National Testing Agency [NTA]
National Eligibility cum Entrance Test

NEET - 2025

BIOLOGY

Based on NMC

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Publisher Declaration

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and E:Book by APP Youth Prime BOOKS In order to Publish the book,
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INDEX

Class-XI

UNIT I : DIVERSITY IN THE LIVING WORLD

UNIT II STRUCTURAL ORGANISATION IN PLANTS AND ANIMALS

Class-XII

UNIT VI : REPRODUCTION

UNIT VII : GENETICS AND EVOLUTION

UNIT VIII: BIOLOGY IN HUMAN WELFARE

UNIT IX: BIOTECHNOLOGY

UNIT X : ECOLOGY

NEET Exam Pattern & Syllabus

As per the NEET exam pattern, the questions in the medical entrance examination will be divided into two sections: Section A and B. Section A will contain 35 questions while Section B will have 15 questions. Of these 15 questions in Section B, candidates will have to answer 10 questions.

NTA will conduct the NEET exam in pen and paper-based mode for a 3 hours 20 minutes duration, where candidates must answer Multiple Choice Questions (MCQs) from Physics, Chemistry, and Biology subjects as per the given NEET syllabus. Aspirants seeking more information regarding the NEET exam pattern can check the article below to know the level of the exam, types, and the number of questions, marking schemes, and all other relevant information.

Factors in Exam Pattern	Details
Mode of NEET Question Paper	Pen and Paper-based. Candidates will be given an OMR sheet to mark the answers with a black or blue ballpoint pen
Duration of the NEET exam	3 hours and 20 minutes
Language/Medium	English, Hindi, Assamese, Bengali, Gujarati, Marathi, Tamil, Telugu, Oriya, Malayalam, Kannada, Punjabi and Urdu
Question Type	Multiple Choice Questions (MCQs)
Total Number of Questions	A total of 200 questions will be asked out of which candidates will have to answer 180 questions
Total marks in NEET	720 Marks
NEET 2023 Marking Scheme	4 marks will be awarded for each correct answer & 1 mark will be deducted for each wrong attempt

■ NEET Exam Sections and Total Marks

Subjects	Sections	Number of Questions	Section-wise Marks
Physics	Section A	35	140
	Section B	15	40
Chemistry	Section A	35	140
	Section B	15	40
Botany	Section A	35	140
	Section B	15	40
Zoology	Section A	35	140
	Section B	15	40
Total Marks			**720**

BIOLOGY

■ Diversity in Living World

- What is living? ; Biodiversity; Need for classification; Three domains of life; Taxonomy & Systematics; Concept of species and taxonomical hierarchy; Binomial nomenclature; Tools for study of Taxonomy – Museums, Zoos, Herbaria, Botanical gardens.
- Five kingdom classification; salient features and classification of Monera; Protista and Fungi into major groups; Lichens; Viruses and Viroids.
- Salient features and classification of plants into major groups-Algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms (three to five salient and distinguishing features and at least two examples of each category); Angiospermsclassification up to class, characteristic features and examples).
- Salient features and classification of animals-nonchordate up to phyla level and chordate up to classes level (three to five salient features and at least two examples).

■ Structural Organisation in Animals and Plants

- Morphology and modifications; Tissues; Anatomy and functions of different parts of flowering plants: Root, stem, leaf, inflorescence- cymose and recemose, flower, fruit and seed (To be dealt along with the relevant practical of the Practical Syllabus).
- Animal tissues; Morphology, anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of an insect (cockroach). (Brief account only)

■ Cell Structure and Function

- Cell theory and cell as the basic unit of life; Structure of prokaryotic and eukaryotic cell; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles-structure and function; Endomembrane system-endoplasmic reticulum, Golgi bodies, lysosomes, vacuoles; mitochondria, ribosomes, plastids, micro bodies; Cytoskeleton, cilia, flagella, centrioles (ultra structure and function); Nucleus-nuclear membrane, chromatin, nucleolus.

- Chemical constituents of living cells: Biomolecules-structure and function of proteins, carbodydrates, lipids, nucleic acids; Enzymes-types, properties, enzyme action.
- B Cell division: Cell cycle, mitosis, meiosis and their significance.

■ Plant Physiology

- Transport in plants: Movement of water, gases and nutrients; Cell to cell transport-Diffusion, facilitated diffusion, active transport; Plant – water relations – Imbibition, water potential, osmosis, plasmolysis; Long distance transport of water – Absorption, apoplast, symplast, transpiration pull, root pressure and guttation; Transpiration-Opening and closing of stomata; Uptake and translocation of mineral nutrients-Transport of food, phloem transport, Mass flow hypothesis; Diffusion of gases (brief mention).
- Mineral nutrition: Essential minerals, macro and micronutrients and their role; Deficiency symptoms; Mineral toxicity; Elementary idea of Hydroponics as a method to study mineral nutrition; Nitrogen metabolism-Nitrogen cycle, biological nitrogen fixation.
- Photosynthesis: Photosynthesis as a means of Autotrophic nutrition; Site of photosynthesis take place; pigments involved in Photosynthesis (Elementary idea); Photochemical and biosynthetic phases of photosynthesis; Cyclic and non cyclic and photophosphorylation; Chemiosmotic hypothesis; Photorespiration C3 and C4 pathways; Factors affecting photosynthesis.
- Respiration: Exchange gases; Cellular respiration-glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); Energy relations- Number of ATP molecules generated; Amphibolic pathways; Respiratory quotient.
- Plant growth and development: Seed germination; Phases of Plant growth and plant growth rate; Conditions of growth; Differentiation, dedifferentiation and redifferentiation; Sequence of developmental process in a plant cell; Growth regulators-auxin,gibberellin, cytokinin, ethylene, ABA; Seed dormancy; Vernalisation; Photoperiodism.

■ Human Physiology

- Digestion and absorption; Alimentary canal and digestive glands; Role of digestive enzymes and gastrointestinal hormones; Peristalsis, digestion, absorption and assimilation of proteins, carbohydrates and fats; Caloric value of proteins, carbohydrates and fats; Egestion; Nutritional and digestive disorders – PEM, indigestion, constipation, vomiting, jaundice, diarrhea.
- Breathing and Respiration: Respiratory organs in animals (recall only); Respiratory system in humans; Mechanism of breathing and its regulation in humans-Exchange of gases, transport of gases and regulation of respiration Respiratory volumes; Disorders related to respiration-Asthma, Emphysema, Occupational respiratory disorders.
- Body fluids and circulation: Composition of blood, blood groups, coagulation of blood; Composition of lymph and its function; Human circulatory system-Structure of human heart and blood vessels; Cardiac cycle, cardiac output, ECG, Double circulation; Regulation of cardiac activity; Disorders of circulatory system- Hypertension, Coronary artery disease, Angina pectoris, Heart failure.
- Excretory products and their elimination: Modes of excretion- Ammonotelism, ureotelism, uricotelism; Human excretory system-structure and fuction; Urine formation, Osmoregulation; Regulation of kidney function-Renin-angiotensin, Atrial Natriuretic Factor, ADH and Diabetes insipidus; Role of other organs in excretion; Disorders; Uraemia, Renal failure, Renal calculi, Nephritis; Dialysis and artificial kidney.
- Locomotion and Movement: Types of movement-ciliary, fiagellar, muscular; Skeletal muscle-contractile proteins and muscle contraction; Skeletal system and its functions (To be dealt with the relevant practical of Practical syllabus); Joints; Disorders of muscular and skeletal system-Myasthenia gravis, Tetany, Muscular dystrophy, Arthritis, Osteoporosis, Gout.
- Neural control and coordination: Neuron and nerves; Nervous system in humanscentral nervous system, peripheral nervous system and visceral nervous system; Generation and conduction of nerve impulse; Reflex action; Sense organs; Elementary structure and function of eye and ear.
- Chemical coordination and regulation: Endocrine glands and hormones; Human endocrine system-Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; Mechanism of hormone action (Elementary Idea); Role of hormones as messengers and regulators, Hypo-and hyperactivity and related disorders (Common disorders e.g. Dwarfism, Acromegaly, Cretinism, goiter, exopthalmic goiter, diabetes, Addison's disease). (Imp: Diseases and disorders mentioned above to be dealt in brief.)

■ Reproduction

- Reproduction in organisms: Reproduction, a characteristic feature of all organisms for continuation of species; Modes of reproduction – Asexual and sexual; Asexual reproduction; Modes-Binary fission, sporulation, budding, gemmule, fragmentation; vegetative propagation in plants.
- Sexual reproduction in flowering plants: Flower structure; Development of male and female gametophytes; Pollination-types, agencies and examples; Outbreeding devices; Pollen-Pistil interaction; Double fertilization; Post fertilization events- Development of endosperm and embryo, Development of seed and formation of fruit; Special modes-apomixis, parthenocarpy, polyembryony; Significance of seed and fruit formation.
- Human Reproduction: Male and female reproductive systems; Microscopic anatomy of testis and ovary; Gametogenesis-spermatogenesis & oogenesis; Menstrual cycle; Fertilisation, embryo development upto blastocyst formation, implantation; Pregnancy and placenta formation (Elementary idea); Parturition (Elementary idea); Lactation (Elementary idea).
- Reproductive health: Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control-Need and Methods, Contraception and Medical Termination of Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies – IVF, ZIFT, GIFT (Elementary idea for general awareness).

■ Genetics and Evolution

- Heredity and variation: Mendelian Inheritance; Deviations from Mendelism- Incomplete dominance, Co-dominance, Multiple alleles and Inheritance of blood groups, Pleiotropy; Elementary idea of polygenic inheritance; Chromosome theory of inheritance; Chromosomes and genes; Sex determination-In humans, birds, honey bee; Linkage and crossing over; Sex linked inheritance-Haemophilia, Colour blindness; Mendelian disorders in humans-Thalassemia; Chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.
- Molecular basis of Inheritance: Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma; Transcription, genetic code, translation; Gene expression and regulation- Lac Operon; Genome and human genome project; DNA finger printing.
- Evolution: Origin of life; Biological evolution and evidences for biological evolution from Paleontology, comparative anatomy, embryology and molecular evidence); Darwin's contribution, Modern Synthetic theory of Evolution; Mechanism of evolution-Variation (Mutation and Recombination) and Natural Selection with examples, types of natural selection; Gene flow and genetic drift; Hardy-Weinberg's principle; Adaptive Radiation; Human evolution.

■ Biology and Human Welfare

- Health and Disease; Pathogens; parasites causing human diseases (Malaria, Filariasis, Ascariasis. Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology-vaccines; Cancer, HIV and AIDS; Adolescence, drug and alcohol abuse.
- Improvement in food production; Plant breeding, tissue culture, single cell protein, Biofortification; Apiculture and Animal husbandry.
- Microbes in human welfare: In household food processing, industrial production, sewage treatment, energy generation and as biocontrol agents and biofertilizers.

