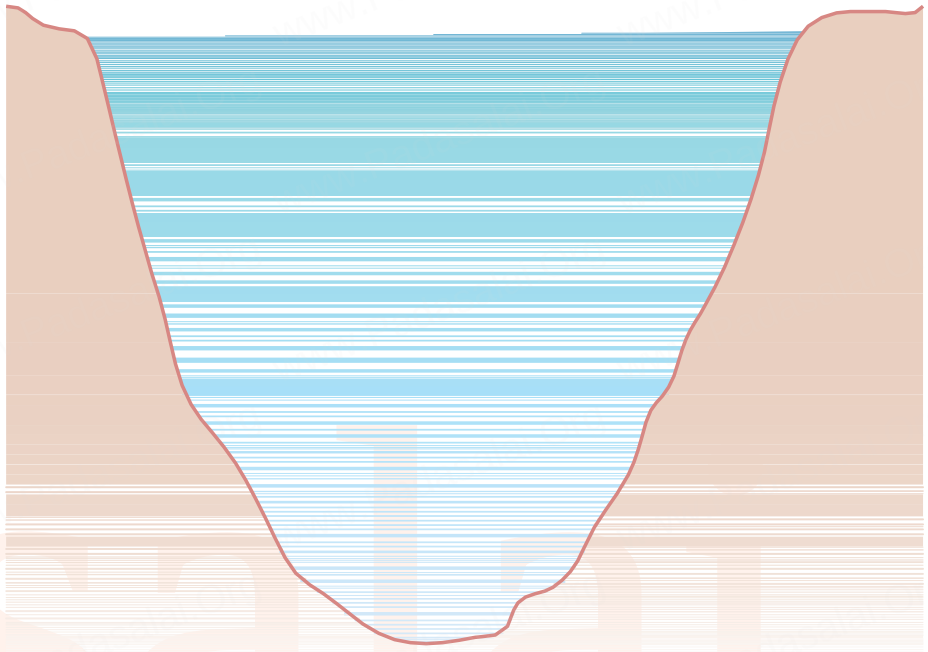


FIG. 10.3 THERMAL ZONES IN COLD WATER BODIES

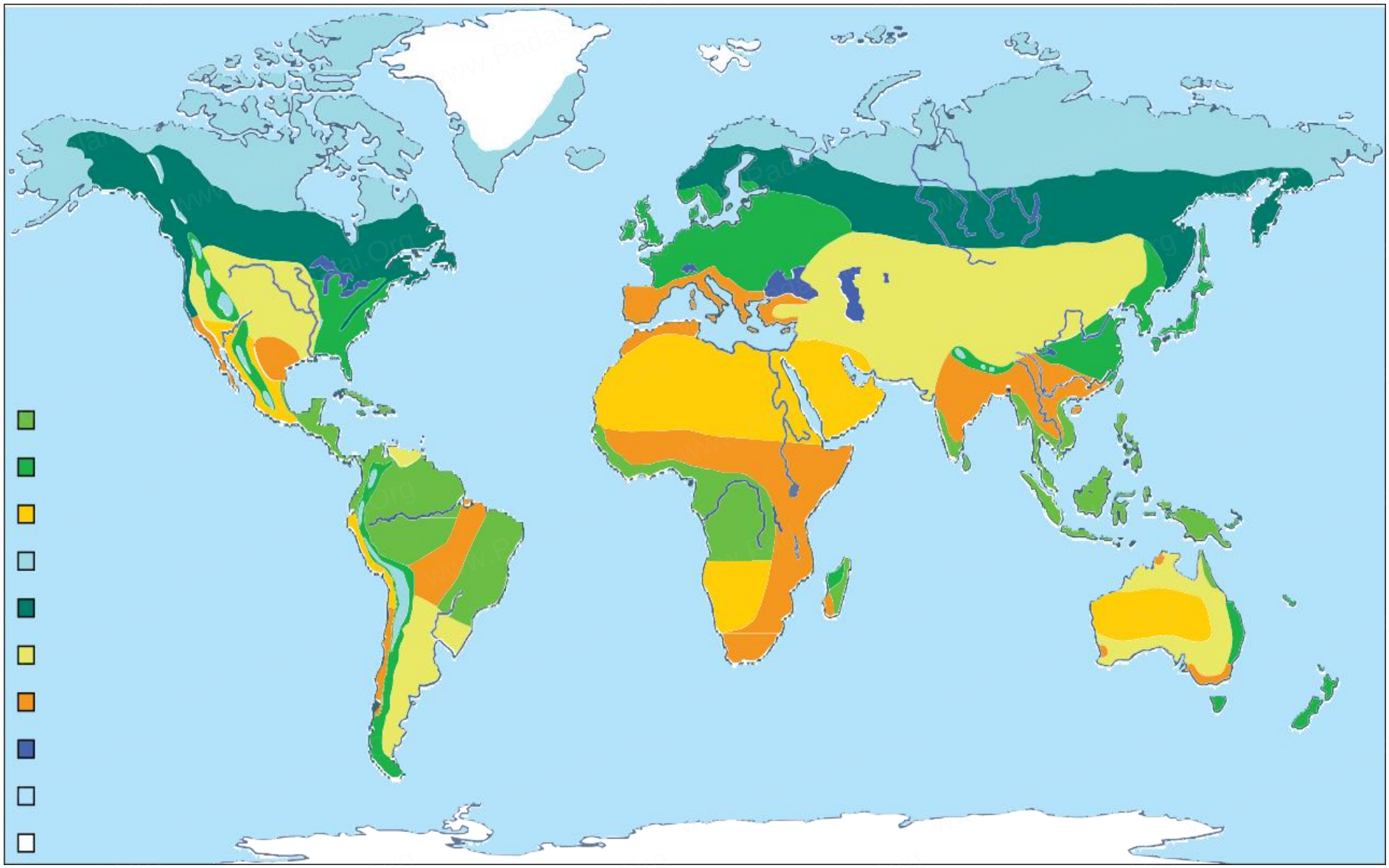


FIG. 10.4 BIOMES AND THEIR