■ Biotechnology and Its Applications

- Principles and process of Biotechnology: Genetic engineering (Recombinant DNA technology).
- Application of Biotechnology in health and agriculture: Human insulin and vaccine production, gene therapy; Genetically modified organisms-Bt crops; Transgenic Animals; Biosafety issues-Biopiracy and patents.

■ Ecology and environment

- Organisms and environment: Habitat and niche; Population and ecological adaptations; Population interactions-mutualism, competition, predation, parasitism; Population attributes-growth, birth rate and death rate, age distribution.
- Ecosystem: Patterns, components; productivity and decomposition; Energy flow; Pyramids of number, biomass, energy; Nutrient cycling (carbon and phosphorous); Ecological succession; Ecological Services-Carbon fixation, pollination, oxygen release.
- Biodiversity and its conservation: Concept of Biodiversity; Patterns of Biodiversity; Importance of Biodiversity; Loss of Biodiversity; Biodiversity conservation; Hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, National parks and sanctuaries.
- Environmental issues: Air pollution and its control; Water pollution and its control; Agrochemicals and their effects; Solid waste management; Radioactive waste management; Greenhouse effect and global warning; Ozone depletion; Deforestation; Any three case studies as success stories addressing environmental issues.

NEET (UG) /AIPMT EXAMINATION PAPER ANALYSIS CHART

S. No.	Examination Question Paper	Exam Date/ year	No. of Question
1.	NEET (UG)	05.05.2024	100
2.	RE-NEET (UG) Manipur	06.06.2023	100
3.	NEET (UG)	07.05.2023	100
4.	RE-NEET (UG)	04.09.2022	100
5.	NEET (UG)	17.07.2022	100
6.	NEET (UG)	12.09.2021	100
7.	NEET (UG)	14.10.2020 Phase 2	90
8.	NEET (UG)	13.09.2020	90
9.	NEET (UG) (Odisha)	20.05.2019	90
10.	NEET (UG)	05.05.2019	90
11.	NEET (UG)	06.05.2018	90
12.	NEET (UG)	07.05.2017	90
13.	NEET (UG)	24.07.2016 Phase 2	90
14.	NEET (UG)	01.05.2016	90
15.	AIPMT	25.07.2015 Re-Exam	90
16.	AIPMT	03.05.2015	90
17.	AIPMT	06.05.2014	90
18.	NEET (UG)	05.05.2013	90
19.	NEET (UG) (Karnataka)	18.05.2013	90
20.	AIPMT	2012 Mains	60
21.	AIPMT	2012	100
22.	AIPMT	2011 Mains	60
23.	AIPMT	2011	100
24.	AIPMT	2010 Mains	60
25.	AIPMT	2010	100
26.	AIPMT	2009	100
27.	AIPMT	2008	100
28.	AIPMT	2007	100
29.	AIPMT	2006	100
30.	AIPMT	2005	100
31.	AIPMT	2004	100
32.	AIPMT	2003	100
33.	AIPMT	2002	100
34.	AIPMT	2001	100
35.	AIPMT	2000	100
36.	AIPMT	1999	100
37.	AIPMT	1998	100
38.	AIPMT	1997	100
39.	AIPMT	1996	100
40.	AIPMT	1995	100
41.	AIPMT	1994	100
42.	AIPMT	1993	100
43.	AIPMT	1992	100
44.	AIPMT	1991	100
45.	AIPMT	1990	100
46.	AIPMT	1989	100
47.	AIPMT	1988	100
48.	AIPMT	1987	100
		Total	**4550**

Note- After the analysis of the above question papers, a total of 4550 (Repeated questions + similar nature questions) questions related to Biology have been placed below the name of the original questions, so that the examinees can understand the nature of repetition of questions.

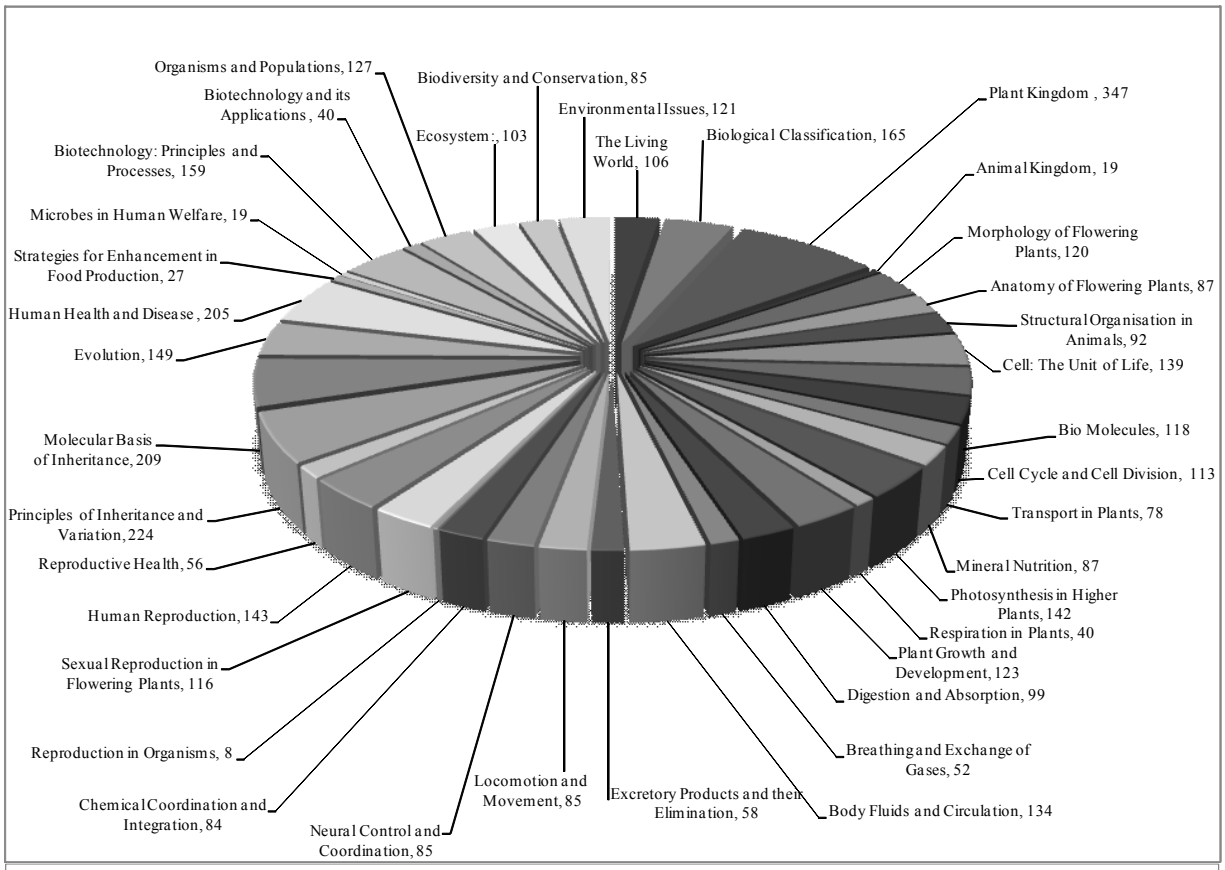
Topic wise Trend Analysis of NEET/AIPMT Previous Question Papers

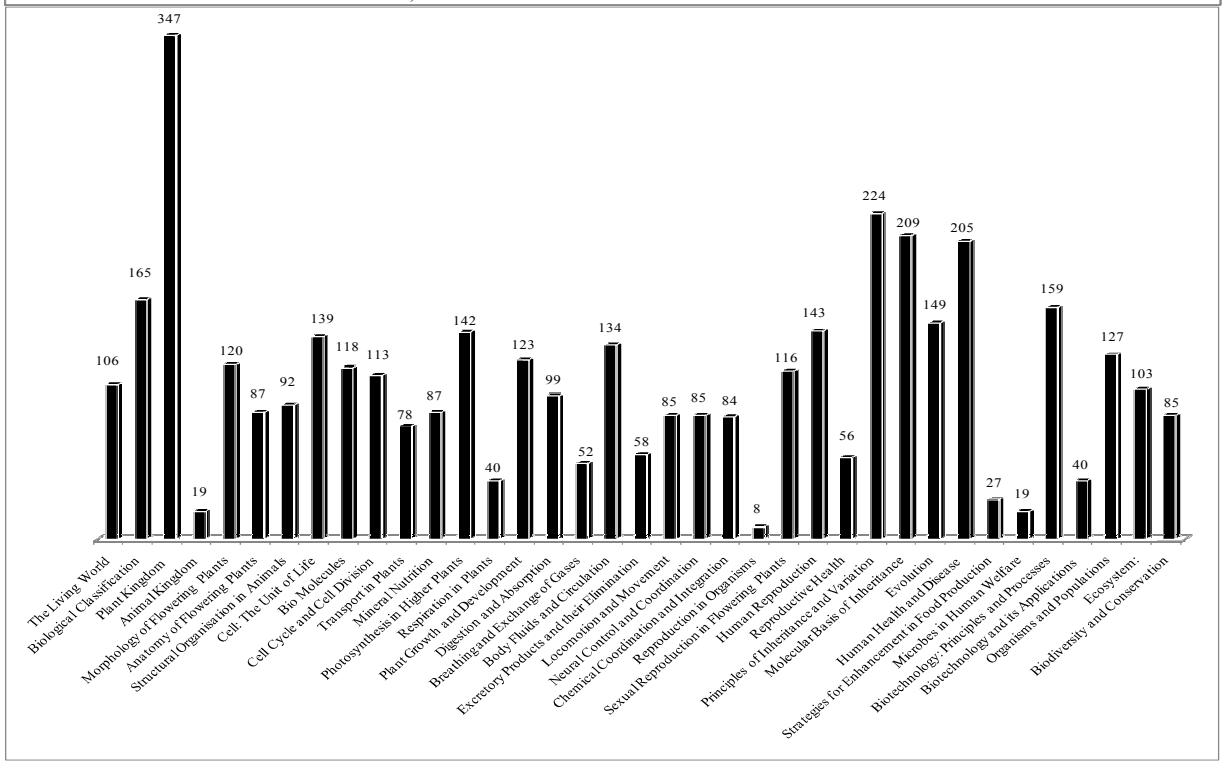
BIOLOGY

Topic	NEET 2013	AIPMT 2014	AIPMT 2015	AIPMT 2015 (Re)	NEET 2016 Phase- I	NEET 2016 Phase- II	NEET 2017	NEET 2018	NEET 2019	NEET 2019 Odisha	NEET 2020	NEET 2020 Phase-II	NEET 2021	NEET 2022	Re NEET 2022	NEET 2023	Re NEET Manipur	NEET 2024
Principle of inheritance, Biotechnology, Molecular basis of inheritance, Biomolecules, Mutation Microbes (Genetics)	16	12	13	16	15	15	18	17	21	22	20	20	28	25	22	21	24	24
Ecology, Demography	11	10	12	11	12	11	7	11	8	8	8	10	9	12	12	11	12	8
Plant Physiology	8	6	7	6	6	9	10	7	8	10	9	9	8	13	14	8	13	8
Plant Diversity	5	16	6	7	7	7	0	8	6	6	4	5	6	5	5	7	3	3
Cell, Cell division	6	6	9	8	9	6	4	5	7	5	6	7	9	7	6	8	8	7
Animal Embryology and Reproductive System	5	5	5	5	6	6	4	5	4	4	5	5	5	5	5	5	5	6
Life History of Angiosperm (Reproduction in Plants)	7	4	5	7	4	5	7	5	4	3	3	3	4	4	5	5	2	3
Plant Morphology, Modification, Families	2	5	4	4	7	4	4	2	1	3	3	3	2	3	3	4	4	4

Immunity, Disease, Biomedical Technique, Drug Addiction, Mental Health	2	3	4	3	3	2	3	3	5	3	3	2	4	2	3	3	3	7
Animal Diversity	5	3	4	3	3	2	3	4	2	2	4	4	4	2	2	2	5	7
Origin & Evolution	5	2	2	2	3	4	2	3	4	3	4	4	2	2	2	2	1	4
Plant Anatomy / Tissues	3	2	2	1	0	2	3	4	3	2	2	2	3	3	3	4	3	4
Endocrine System	3	3	1	2	2	4	3	2	2	3	3	2	1	2	4	1	5	1
Strategies for enhancement in food production (Plant breeding + Animal breeding)	1	1	2	3	2	3	2	0	1	2	1	1	3	1	3	4	1	0
Digestive System, Vitamins, Nutritional Imbalance	1	2	2	2	2	1	3	2	2	2	2	2	2	2	3	2	1	0
Skeletal System & Muscles	3	2	2	2	1	2	1	1	2	2	1	1	3	2	2	1	1	0
Animal Respiratory System	1	1	1	1	3	2	1	3	2	2	2	2	2	2	2	2	2	2
Animal Tissues	0	3	2	1	1	1	2	0	1	1	4	1	1	3	3	2	0	3
Circulatory System	2	1	2	2	1	1	1	2	2	2	2	1	2	2	2	1	2	5
Excretory System	1	1	2	1	1	1	1	2	2	2	2	2	0	1	1	2	1	2
Earthworm and Cockroach\Frog	1	0	0	1	1	1	2	1	1	1	1	2	2	1	2	2	2	0
Nervous System	1	1	2	1	0	0	2	2	1	1	0	1	0	1	1	1	1	2
Receptors (Eye, Ear, Nose)	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	2	1	0
Total	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**90**	**100**	**100**	**100**	**100**	**100**	**100**

Trend Analysis of NEET Biology Questions Through Pie chart and Bar Graph





UNIT-I
DIVERSITY IN THE LIVING WORLD

01.
The Living World

1. Diversity in the Living World

1. House fly belongs to _____ family.
घरेलू मक्खी _____परिवार से संबंधित है।

(a) Calliphoridae/कैलीफोरिडी
(b) Muscidae/म्यूसिडी
(c) Cyprinidae/साइप्रिनिडी
(d) Hominidae/होमिनिडी

RE-NEET Manipur (UG)-06.06.2023

Ans. (b) : House fly belongs to muscidae family. Muscidae are commonly known as house flies or stable flies. The worldwide distribution of these contains almost 4000, described species in over 100 genera.
■ Calliphoridae is the family of blow flies.
■ Cyprinidae is the family of freshwater fishes.
■ Hominidae is the family of apes.

2. According to Robert May, the global species diversity is about / राबर्ट मेय के अनुसार, विश्व में जाति विविधता लगभग कितनी है?

(a) 20 million/20मिलियन
(b) 50 million/50 मिलियन
(c) 7 million/7 मिलियन
(d) 1.5 million/1.5 मिलियन

NEET (UG) -13.09.2020

Ans. (c) : According to Robert may, global species diversity is about 7 million.
- Species diversity refers to the different species present in a particular area.
- It has two components species richness and species evenness.
- Species richness represents the number of species found in an area, whereas species evenness in the relative abundance of each species.

3. Select the incorrect statement.
अनुचित कथन का चयन कीजिए-

(a) In male grasshoppers 50% of sperms have no sex-chromosome/नर टिड्डो में 50% शुक्राणुओं में लिंग-गुणसूत्र नहीं होते।
(b) In domesticated fowls, sex of progeny depends on the type of sperm rather than egg
पालतू मुर्गो में संतति का लिंग शुक्राणु के प्रकार पर निर्भर करता है ना की अंडाणु पर
(c) Human males have one of their sexchromosome much shorter than the other
मानव नरों में एक लिंग-गुणसूत्र दूसरे के अपेक्षाकृत बहुत छोटा होता है।
(d) Male fruit fly is heterogametic
नर फलमक्खी विषमयुग्मकी होते है।

NEET (UG)- 05.05.2019

Ans. (b) : In Domesticated fowls, sex of progeny depends on the type of sperm rather than egg males have both X and Y sex chromosomes it has been observed that the Y chromosome is much shorter than X chromosome.
- The mechanism of sex determination in which males produce two different type of gametes is called male heterogamety.
- This observed in the male fruit fly which produces both X and Y sex chromosome.
- In grasshopper is observed to have the XO type of sex determination in which the male have X sex chromosome but the females have XX sex chromosomes.

In case of domesticated fowls, two different types of gametes (with Z or W sex chromosome) are produced by females but the male produces only one kind (with only Z sex chromosome) this kind of sex determination mechanism is called female heterogamety.

4. Which one of the following experiments suggests that simplest living organisms could not have originated spontaneously from nonliving matter –
निम्नलिखित में से किए एक प्रयोग से जान पड़ता है कि सरलतम सजीव जीवधारी निर्जीव पदार्थ से स्वतः जात उत्पन्न नहीं हो सकते थे-

(a) Larva count appear in decaying organic matter/सड़ते गलते जैविक पदार्थ में लार्वा प्रकट हुए
(b) Meat was not spoiled, when heated and kept sealed in a vessel
मांस को यदि गर्म करके किसी पात्र में सीलबंद करके रखा गया तो मांस खराब नहीं हुआ
(c) microbes did not appear in stored meat
भण्डारित मांस में सूक्ष्मजीव प्रकट नहीं हुए
(d) Microbes appeared form unsterilized organic matter/अनिजर्मीकत जैव पदार्थ से सूक्ष्मजीव प्रकट हुए

AIPMT-2005

Ans. (b) : The simplest living organisms could not have originated spontaneously from non-living matter.

- Microbes were killed by heating the meat and sealed vessel where new microbes could not come in the contact with nutrient medium and hence no spoilage of meal takes place.
- Pasteur performed experiments in which he took sterilized (by boiling) yeast and sugar solution in a long necked then he bent the neck of swan. After one month he absented that no life appeared in flask solution because the curved flask neck acts as filter.
- He later on broken down the neck he found microorganism were originated in solution.

5. Aristotle's lantern occurs in Class
अरस्तू की लालटेन (Lantern) निम्न में से किस वर्ग में पाई जाती है?

(a) Echinoidea / इकाइनोइडिया
(b) Asteroidea / एस्टीरॉइडिया
(c) Holothuroidea / होलोथूरॉइडिया
(d) Ophiuroidea. / ऑफीईयूराडिया

AIMPT 1992

Ans. (a) : The complicated masticatory apparatus of echinus is known as lantern of Aristotle or called Aristotle's lantern .
It is associated with mouth and is composed of five strong and sharp teeth whose lower parts are surrounded and supported by the five-sided structures characteristic of the lantern of Aristotle.

- The lantern comprises of five jaws and five radial pieces.

6. An insect regarded as greatest mechanical carrier of diseases is
वह कीट जो बीमारियों का सर्वश्रेष्ठ यान्त्रिक वाहक (Greatest mechanical carrier) है

(a) Pediculus / पेडीकुलस
(b) Cimex / सिमेस्क
(c) Musca / मस्का
(d) Xenopsylla/ जीनोप्सैला

AIPMT 1991

Ans. (c) : Usually the insects considered injuries are those which bite or sting. The house fly can neither bite or sting yet it is considered as one of the most notorious of all the harmful insect. These flies endanger human lives by carrying germs of various disease.

- Common house fly of our country are *Musca domestica*.

Musca domestica is world wide distribution abundantly found in human habitation and filthy and dirty places. They are prevalent in summer and in rainy seasons.

- The house flies are day time visitors of human habitations specially in non-hygienic conditions.
- Apart from irritations the house flies carry germs of many diseases, Typhoid, cholera etc.

7. Metamorphosis of insects is regulated through hormone
कीटों में कायान्तरण का नियमन होता है-

(a) pheromone / फेरोमोन द्वारा
(b) thyroxine / थाइरॉक्सिन द्वारा
(c) ecdysone / एक्डाइसोन द्वारा
(d) all of these/ उपरोक्त सभी

AIPMT 1991

Ans. (c) : Transformation of immature larva to sexually mature adult is called metamorphosis.

- Ecdysone and juvenile hormone are very important for metamorphosis.
- Ecdysone release from carpora cardiaca which is responsible for moulting.
- Ecdysone is similar to thyroxin hormone of vertebrates.
- Carpora allata secretes a hormone called juvenile it promotes the metamorphosis and change the larva into adult through the pupa stage.
- Juvenile hormone responsible for pupa formation.

8. Honey is
शहद है-

(a) Alkaline/क्षारीय
(b) Basic after some days
ताजी अवस्था में अम्लीय व पुरानी अवस्था में क्षारीय
(c) Acidic/ अम्लीय
(d) Neutral/ उदासीन

AIPMT-1997

Ans. (c) : Honey is a natural, valuable tonic for human body. Honey is sweet, viscous edible fluid.

- The colour, flavor and smell honey depend on the flowers from which nectar is collected. It is an energy rich food.
- Honey is acidic that is honey has an acidic pH that is at a level considered low enough to prevent growth of micro-organisms. For this reason, honey has sometimes been used as a natural anti-bacterial agent.
- Bee wax is made of secretion of worker bees, abdominal glands, it is also used in model of mould making and in printing industry. It is used in the printing industry.

9. Which one of the following fish is introduced into India by foreigners?
निम्न में से कौन-सी मछली विदेशियों द्वारा भारत में लायी गयी?