GEOGRAPHICAL DISTRIBUTION

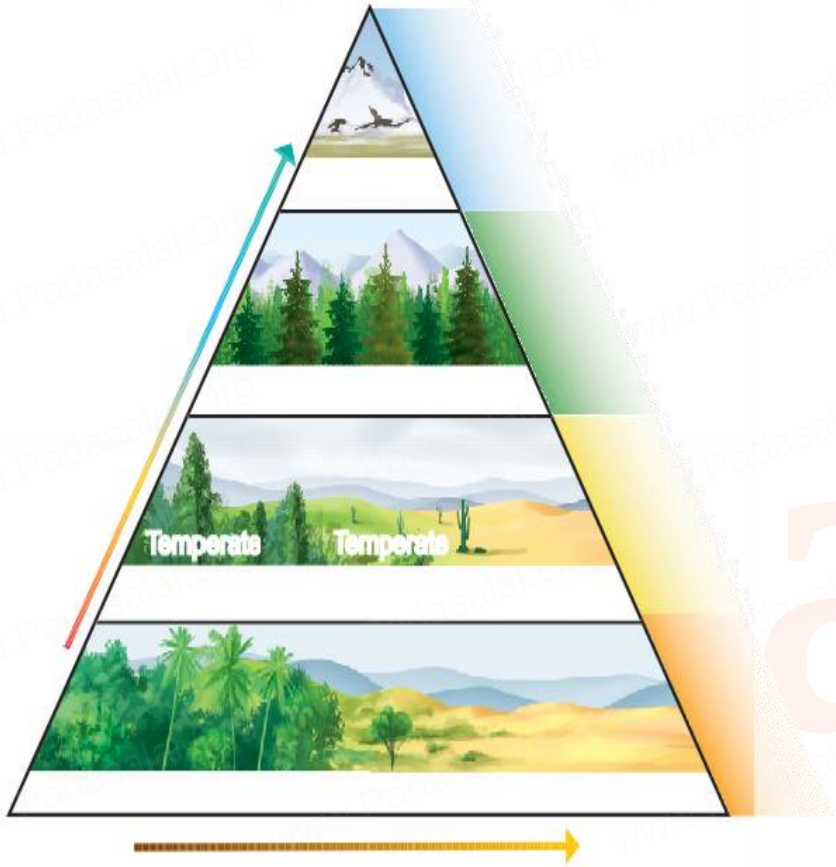


Fig. 10.5 Biomes can be broadly classified as Aquatic biomes and Terrestrial biomes