(a) Mystus singhala/ मिस्टस सिंघला
(b) Clarius batrachus/ क्लारियस बत्राचस
(c) Labeo rohita/ लेबियो रोहिता
(d) Pomfret/ पॉम्फ्रेट

AIPMT-1996

Ans. (d) : Pomfret is exotic fish, the Indian Butterfish better known as pomfret or paplet, is a type of butter fish widely found in South Asia. It is protein rich and has a lot of omega-3-fatty acids that promote cardiovascular health. India's most widely sold fish is the white or silver pomfret and the black pomfret.

10. Silk is produced by
रेशम उत्पादन किया जाता है –

(a) Adult moth/वयस्क कीट
(b) Cocoon/कोकून
(c) Larva/लार्वा
(d) Both (a) and (c)/ (a) व (c) दोनों

AIPMT-1994

Ans. (c) : Sericulture is the process of silk production
- Once the female silkworm has laid the eggs, they hatch after some times.
- The hatched silkworms are incubated in a specified environment.
- The silk that we use for our fabric is obtained from the cocoons of the silkworms.

11. Which among the following is the real product of the honeybee?
निम्न में से मधुमक्खी का वास्तविक उत्पाद क्या है?
(a) Honey/शहद
(b) Propolis/प्रोपोलिस
(c) Pollen/पराग
(d) Beewax/मधुमक्खी का मोम

AIPMT-1994

Ans. (d) : Bees wax is a product made from the honey comb of the honey bee and honey bees.
- Bees wax has been used since prehistory as the first plastic, as a lubricant and water proofing agent.
- Bees wax uses in cosmetics and as an artistic medium in encaustic painting and it also enhances skin elasticity, helping reduce the sign of ageing.

12. Silk thread is obtained from silk moth during
रेशम कीट से रेशमी धागा किस चरण में प्राप्त होता है?
(a) Pupal stage/प्यूपा अवस्था
(b) Larval stage/लार्वा अवस्था
(c) Nymph stage/निम्फ अवस्था
(d) Adult stage./वयस्क अवस्था

AIPMT-1988

Ans. (a) : The full grown larva now stops feeding and hides itself in a corner under the leaves. It now begins to secrete the clear and sticky fluid of its salivary glands through a narrow pore called the spinneret situated on the hypo pharynx. The sticky substances turns into a fine long and solid thread or filament of silk into air.
- The mulberry silkworm moth is very useful and valuable insect.
- The true silk of commerce is the secretion of the caterpillars of silkworm moth.

13. Which one of the following shows maximum genetic diversity in India ?
भारतवर्ष में सबसे अधिक आनुवंशिक विविधता निम्नलिखित में से किस एक में होती है?
(a) Mango/आम (b) Groundnut/मूँगफली
(c) Rice/चावल (d) Maize/मक्का

AIPMT-2011

Ans. (a) : Mango show the genetic diversity about 1000 species, groundnut has 14,600 species and maize show 9000 species in India.
Rice shows the maximum genetic variation about 40,000 to 50,000 species present in India, in other hand 100 varieties present in India.

14. Life span of worker Honey Bee
श्रमिक मधुमक्खी का जीवन काल-
(a) 30 days/30 दिन (b) 15 days/15 दिन
(c) 90 days/90 दिन (d) 10 days/10 दिन

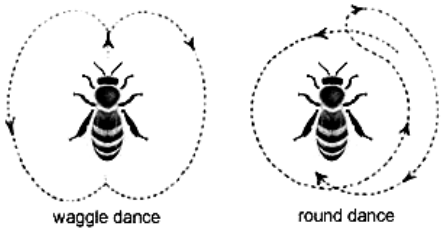
AIPMT-1999

Ans. (c) : Worker Honey Bees have a life span of only six weeks during honey production seasons they collect food, storing nectar, feeding larvae and producing honey.
- The first few weeks of a workers life are spent working within the hive, while the last weeks are spent foraging food and gathering pollen or nectar. So the life span of honey bee is 90 days.

15. Which statement is correct:
निम्न में से कौन-सा कथन सत्य है –
(a) A. indica is largest wild honey bee
एपिस इंडिका सबसे बड़ी जंगली मधुमक्खी है
(b) Wax is waste material of honey bee
मधुमक्खी का अपशिष्ट उत्पाद मोम है
(c) K.V. Fritsch discovered the transmission methods in honey bee
K.V. Fritsch ने मधुमक्खी में संचार विधियों की खोज की
(d) Drone of honey bee is diploid
मधुमक्खी का ड्रोन द्विगुणित होता है

AIPMT-2000

Ans. (c) : Karl Von Frisch (1967) discovered the transmission methods in the honey bee during a number of experiments and found out that when a foraging bee returns to the hive, it performs a **waggle dance**.



- **Apis dorsata** laborisa the Himalayan honey bee, is the **world's largest honey bee**.
- Bees wax is not a waste material. It is secreted by special wax glands present in the abdomen. It is used for making the hives of honeybee.
- **Drones of the honey bee are haploid**. They develop parthenogenetically from unfertilized eggs.

2. Taxonomic Categories

16. Which of the following is not a secondary metabolite ?
निम्नलिखित में से कौन-सा द्वितीयक मेटाबोलाइट नही है?
(a) Anthocyanin/एंथोसायनिन
(b) Lecithin/लेसिथिन
(c) Curcumin/करक्यूमिन
(d) Morphine/मॉर्फिन

RE-NEET Manipur (UG)-06.06.2023

Ans. (b) : Secondary metabolites are produced by certain micro-organism. It's not essential for the growth and reproduction of organisms from which they are not formed. "Secondary metabolites are the chemical compounds that do not participate in plant metabolism".

■ Lecithin is not a secondary metabolites because it is a phospholipid. They are found in cell membrane.

■ Anthocyanin, curcumin and morphine are the secondary metabolites.

17. Diacetyl morphine is also called as:
डाइएसिटाइल मॉर्फीन को इस नाम से भी जान जाता है:

(a) Crack/दरार
(b) Smack/स्मैक
(c) Amphetamine/एम्फैटेमिन
(d) Barbiturate/बार्बिटुरेट

RE-NEET Manipur (UG)-06.06.2023

Ans. (b) : Diacetyl morphine is also called as smack. Smack is also called Heroin. Morphine is used as sedatives. This is obtained by acetylation of morphine. It is extracted from the latex of poppy plant Papaver somniferum.

■ Cocaine is obtained from coca plant and commonly called coke or crack.

■ Amphetamine is a stimulant.

■ Barbiturates belongs to the categories of sedatives.

18. 'X' and 'Y' are the components of Binomial nomenclature. This naming system was proposed by 'Z':
'X' और 'Y' द्विपद नामकरण के घटक हैं। यह नामकरण प्रणाली 'जेड' द्वारा प्रस्तावित की गई थी:

(a) X-Specific epithet, Y-Generic name, Z-Carolus Linnaeus/एक्स – विशिष्ट विशेषण, वाई - सामान्य नाम,जेड - कैरोलस लिनिअस
(b) X-Generic name, Y-Specific epithet, Z-R.H. Whittaker/एक्स – सामान्य नाम, वाई - विशिष्ट विशेषण, जेड - आरएच व्हिटेकर
(c) X-Generic name, Y-Specific epithet, Z-Carolus Linnaeus/ एक्स – सामान्य नाम, वाई - विशिष्ट विशेषण, जेड - कैरोलस लिनिअस
(d) X-Specific epithet, Y-Generic name, Z-R.H. Whittaker/ एक्स – विशिष्ट विशेषण, वाई - सामान्य नाम, जेड - आरएच व्हिटेकर

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Ans. (c) : The system binomial nomenclature is given by Carolus Linnaeus. Every organism is given a scientific name that consists of two components. The first word belongs to generic name and second word is known as the specific epithet.

■ So, the correct answer is X- Generic name, Y – specific epithet, Z- Carolus Linnaeus.

19. In which of the following sets of families, the pollen grains are viable for months?
परिवारों के निम्नलिखित में से किस समूह में परागकण महीनों तक व्यवहार्य रहते है?

(a) Rosaceae, Liliaceae and Poaceae
रोजेसी, लिलिएसी और पोएसी
(b) Leguminasae, Solanaceae and Rosaceae
लेगुमिनेसी, सोलेनेसी और रोजेसा
(c) Solanaceae, Poaceae and Lillaceae
सोलेनेसी, पोएसी और लिलिएसी
(d) Brassicaceae, Liliaceae and Poaceae
ब्रैसिकेसी, लिलिएसी और पोएसी

RE-NEET Manipur (UG)-06.06.2023

Ans. (b) : Pollen is a powdery substances produced by flowers of seed plants. It consists of pollen grains, which produce male gametes.

• Pollen viability refers to the ability of pollen to perform its function of deriving male gametes to the embryo sac.

• Pollen viability varies between minutes and years and which primarily depends on abiotic environmental conditions.

• Pollen with a medium life span (approximately 1-3 months). Example Leguminosae, solanaceae, Rosaceae etc.

20. Match List I with List II :
सूची I को सूची II के साथ सुमेलित करो।

	List I/ सूची I		**List II/ सूची II**
A.	**Heroin/ हिरोइन**	**I.**	**Effect on Cardiovascular system/ हृद वाहिका तंत्र पर प्रभाव**
B.	**Marijuana/ मैरिजुआना**	**II.**	**Slow down body function/ शरीर के प्रकार्यों को धीमा करना**
C.	**Cocaine/ कोकेन**	**III.**	**Painkiller/ दर्द निवारक**
D.	**Morphine/ मार्फीन**	**IV.**	**Interfere with transport of dopamine /डोपामाइन के परिवहन में बाधा**

Choose the correct answer from the options given below :
नीचे दिए गए विकल्पों में से सही उत्तर का चयन करो।

(a) A-III, B-IV, C-I, D-II
(b) A-II, B-I, C-IV, D-III
(c) A-I, B-II, C-III, D-IV
(d) A-IV, B-III, C-II, D-I

NEET (UG)-07.05.2023

Ans. (b) : The main effects of **heroin-**

• Intense pleasure and pain relief.
• Relaxation, drowsiness and clumsiness.
• Confusion.
• Feelings of detachment.
• Slow down body function.

• **Marijuana** - Smoking weed has triggered heart attacks and to a higher risk of strokes and heart failure in people with underlying heart disease.

• **Cocaine** - The pain killing effects work by blocking the transmission of pain impulses from the nerves to the brain, allowing it to be used as a local anesthetic.

• **Morphine** is used to relieve severe pain, such as pain caused by a major trauma or surgery, labour pain in child birth or cancer pain.