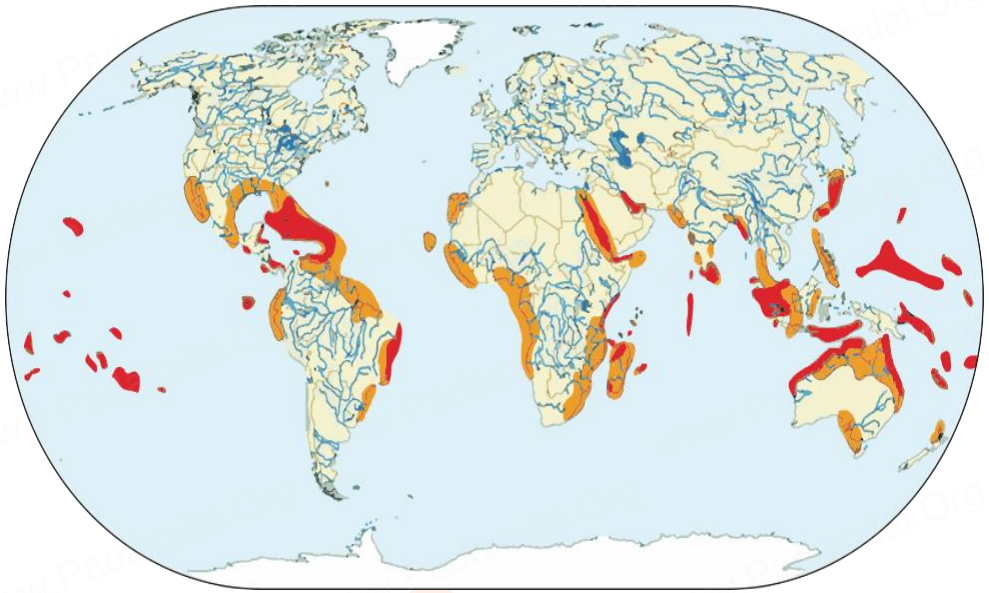


FIG. 10.6 AQUATIC BIOMES

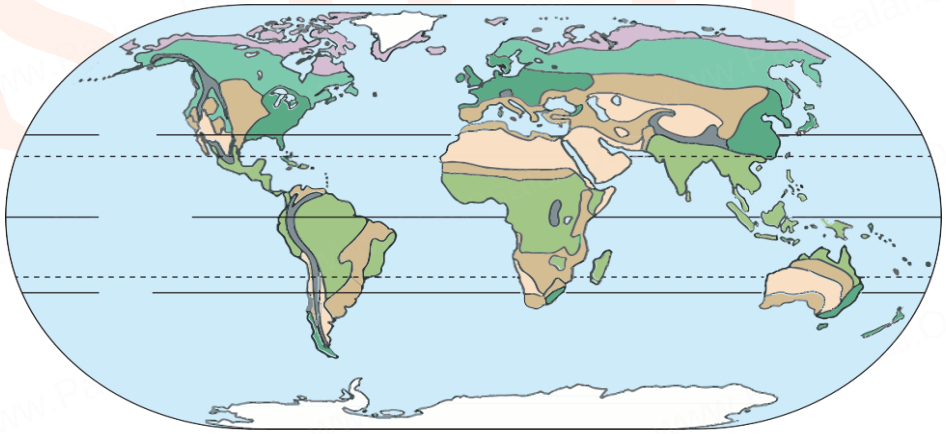


FIG. 10.7 THE DISTRIBUTION OF MAJOR TERRESTRIAL BIOMES

FIG. 10.8 TAIGA BIOME

FIG. 10.9 GRASSLAND BIOME

FIG. 10.10 FOREST BIOME

FIG. 10.11 DESERT BIOME

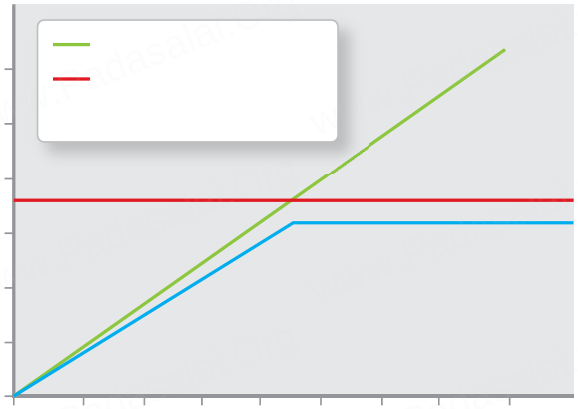


FIG. 10.12 ORGANISMS' RESPONSE TO ENVIRONMENTAL STRESSORS

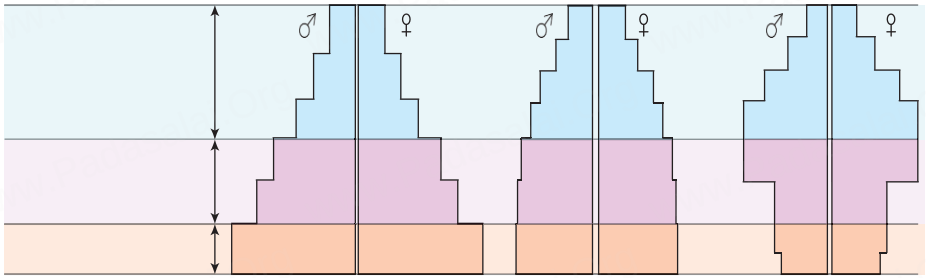