21. Family Fabaceae differs from Solanaceae and Liliaceae. With respect to the stamens, pick out the characteristics specific to family Fabaceae but not found in Solanaceae or Liliaceae.
फैबेसी कुल, सोलेनेसी और लिलिएसी से भिन्न है। पुंकेसर के संदर्भ में फैबेसी के उन लक्षणों को चुनिए जो सोलेनेसी या लिलिएसी में नहीं पाये जाते।

(a) Epiphyllous and Dithecous anthers
परिदल लग्न और द्विकोष्ठी परागकोश

(b) Diadelphous and Dithecous anthers
द्विसंघी और द्विकोष्ठी परागकोश

(c) Polyadelphous and epipetalous stamens
बहु संघी और दललग्न पुंकेसर

(d) Monoadelphous and Monothecous anthers
एक संघी और एककोष्ठी परागकोश

NEET (UG)-07.05.2023

Ans. (b) : Diadelphous when stamens are united Partially and are present in two bunches, they are called diadelphous. Ex Pea.

• Diadelphous condition is the characteristics feature of fabaceae family.

• Swallen placenta persistent Calyx is the characteristic feature of solanaceae family.

• Liliaceae family is a monocot family

22. In the taxonomic categories which hierarchical arrangement in ascending order is correct in case of animals?
प्राणियों में वर्गिकी संवर्ग का कौन सा अधिक्रमिक विन्यास आरोही क्रम में सही है?

(a) Kingdom, Order, Phylum, Class, Family, Genus, Species
जगत, गण, संघ, वर्ग, कुल, वंश, स्पीशीज

(b) Kingdom, Phylum, Class, Order, Family, Genus, Species
जगत, संघ, वर्ग, गण, कुल, वंश, स्पीशीज

(c) Kingdom, Class, Phylum, Family, Order, Genus, Species
जगत वर्ग, संघ, कुल, गण, वंश, स्पीशीज

(d) Kingdom, Order, Class, Phylum, Family, Genus, Species
जगत, गण, वर्ग, संघ, कुल, वंश, स्पीशीज

NEET (UG) -17.07.2022

Ans. (b) : Texa (sing-taxon) are the different groups or categories used in classification. Each taxon represents a category or rank in classification. The term 'taxon' was given by Adolf Mayer (1926).

• First used by Linnaeus.

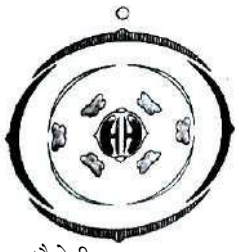
Kingdom
↓
Phylum
↓
Class
↓
Order
↓
Family
↓
Genus
↓
Species

• Taxonomic categories showing hierarchical arrangement in ascending order

• Tribe is a taxonomic category present between subfamily and genus.

• Cohort is a group of co-related orders present between class and order.

23. The Floral Diagram represents which one of the following families?
दिया गया पुष्प चित्र निम्नलिखित में से किस कुल को निरूपित करता है?



(a) Fabaceae/फैबेसी

(b) Brassicaceae/ब्रेसिकेसी

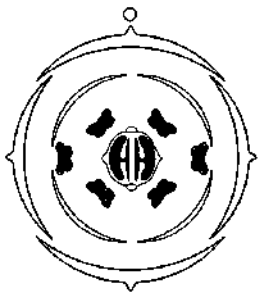
(c) Solanaceae/सोलेनेसी

(d) Liliaceae/लिलिएसी

NEET (UG) Re-Exam-04.09.2022

Ans. (b) : The brassicaceae family includes the plant *Brassica Campestris*

- The floral diagram of the plant family indicates the structure of its flower.
- It displays the positioning of the ovary, the number, and arrangement of petals and sepals, as well as all the other components of a flower.
- The *Brassica Campestris* plant's floral formula is as follows.



Ebr, Ebrl, ⊕♂ K_{2+2} C_4 A_{2+4} $\underline{G}_{(2)}$

Floral diagram with floral formula of *Brassica campestris*

24. Match List - I with List - II:
सूची- I को सूची- II से सुमेलित कीजिए:

	List-I/सूची- I		List-II/सूची- II
A.	Imbricate कोरछादी	i.	Calotropis कैलोट्रोपिस
B.	Valvate/कोरस्पर्शी	ii.	Cassia/केशिया
C.	Vexillary वैक्जीलरी	iii.	Cotton/कपास
D.	Twisted/व्यावर्तित	iv.	Bean/सेम (बीन)

Choose the correct answer from the options given below:
नीचे दिये गये विकल्पों में से सही उत्तर चुनिए:

(a) (A) - (ii), (B) - (i), (C) - (iii), (D) - (iv)
(b) (A) - (ii), (B) - (i), (C) - (iv), (D) - (iii)
(c) (A) - (ii), (B) - (iv), (C) - (iii), (D) - (i)
(d) (A) - (i), (B) - (iii), (C) - (iv), (D) - (ii)

NEET (UG) Re-Exam-04.09.2022

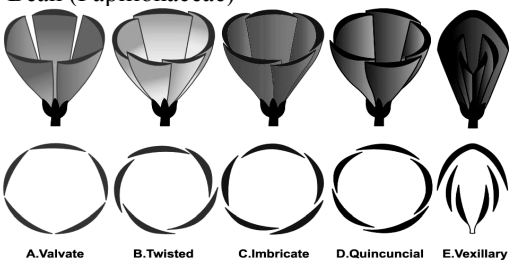
Ans. (b) : Aestivation is the arrangement of petals or sepals in a flower bud. **Valvate, twisted, imbricate and vexillary** are types of aestivation.

(A) Valvate aestivation:- In this sepals or petals or tepals just touch one another without any overlapping e.g.:- *Calotropis procera*.

(B) Twisted aestivation:- Here, one margin of each petal overlap the margin of an adjacent petal and the other margin being overlapped by margin of another adjacent petal.
e.g.:- **Cotton, China Rose**.

(C) Imbricate aestivation:- If the margin of sepals or petals overlap one another but not in any particular direction as in cassia and Gulmohar the aestivation is called imbricate.

(D) Vexillary aestivation:- In this aestivation one large petal covers the other smaller petals e.g.:- Bean (Papilionaceae)



25. Which one of the following plants does not show plasticity?
निम्नलिखित में से कौन सुघट्यता प्रदर्शित नहीं करता?

(a) Maize/मक्का (b) Cotton/कपास
(c) Coriander/धनिया (d) Buttercup/बटरकप

NEET (UG) -17.07.2022

Ans. (a) : Maize is monocot plant (Poaceae) in which hypodermis is sclerenchymatous so maize (zea mays) does not show plasticity.

- **Cotton (Gossypium)** Cotton is belogs to family Malvaceae. Cotton is a seed hair fibre made of cellulose cotton in the most profitable non-food crop in the world.
- **Coriander -** Coriander is belongs to family Apiaceae both leaf 4 fruit (seed) of coriander are used as food and medicine.
- **Buttercup** - Buttercup is belongs to family Ranunculaceae Buttercup is used for skin problem, bronchitis Arthritis Nerve pain

26. Which of the following are true about the taxonomical aid 'key'?
निम्न में वर्गिकी सहायता साधन 'कुंजी' के बारे में क्या सही है।

(A) Keys are based on the similarities and dissimilarities./कुंजी समानताओं एवं असमानताओं पर आधारित होती हैं।

(B) Key is analytical in nature.
कुंजी विश्लेषणात्मक प्रकृति की होती है।

(C) Keys are based on the contrasting characters in pair called couplet.
कुंजी विपर्यासी लक्षणों, की जोड़ी जिन्हें युग्मित कहते हैं पर आधारित होती है।

(D) Same key can be used for all taxonomic categories./एक कुंजी सभी वर्गिकी संवर्ग के लिए प्रयोग में लायी जा सकती है।

(E) Each statement in the key is called Lead./कुंजी में प्रत्येक कथन को लीड कहते हैं।

Choose the most appropriate answer from the options given below:
निम्न विकल्पों से सबसे सही उत्तर का चयन करो:

(a) (A), (B) and (C) only/केवल (A), (B) और (C)
(b) (B), (C) and (D) only/केवल (B), (C) और (D)
(c) (A), (B), (C) and (E) only
केवल (A), (B), (C) और (E)
(d) (A), (C), (D) and (E) only
केवल (A), (C), (D) और (E)

NEET (UG) Re-Exam-04.09.2022

Ans. (c) : Taxonomical aid, keys are used for identifying plants and animals based on the similarities and dissimilarities. For identification purposes, separate taxonomic keys are required for each taxonomic category such as family, genus and species.

- Herbarium is a store house of collected plant specimens that are dried, pressed and preserved on sheets.
- Each statement in the key is called **lead**.
- The keys are based on the contrasting characters generally in a pair called **couplet**.

27. In some members of which of the following pairs of families, pollen grains retain their viability for months after release?
निम्नलिखित में से किन कुलों के युग्म में उनके कुछ सदस्यों में परागकणों की जीवनक्षमता, उनके मुक्त होने के बाद महीनों तक रहती है?

(a) Rosaceae ; Leguminosae/रोवोसी, लेग्युमिनोसी
(b) Poaceae ; Rosaceae/पोएसी, रोजेसी
(c) Poaceae ; Leguminosae/पोएसी, लेग्युमिनोसी
(d) Poaceae ; Solanaceae /पोएसी, सोलेनेसी

NEET (UG) -12.09.2021

Ans. (a) : In members of some plant families like Solanaceae, Rosaceae and Leguminosae the pollen grains retain their viability for several months.

• In cereals (Poaceae) pollen grains retain viability for around 30 minutes.

28. Match Column-I with Column-II
स्तंभ-II को स्तंभ-II से सुमेलित कीजिए।

स्तंभ-I		स्तंभ-II
(A) $\%\,⚥\,K_{(5)}C_{1+2+(2)}A_{(9)+1}\underline{G}_1$	(i)	Brassicaceae ब्रेसिकेसी
(B) $\oplus⚥\,K_{(5)}\widehat{C_{(5)}A_5}\underline{G}_2$	(ii)	Liliaceae/ लिलिएसी
(C) $\oplus⚥\,\widehat{P_{(3+3)}A_{3+3}}\underline{G}_{(3)}$	(iii)	Fabaceae/ फैबेसी
(D) $\oplus⚥\,K_{2+2}C_4A_{2+4}\underline{G}_{(2)}$	(iv)	Solanaceae/ सोलेनेसी

Select the correct answer from the options give below.
नीचे दिये गये विकल्पों में से सही उत्तर चुनिए।

	(A)	(B)	(C)	(D)
(a)	(iv)	(ii)	(i)	(iii)
(b)	(iii)	(iv)	(ii)	(i)
(c)	(i)	(ii)	(iii)	(iv)
(d)	(ii)	(iii)	(iv)	(i)

NEET (UG) -12.09.2021

Ans. (b) :

(A) $\%\,⚥\,K_{(5)}C_{1+2+(2)}A_{(9)+1}\underline{G}_1$ - Fabaceae

(B) $\oplus⚥\,K_{(5)}\widehat{C_{(5)}A_5}\underline{G}_2$ - Solanaceae

(C) $\oplus⚥\,\widehat{P_{(3+3)}A_{3+3}}\underline{G}_{(3)}$ - Liliaceae

(D) $\oplus⚥\,K_{2+2}C_4A_{2+4}\underline{G}_{(2)}$ - Brassicaceae

29. Which of the following is the correct floral formula of Liliaceae?/निम्नलिखित मे से कौन लिलिएसी का सही पुष्पसूत्र है?