FIG. 10.13 AGE DISTRIBUTION PYRAMIDS

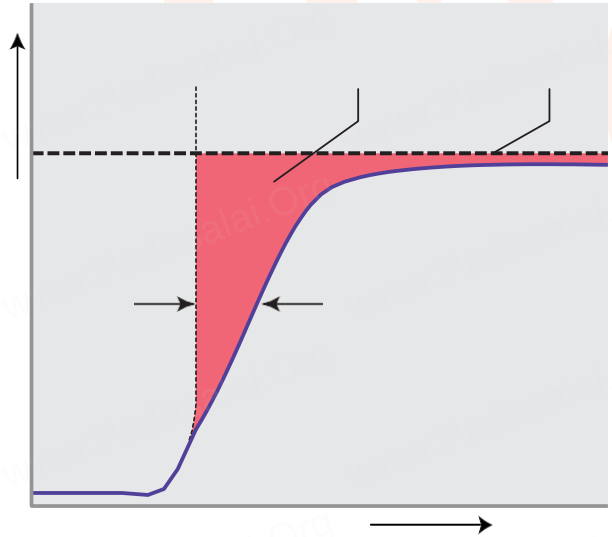


FIG. 10.14 J SHAPED AND S SHAPED GROWTH CURVES

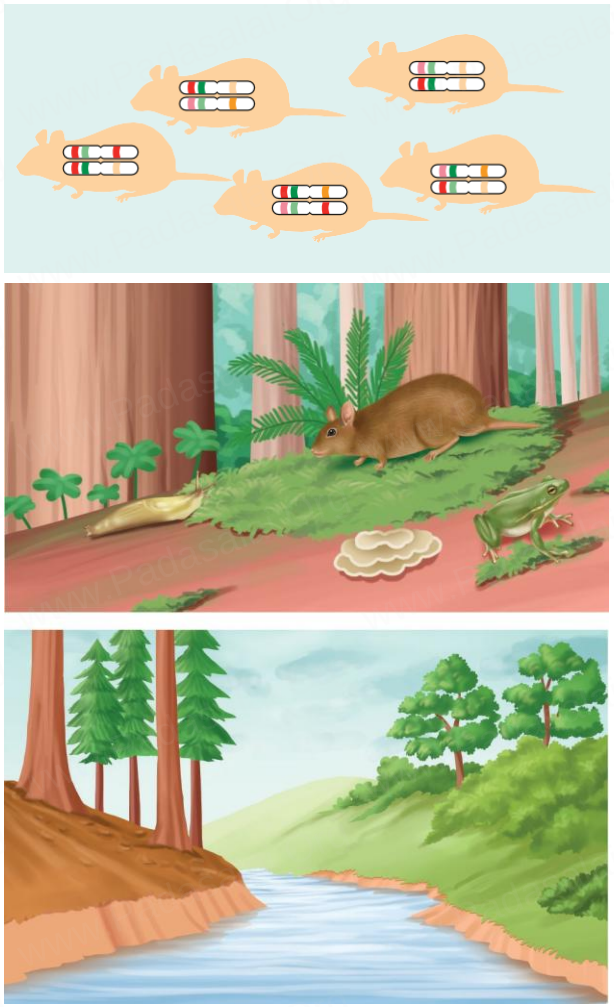


FIG. 11.1 THREE LEVELS OF BIODIVERSITY

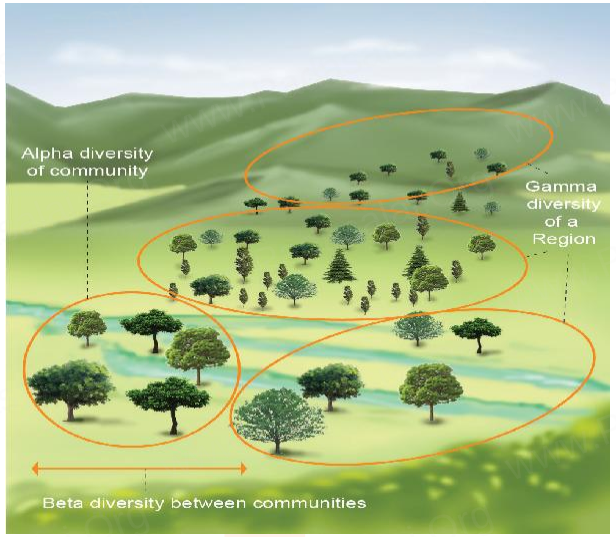


FIG. 11.1A SPECIES BIODIVERSITY

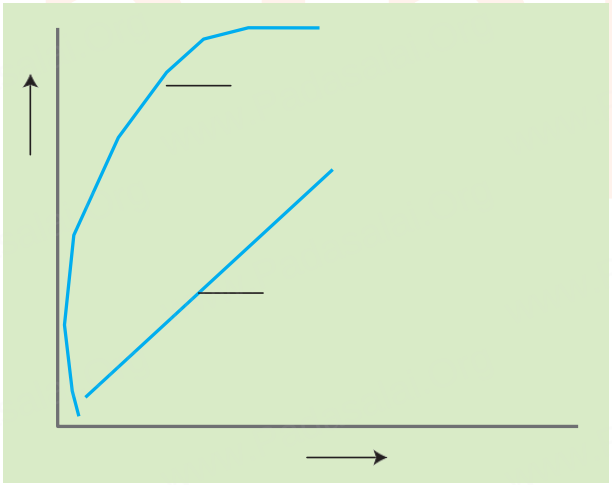


FIG. 11.2 SPECIES - AREA RELATIONSHIP ON LOG SCALE

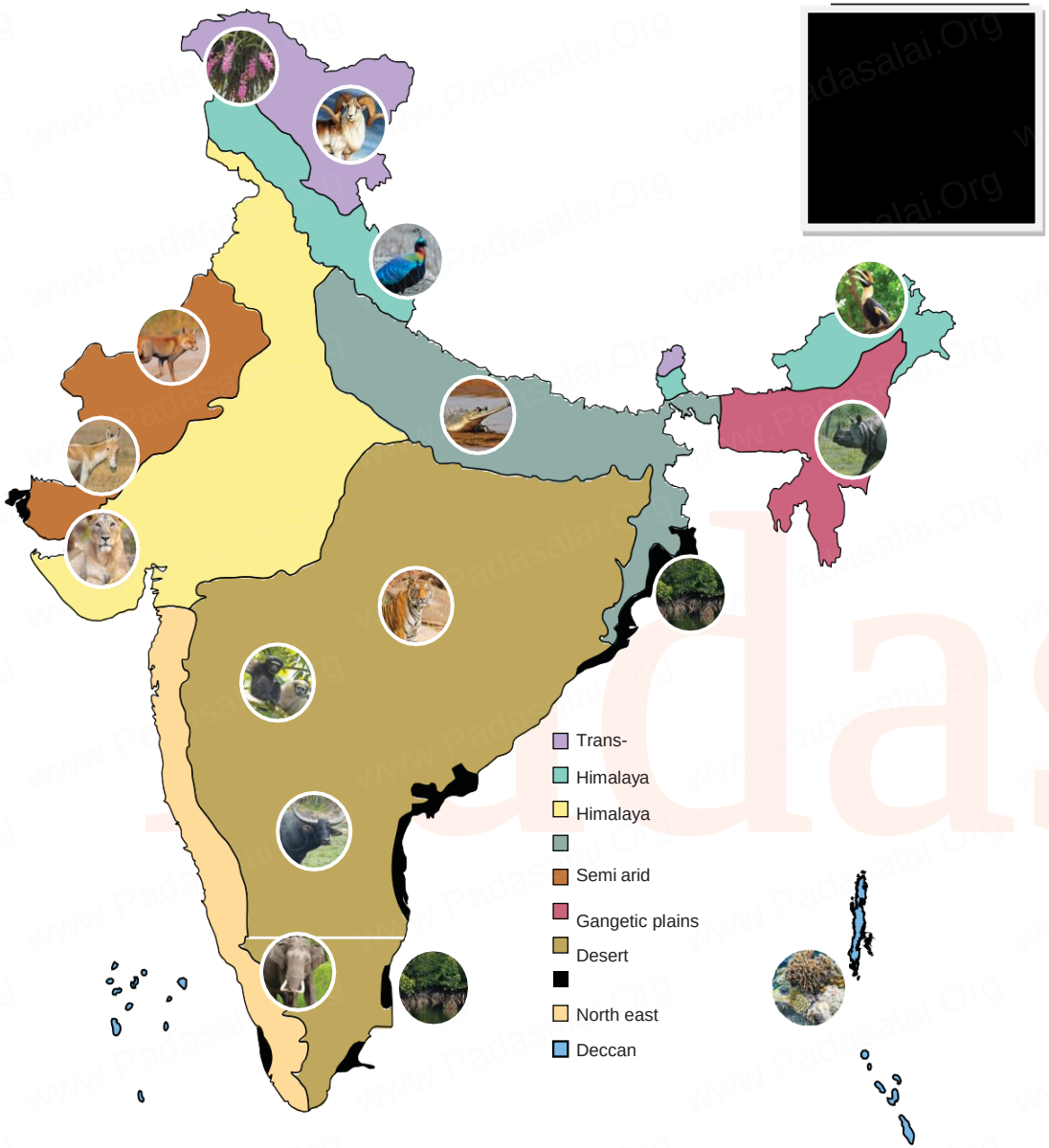