(a) $\oplus⚥\,K_{(5)}\,\widehat{C_{(5)}\,A_5}\,\underline{G}_{(2)}$

(b) $\%\,⚥\,C_{1+2+(2)}\,A_{(9)+1}\,\underline{G}_1$

(c) $\oplus\,♂\,♀\,K_{(5)}\,\widehat{C_{(5)}\,A_5}\,\underline{G}_{(2)}$

(d) $Br\,\oplus⚥\,\widehat{P_{(3+3)}\,A_{3+3}}\,G_{(3)}$

NEET (UG) -14.10.2020, Phase-II

Ans. (d) : The floral pattern in liliaceae is as follows, perianth:- Six, in two whorls, gamophyllous, inferior.

- **'Br'** represent bracteate condition, '⊕' represent actinomorphic condition, ⚥ represent bisexual condition.
- Androecium:- Six, in two whorls, polyandrous, epiphyllous,
- Gynoecium:- Tricarpellary, Syncarpous, ovary is superior, ovules are numerous, axile placentation, style is simple, stigma is three lobed.

30. Bicarpellary ovary with obliquely placed septum is seen in :
तिरछे कोष्ठ द्वारा सेप्टम वाला द्विअंडपी अंडाशय किसमें होता है?

(a) Sesbania/ सिस्बैनिया (b) Brassica/ ब्रेसिका
(c) Aloe/ एलोय (d) Solanum/ सोलैनम

NEET (UG) Odisha-20.05.2019

Ans. (d) : One of the most important characteristic features of the family Solanceae is Bicarpellary gynoecium with oblique. In this, the ovary is placed obliquely in a diagonal plane, shows axile placentation, and is superior.

- In botany, Bicarpellary gynoecium (of an ovary) means having two carpels. Oblique ovary means the ovary is placed obliquely in a diagonal plane.

31. Coca alkaloid or cocaine is obtained from :
कोका एल्केलॉइड या कोकेन किससे प्राप्त होता है?

(a) *Datura*/ धतूरा
(b) *Papaver somniferum*/ पैपावर सोम्नीफेरम
(c) *Atropa belladonna*/ एट्रोफा बेलाडोना
(d) *Erythroxylum coca*/ एरिथ्रोजाइलम कोका

NEET (UG) Odisha-20.05.2019

Ans. (d) : Cocaine is a naturally occurring alkaloid produced from the leaves of the coca plant *(Erythroxylon cocoa)*. It is a powerful CNS (central nervous system) stimulant, which induces a sense of well- being and pleasure and delays fatigue. It causes lack of sleep, loss of appetite, headache, convulsions, insomnia, respiratory or cardiac failure and may lead to mental disorder.

32. Which of the following is against the rules of ICBN?
निम्नलिखित में से कौन-सा कथन ICBN (आइ.सी.बी.एन.) नियमों के विरुद्ध है?

(a) Generic and specific names should be written starting with small letters./ वंश नाम और जाति नाम को छोटे अक्षर से आरम्भ कर लिखा जाना चाहिए।
(b) Hand written scientific names should be underlined./ हाथ से लिखे वैज्ञानिक नामों को रेखांकितं किया जाना चाहिए।
(c) Every species should have a generic name and a specific epithet./ प्रत्येक जाति का एक वंश नाम और एक एक जाति संकेत पद होता है।
(d) Scientific names are in Latin and should be italized./ वैज्ञानिक नामों को लेटिन में लिखा जाता है और इन्हें तिरछा लिखना चाहिए।

NEET (UG) Odisha-20.05.2019

Ans. (a) : Generic and Specific names should be written starting with small letters.

- **ICBN write the important rules and guidelines for scientific names –**
- All the scientific names of organisms are usually latin hence, they are written in italics

- There exist two parts of a name. 1) Generic name 2) specific epithet
- When the names are handwritten, they are underlined or italicized if typed. This is done to specify its Latin origin.
- The name of the genus starts with a capital letter and the name of the species starts with a small letter.

Ex- The scientific name of humans is presented as *Homo sapiens*. 'Homo' represents the genus and 'sapiens' represents a particular species.

33. The contrasting characteristics generally in a pair used for identification of animals in Taxonomic Key are referred to as :
एक वर्गिकी कुंजी में जन्तुओं की पहचान के लिए प्रायतः विपरीत अभिलक्षणों के युग्म को कहते हैं–

(a) Alternate/ एकांतर (b) Lead/ लीड
(c) Couplet/ कपलेट (d) Doublet/ डबलेट

NEET (UG) Odisha-20.05.2019

Ans. (c) : The contrasting characters in a key which are generally in a pair is called couplet. It represents the choice made between two opposite options, which results in acceptance of only one and rejection of the other. Each statement in the key is called a **lead**.

34. Select the correctly written scientific name of Mango which was first described by Carolus Linnaeus
आम का कैरोलस लीनियस द्वारा सर्वप्रथम व्यक्त किया गया सही लिखित वैज्ञानिक नाम का चयन कीजिए।

(a) Mangifera indica Linn/मैंगीफेरा इण्डिका लिन
(b) Mangifera indicaमैंगीफेरा इण्डिका
(c) Mangifera indica/मैंगीफेरा इण्डिका
(d) Manfifera indica Car. Linn.
मैंगीफेरा इण्डिका कार्ल लिन

NEET (UG)- 05.05.2019

Ans. (a) : According to rules of binomial nomenclature, the name of an organism contain a generic and specific name.
So the correctly written scientific name of mango is mangifera indica Linn.

35. Drug called 'Heroin' is synthesized by
'हेरोइन' नामक ड्रग कैसे संश्लेषित की जाती है?

(a) acetylation of morphine
मॉर्फिन के एसीटाइलीकरण से
(b) glycosylation of morphine
मॉर्फिन के ग्लाइकोसीकरण से
(c) nitration of morphine
मॉर्फिन के ग्लाइकोसीकरण से
(d) methylation of morphine
मॉर्फिन के मिथाइलीकरण से

NEET (UG)- 05.05.2019

Ans. (a) : Heroin is a derivative of morphine, derived from opium.
Heroin, commonly called smack and is chemically diacetylmorphine which is synthesized by acetylation of morphine.
- Opium is a highly addictive narcotic drug acquired in the dried latex from the opium poppy seed pod.
- Heroin is derived from the morphine alkaloid found in opium.
- It is roughly 2 to 3 times more potent than morphine.

36. Which part of poppy plant is used to obtain the drug "Smack"? / ''स्मैक'' नामक ड्रग पोस्ता पौधे के किस भाग से प्राप्त होती है ?

(a) Flowers / फूलों से (b) Latex / लैटेक्स से
(c) Leaves / पत्तियों से (d) Roots / जड़ों से

NEET (UG)-06.05.2018

Ans. (b) : The latex of poppy plant Papaver somniferum is used to obtain smack. It is white crystalline odorless. Bitter in taste. Smack also called as **brown sugar/heroin** is extracted from acetylating of morphine. It is obtained from the latex of unripe capsule of poppy plant.

37. Match the items given in Column I with those in Column II and select the correct option given below:

	Column I/स्तम्भ I		Column II/स्तम्भ II
(A)	**Herbarium पादपालय**	**(i)**	**It is a place having a collection of preserved plants and animals परिरक्षित पादपों और जन्तुओं के संग्रह का एक स्थान।**
(B)	**Key /कुंजी**	**(ii)**	**A list that enumerates methodically all the species found in an area with brief description aiding identification/ एक क्षेत्र में पाई गई सभी जातियों का विधिपूर्वक गणन करते हुए और उनकी पहचान की सुगमता के लिए संक्षिप्त वर्णन करते हुए एक सूची।**
(C)	**Museum /संग्रहालय**	**(iii)**	**Is a place where driedand pressed plant specimens mounted on sheets are kept/ऐसा स्थान जहाँ पादप नमूनों को सुखाकर और दबाकर पत्र पर आरोपित कर रखा जाता है।**

(D)	**Catalogue /ग्रंथसूची**	**(iv)**	**A booklet containing a list of characters and their alternates which are helpful in identification of various taxa. एक पुस्तिका जिसमें लक्षणों की सूची और उनके विकल्प होते हैं जो विभिन्न वर्ग की पहचान करने में सहायक होते हैं।**

	A	B	C	D
(a)	(i)	(iv)	(iii)	(ii)
(b)	(iii)	(ii)	(i)	(iv)
(c)	(iii)	(iv)	(i)	(ii)
(d)	(ii)	(iv)	(iii)	(i)

NEET (UG)-06.05.2018

Ans. (c) : Herbarium – Dried and pressed plant specimen.

- Key Role – Identification of various taxa.
- Museum – Plant and animal specimen are preserved.
- Catalogue – Alphabetical listing of species.
- Herbarium is a collection of persevered plant or fungal specimens. They are mounted on sheet of paper and stored, catalogued and arranged systematically.
- Taxonomic keys are the tools for the identification of unfamiliar plants.
- Museum is a building where a large number of interesting and valuable wings are kept.
- Catalogue is a list or register that enumerates methodically all the species found in particular place.

38. $\oplus\ \female\ K_{(5)}\ \overset{\curvearrowleft}{C}_{(5)}\ A_5\ G_{(2)}$ **is the floral formula of**
किसका पुष्प सूत्र है?

(a) Sesbania/सिस्बेनिया (b) Petunia/पिटूनिया
(c) Brassica/ब्रेसिका (d) Allium/एलियम

AIPMT-03.05.2015

Ans. (b) : The floral formula given by family Solanaceae. Among the given options—only Petunia belongs to Solanaceae family, but other options—

- Allium is a member of Liliaceae family.
- Brassica is a member of family Brassicaceae or cruciferae.
- Sesbania belongs to family Leguminosae.

39. Keel is the characteristic feature of flower of :-
कील (नौतल) किसके पुष्प का अभिलक्षण है?

(a) Indigofera/इन्डीगोफेरा (b) Aloe/एलोए
(c) Tomato/टमाटर (d) Tulip/ट्यूलिप

AIPMT-03.05.2015

Ans. (a) : The flowers of family Papilionaceae have butterfly shaped corolla, the outermost petal is called **standard** or **vexillum**, two lateral petals are similar and clawed, they are called **wings** or **alae** and two anterior petals are called a **keel** this type of petal arrangement is found in the bean, gram, pea, indigofera. Keel are formed when two anterior small petals are fused at the base. When the keel is formed it forms a concave shape.