FIG. 11.3 BIOGEOGRAPHICAL REGIONS OF INDIA

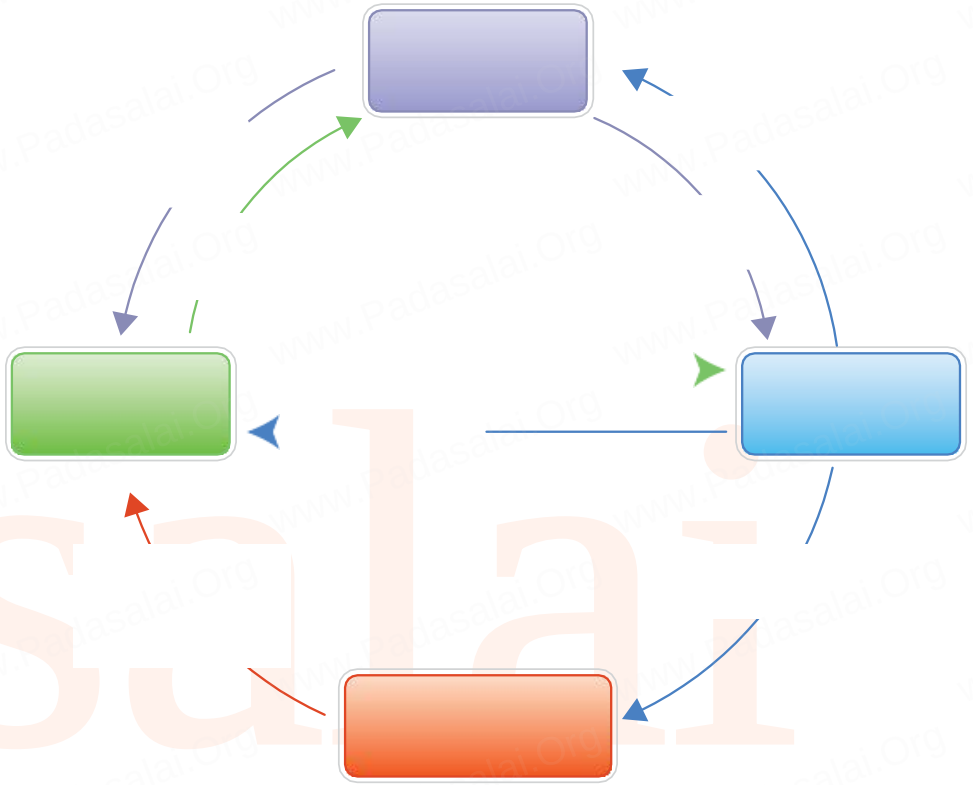


FIG. 11.4 LINKS BETWEEN BIODIVERSITY, CLIMATE CHANGE AND HUMAN WELL - BEING

FIG. 12.1 SOURCES OF AIR POLLUTION.

FIG.12.2 SOURCES OF WATER POLLUTION

FIG. 12.3 ALGAL BLOOM

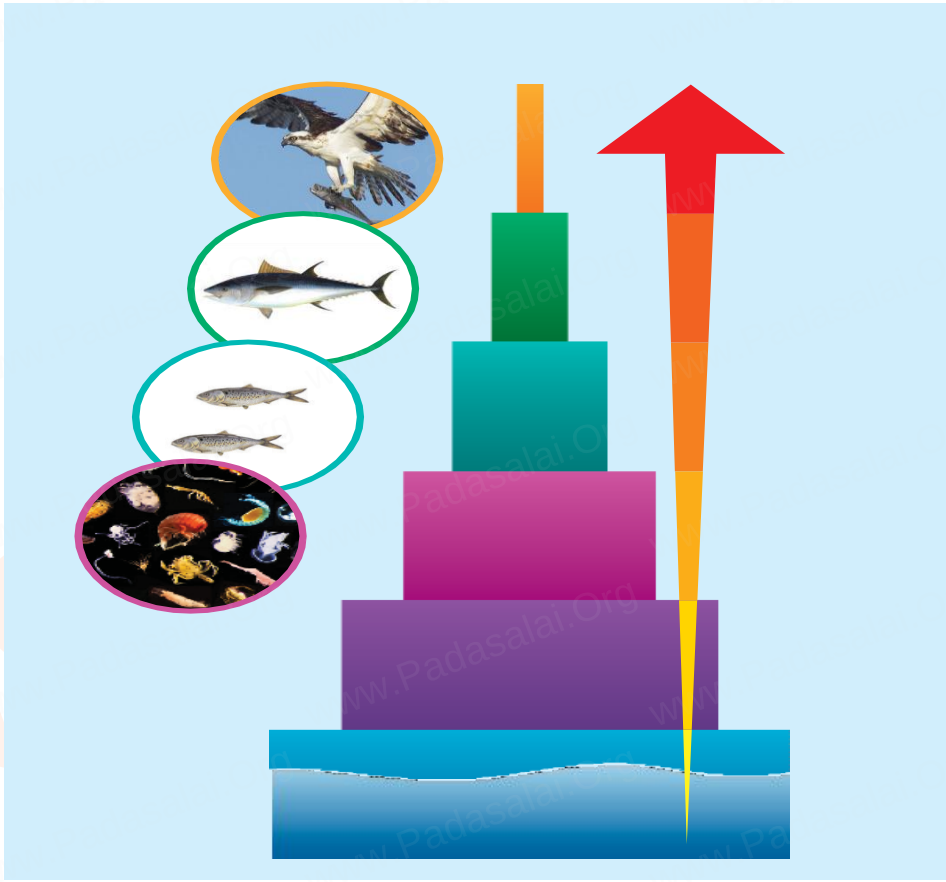


FIG. 12.4 BIOMAGNIFICATION

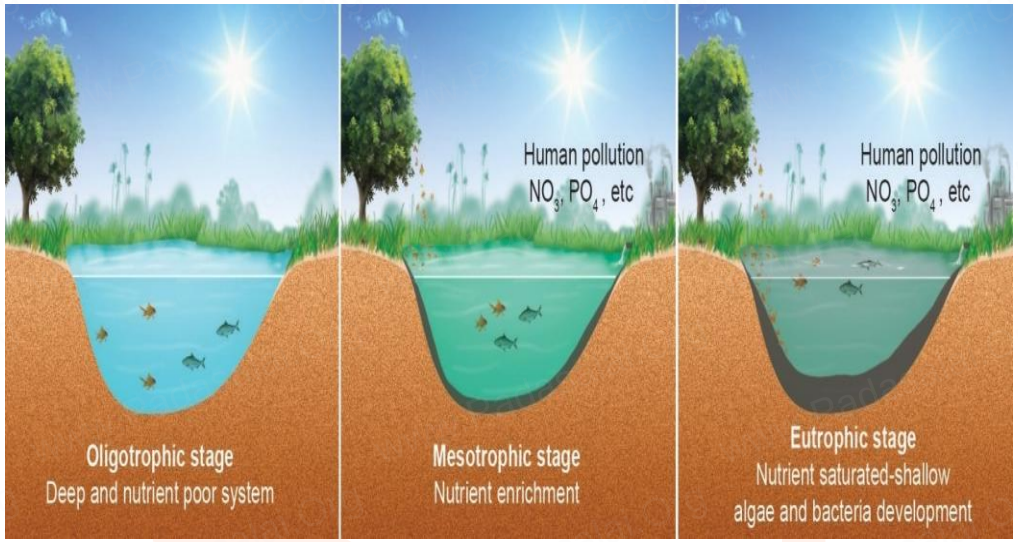


FIG. 12.5 STAGES OF EUTROPHICATION

FIG.12.7 TYPES OF E-WASTES

FIG. 12.6 (A) DEWATS SYSTEM AT AUROVILLE

(B) RZWT SYSTEM AT ARAVIND EYE HOSPITAL