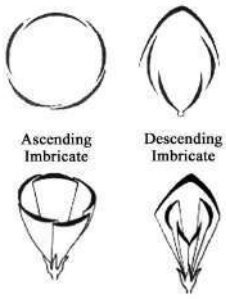
40. When the margins of sepals or petals overlap one another without any particular direction, the condition is termed as:
जब बाह्यदल पुंज या दल पुंज की किनारें, बिना किसी विशेष दिशा से एक दूसरों को अतिछादित करती हैं तो इस दशा को कहा जाता है:

(a) Vexillary/वैक्जीलरी (b) Imbricate/कोरछादी
(c) Twisted/व्यावर्तित (d) Valvate/कोरस्पर्शी

AIPMT -06.05.2014

Ans. (b) : Aestivation is the arrangements of accessory floral organs (sepals or petals) in relation to one another in floral bud. It may be of open, valvate, twisted or imbricate type. In imbricate aestivation there is an irregular overlapping of petals by one another. It has three subtypes besides imbricate proper i.e. qincuncial, ascending imbricate and descending imbricate or vexillary. Cassia, Pisum, etc, show imbricate aestivation.

Example- Gulmohar, Cassia, and Legumes.



41. Which one of the following statements is correct
निम्नलिखित कथनों में से कौन सा सही है?

(a) The seed in grasses is not endospermic
घासों के बीच भ्रूणपोषी नहीं है।
(b) Mango is a parthenocarpic fruit
आम एक अनिषेकफली फल है।
(c) A proteinaceous aleurone layer is present in maize grain./मक्का के दाने में एक प्रोटीनीकृत एल्युरोन परत उपस्थित होती है।
(d) A sterile pistil is called a staminode
एक बंध्य स्त्रीकेसर को बंध्य पुंकेसर कहा जाता है।

AIPMT -06.05.2014

Ans. (c) : Grasses belongs to poaceae family and its seeds are endospermic. Mango is a seeded fruit. A sterile pistil is called pistillode and a sterile stamen is called staminode. Example- of sterile flower **Ray Florets of Sunflower.** Maize grains consist of fruit wall, seed coat, endosperm and embryo. The endosperm consists of two parts, horny aleurone layer and mainly storage layers. The aleurone layer lies immediately below the grain covering and is 1-3 cell thick. Aleurone cells are thick walled with cytoplasm filled with aleurone grains which produce enzymes during seed germination to mobilise stored nutrients.

42. A species facing extremely high risk of extinction in the immediate future is called.
एक जाति, जो निकट भविष्य में विलोपन के उच्च जोखिम की चरमता का सामना कर रही है उसे क्या कहा जाता है?
(a) Vulnerable/सुभेद्य
(b) Endemic/स्थानिक
(c) Critically Endangered/क्रान्तिक संकटापन्न
(d) Extinct/विलोप

AIPMT -06.05.2014

Ans. (c) : A critically endangered species is one that is facing a very high risk of extinction in the world and is at the highest risk category. Example giant salamanders.
A vulnerable species is one that is not currently endangered but faces a high risk of endangerment in the near future, either due to a declining population or threats to natural habitats. Example- Giant panda, snow leopard, red panda etc.
- Endemic species are plants and animals that exist only in one geographic region. Example- Asiatic lion in Gir forest, Nilgiri Blue Robin, Nicobar megapode.
- The animals that no longer exist on earth are called extinct species. Example- Dodo, passenger pigeon, Tasmanian tiger , woolly mammoth.

43. The organization which publishes the Red List of species is.
कौन-सा संगठन जातियों की रेड सूची प्रकाशित करता है:-
(a) ICFRE/आई.सी.एफ.आर.ई.
(b) IUCN/आई.यु.सी.एन.
(c) UNEP/यु.एन.ई.पी.
(d) WWF/डब्ल्यु.डब्ल्यु.एफ.

AIPMT -06.05.2014

Ans. (b) : IUCN is created in 1948, it is the **International Union for conservation of nature** and is an international organization which is working in the field of nature conservation and sustainable use of natural resources. It has compiled and published the Red List of Threatened species which assesses the conservation status of species worldwide. **IUCN headquarters** are located in **switzerland**.

44. Which of the following are correctly matched with respect to their taxonomic classification?
निम्नलिखित जंतुओं में से किस समूह का वर्गीकरण सही है?
(a) Spiny anteater, sea urchin, sea cucumber – Echinodermata/ शूली चींटीखोर (स्पाइनी एंटईटर) समुद्री अर्जिन, समुद्री कुकम्बर-इकानोडमेंटा
(b) Flying fish, cuttlefish, silverfish – Pisces
उड़न मछली, कटलफिश, सिल्वर फिश पिसीज
(c) Centipede, millipede, spider, scorpion - Insecta/ सेन्टीपीड, मिलीपीड़, मकड़ी, बिच्छु-कीट (इन्सेक्टा)
(d) House fly, butterfly, tsetsefly, silverfish - Insecta/ घरेलू मक्खी, तितली, सेट्सीफ्लाई, सिल्वर फिश, कीट

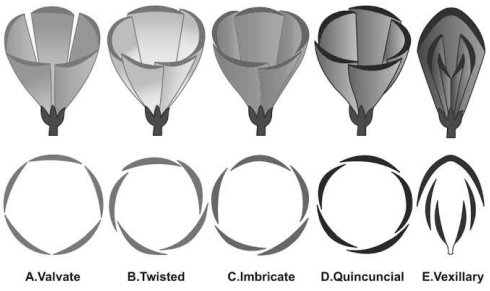
NEET (UG)-05.05.2013

Ans. (d) : All these organism belong to the phylum insecta. This category of phylum include the organism which are having 3 pair of legs and this is the characteristic feature of the insects.
From the above option, the correct matching of organism with their taxonomic classification is Housefly, Butterfly, tsetse flies, and silverfish-insecta.

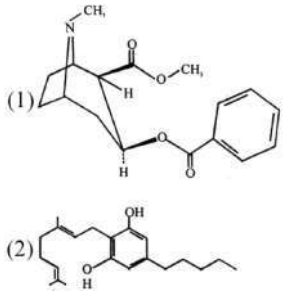
45. Which one of the following organisms is correctly matched with its three characteristics
निम्नलिखित में से किस एक जीव को उसकी तीन विशिष्टताओं के साथ सही मिलाया या है?
(a) Onion : Bulb, Imbricate aestivation, Axile placentation/प्याजः बल्ब, कोरछादी दल विन्यास, स्तंभीय बीजाण्डन्यास
(b) Maize : C_3 pathway, Closed vascular bundles, Scutellum
मक्का : C_3 पथमार्ग, बंद संवहन पूल, स्काटेलम
(c) Pea : C_3 pathway, Endospermic seed, Vexillary aestivation
मटरः C_3 पथमार्ग, भ्रूणपोषीय बीज, पूल, स्काटेलम
(d) Tomato : Twisted aestivation, Axile placentation, Berry/टमाटरः व्यावर्तित दल विन्यास, स्तंभीय बीजाण्डन्यास, बेरी

AIPMT (Mains) Exam-2012

Ans. (a) : Onion possess bulb (reduced stem), with imbricate aestivation, axile placentataion and possess perianth.
- Tomato belongs to solanaceae family having Valvate Aestivation, Axile placentation and berry fruit.
- Pea (Family Fabaceae) has Vexillary aestivation, C_3 pathway and non exalbuminous seeds.
- Maize (monocot) has C_4 pathway and closed vascular bundle.



46. Identify the molecules (a) and (b) shown below and select the right option giving their source and use/नीचे दिखाये जा रहे अणुओं (a) तथा (b) को पहचानिए तथा उनके स्त्रोत एवं उपयोग के विषय में सही विकल्प चुनिए।



		Molecule	Source	Use
(a)	(2)	Cannabinoid/कैनेबिन्नॉइड	Atropa belladonna /ऐट्रोपा बेलाडोना	Produces hallucinations /विभ्रम पैदा करता है।
(b)	(1)	Morphine /मॉर्फीन	Papaver somniferum /पैपेवर सोम्नीफेरम	Sedative and pain killer /शामक तथा पीड़ानाशक
(c)	(1)	Cocaine /कोकेन	Erythroxylum coca /एरिथ्रोजायलम कोका	Accelerates the transport of dopamine /डोपामीन के परिवहन को तीव्रतर बना देती है।
(d)	(2)	Heroin /हिरोइन	Cannabis sativa /कैनाबिस सैटाईवा	Depressant and slows down body functions /शामक तथा देह कार्यों को धीमा करती है।

AIPMT (Mains) Exam-2012

Ans. (b) : The given chemical structures (A) and (B) are of morphine and cannabinoid respectively.

- Morphine is the principal opium alkaloid.
- Morphine depresses respiratory center it contributes to the fall in blood pressure.
- It is strong analgesic and also has sedative and calming effect.
- It is very help for the patients who have undergone surgery.
- Natural cannabinoids are obtained from the inflorescence of hemp plants *cannabis Sativa,* family Cannabinaceae
- They effect the cardiovascular system of the body.

47. Vexillary aestivation is characteristic of the family:
वैक्सिलरी पुष्प दलविन्यास किस कुल का चारित्रिक लक्षण है?

(a) Solanaceae/ सोलेनेसी
(b) Brassicaceae/ ब्रेसिकेसी
(c) Fabaceae/ फेबेसी
(d) Asteraceae/ ऐस्टेरेसी

AIPMT-2012

Ans. (c) : A characteristic of the family fabaceae is vexillary or descending imbricate aestivation, in it two lateral petals (wings) which in turn overlap largest petals (keel) overlap the posterior largest petal (standard) it is called the corolla of papillionaceae.

In solanaceae and Brassicaceae, valvate aestivation is present.
In vaxillary the largest petal overlaps the two lateral petals which further overlaps the two smallest anterior petals.

48. Whorled, simple leaves with reticulate venation are present in/पूर्ण चक्रिक, जालिका रूपी शिराविन्यास युक्त सरल पत्ती किसमें उपस्थित होती है-

(a) Alstonia/एल्सटॉनिया
(b) Calotropis/मदार
(c) Neem/नीम
(d) China Rose /चाइना रोज

AIPMT (Mains)-2011

Ans. (a) : In leaves of **Alstonia** are simple elliptical or ovate linear to lanceolate and wedge-shaped at the base these are leathery and sessile. The leaf blade is dorsiventral and arranged in a whorl with the entire margin.

- The leaf venation is reticulate and has many veins ending in a marginal vein.

49. The correct floral formula of chilli is :
मिर्च का सही पुष्प सूत्र क्या है :

(a) $\oplus \delta\, K_5 \overset{\frown}{C_5} A_{(5)} \underline{G}_2$
(b) $\oplus \delta\, K_{(5)} C_5 A_5 \underline{G}_{(2)}$
(c) $\oplus \delta\, K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G}_{(2)}$
(d) $\oplus \delta\, K_5 C_{(5)} A_{(5)} \underline{G}_{(2)}$

AIPMT-2011

Ans. (c) : Chilli belongs to family Solanaceae

$$\oplus \delta\, K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G}_{(2)}$$

• Flowers are bisexual actinomorphic ⊕; Calyx-5 & Gamosepalous, Corolla – 5 & Gamopetalous, Androecium – 5, free epipetalous basifixed, inferior, gynoecium bicarpellary, syncarpous and ovary superior.

50. Which one of the following expanded forms of the following acronyms is correct ?/निम्नलिखित परिवर्णी शब्दों में किसका पूर्ण विस्तृत रूप सही है?

(a) IUCN = International Union for Conservation of Nature and Natural Resources
IUCN = इन्टरनेशनल यूनियन फॉर कंजर्वेशन ऑफ नेचर एण्ड नेचुरल रिसोर्सेज
(b) IPCC = International Panel for Climate Change
IPCC = इण्टरनेशनल पैनल फॉर क्लाइमेट चेन्ज
(c) UNEP = United Nations Environmental policy
UNEP = यूनाइटेड नेशन्स एन्वायरोमेण्टल पॉलिसी
(d) EPA = Environmental Pollution Agency
EPA = एन्वॉयरोमेण्टल पोल्यूशन एजेन्सी

AIPMT-2011

Ans. (a) : IUCN (International Union for Conservation of Nature) It is international organization working the field of nature conservation and sustainable use of natural resources. It is involved in data gathering and analysis, research field and education.

51. Consider the following four statements 1, 2, 3 and 4 select the right option for two correct statements.
निम्नलिखित चार कथनों 1, 2, 3 तथा 4 पर विचार कीजिए । इनमें से कौन से दो कथन सही है यह बताने वाला सही विकल्प चुनिये –

Statements :
कथन

(1) In vexillary aestivation, the large posteior petal is called-standard, two lateral ones are wings and two small anteior petals are termed keel./वैक्सिलरी पुष्पदल विन्यास में बड़े पश्च दल (पंखुड़ी) को स्टैन्डर्ड, दो पार्श्व विंग्स (पंख) तथा दो छोटे अग्र दलों को नौतल (कील) कहते हैं

(2) The floral formula for Liliaceae is/
लिलिएसी का पुष्प सूत्र

$$Br \oplus \male \overset{\frown}{P_{(3+3)}} A_{3+3} \underline{G}_{(3)}$$

(3) In pea flower the stamens are monoadelphous
मटर के पुष्प के पुँकेसर मोनोएडल्फस (एकसंघी) होते हैं

(4) The floral formula for Solanaceae is
सोलनेसी का पुष्प सूत्र

$$\oplus \female K_{(5)} C_{(5)} A_{(5)} \underline{G}_{(2)}$$

The Correct statements are
सही कथन हैं –

(a) (3) and (4)/(3) व (4) (b) (1) and (3)/(1) व (3)
(c) (1) and (2)/(1) व (2) (d) (2) and (3)/(2) व (3)

AIPMT (Mains)-2010

Ans. (c) : Vexillary aestivation has popillionaceous corolla which has a large posterior petal is called-**standard**, two lateral ones are Wings and two small anterior petals are termed keel.

- Liliaceae floral formula is :- $Br \oplus \male \overset{\frown}{P_{(3+3)}} A_{3+3} \underline{G}_{(3)}$
- **Diadelphous** stamens have filaments united forming two bundles and anthers are free **e.g-gram, pea, bean**.
- In **monoadelphous** stamens, the filaments of all Stamens are United forming a single bundle but the anthers are free, **e.g.-Cotton, lady's finger**.
- Solanaceae floral formula is :-

$$\oplus \female K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G}_{(2)}$$

52. Aestivation of petals in the flower of cotton is correctly shown is
कपास के पुष्प में दलों का सही पुष्पदलविन्यास किसमें दर्शाया गया है –

(a) 
(b) 
(c) 
(d) 

AIPMT (Mains)-2010

Ans. (a) : Aestivation is the arrangement of sepal and petals in floral buds.

- Cotton plant shows the twisted aestivation in which one margin of petal overlaps regularly the margin of the adjacent petal and so on.

Valvate :- In valvate condition, the sepals and petals whorls just touch each other at the margin but do not overlap. Example – Calotropis.

Imbricate – In imbricate one sepals or petals are totaly internal and one are totaly external and other are twisted like.
Ex- Gulmohar, cassia and legumes

Quincuncial - In quincuncial 2 sepal or petal are totaly internal and 2 are totaly external and other are twisted like.
Ex- Cassia and Delonix.

53. The correct floral formula of soyabean is
सोयाबीन का सही पुष्प सूत्र कौन एक उभयलिंगाश्रयी है–

(a) $\% \male \female K_{(5)} C_{1+2+(2)} A_{1+(9)} \underline{G}_1$
(b) $\% \male \female K_{(5)} C_{1+(2)+2} A_{(9)+1} \underline{G}_1$
(c) $\% \female K_{(5)} C_{1+(2)+2} A_{(9)+1} \underline{G}_1$
(d) $\% \female K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$

AIPMT (Mains)-2010

Ans. (d) : The plant belonging to the family fabaceae such as Soyabean, Pea, Sem, moong , gram etc have the floral formula:-

$$\% \female K_{(5)} C_{1+2+(2)} A_{(9)+1} \underline{G}_1$$

Floral diagram
Pisum sativum (pea)

Floral formula
$\%, \female K_{(5)}, C_{1+2(2)} A_{(9)+1}, \underline{G}_1$

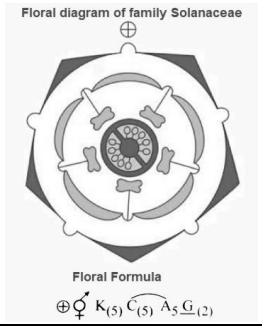
54. The floral formula $\oplus \, ♂♀ \, K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G_{(2)}}$ is that of :

पुष्पसूत्र $\oplus \, ♂♀ \, K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G_{(2)}}$ निम्नलिखित में से किस एक में पाया जाता है?

(a) Tobacco/ तम्बाकू (b) Tulip/ ट्यूलिप
(c) Soybean/ सोयाबीन (d) Sunhemp/ सनई

AIPMT-2009

Ans. (a) : The floral formula of tobacco is $\oplus \, ♂♀ \, K_{(5)} \overset{\frown}{C_{(5)}} A_5 \underline{G_{(2)}}$. Tobacco belongs to family solanaceae. It shows actinomorphic flower with 5 sepals, 5 petals, 5 stamens which are united with petals i.e epipetalous and 2 carpel's. The flower is actinomorphic, bisexual, 5 sepals gamosepalous, 5 gamopetalous coroalla, 5 epipetalous superior overy and axile placentation.



55. Which one of the following has maximum genetic diversity in India ?
भारत में निम्नलिखित में से किस एक में सर्वाधिक आनुवांशिक विविधता पायी जाती है?

(a) Tea/ चाय (b) Teak/ टीक (सागौन)
(c) Mango/ आम (d) Wheat/ गेंहू

AIPMT-2009

Ans. (c) : India is one of the twelve mega diversity regions of the world with 7.7 percent of genetic resources of the world. There are about 1500 varities of mangoes grown in our country with 1000 of them being grown commercially. Common mango *(Mangifera indica)* originated as alloploid and its nature home was suggested as eastern India, Assam to Burma or possibly further in the Malay region. Vavilov (1926) also suggested Indo Burma region as the centre of origin of mango. Hence, mango shows maximum genetic diversity in India.
In India, wheat is introduced in the last century - Wheat has about 20 verities in India.

56. Which of the following plant species you would select for the production of bioethanol ?
बायोइथैनॉल के उत्पादन के लिए आप निम्नलिखित में से किस पादप प्रजाति को चुनना चाहेंगे?

(a) Jatropha/ जटरोफा (b) Brassica/ ब्रैसिका
(c) Zea Mays/ जी मेज (d) Pongamia/ पौंगेमिया

AIPMT-2009

Ans. (c) The oil obtained from Jatropha seeds can be processed to yield the biofuel. The production of bioethanol from plants depends on their glucose content. There are various crop plant like maize that have good glucose content but these are used as a food crop. Therefore, the best alternative is to choose plants that can be used as biofuel source without disturbing food production. So, the jatropha plant is used for this purpose. The seeds of this plant are rich in fatty acid methyl esters and these produce a high amount of energy.

57. Which one of the following is the correct statement regarding the particular psychotropic drug specified?
किसी विशिष्ट मनोनुवर्तनी औषध के विषय मे निम्नलिखित मे से कौन सा एक कथन सही है?

(a) Morphine leads to delusions and disturbed emotions /मॉफीन से भ्रांतियाँ पैदा होती एवं दुर्र भावनाएं आने लगती हैं।
(b) Barbiturates cause relaxation and temporary euphoria/बार्बिट्यूरेटों से विश्रातिं तथा अस्थायी सुख बोध पैदा होता है।
(c) Hashish causes after thought perceptions and hallucinations
भांग से अनबोध अवगम तथा विभ्रम पैदा होते है।
(d) Opium stimulates nervous system and causes hallucinations/अफीम से तंत्रिका तंत्र उत्तेजित होता तथा विभ्रम पैदा होते हैं।

AIPMT-2008

Ans. (c) : Hashish or **charas** is a pure resin obtained from female flowers and leaves of selected varieties of *cannabis sativa*. It is the most potent hemp product (cannabinoids), and is usually smoked with tobacco. Its use may lead to euphoria, hallucination, drowsiness and continuous laughing. The hallucinogens act as on CNS and greatly alter one's thought, feeling and perceptions.

58. ICBN stands for :
ICBN का पूरा नाम क्या है?

(a) Indian Code of Botanical Nomenclature
इंडियन कोड ऑफ बोटैनिकल नामेन्क्लेचर
(b) Indian Congress of Biological Names
इंडियन कॉंग्रेस आफ बायोलॉजिकल नेम्स
(c) International code of Botanical Nomenclature
इंटरनेशनल कोड ऑफ बोटैनिकल नामेक्लेचर
(d) International Congress of Biological Names
इंटरनेशनल कॉंग्रेस ऑफ बायोलॉजिकल नेम्स

AIPMT-2007

Ans. (c) : The International code of Botanical Nomenclature (ICBN) is a set of rules and recommendations dealing with the formal botanical names given to plant. The foundations of ICBN are given in book written by C. Linnaeus named **Philosophia Botanica.** It is independent of zoological nomenclature. The rank of species is basic and relative order of the ranks of taxa are as: species, genus, tribe, family, order, series, Class, division and kingdom. The different ranks or categories have following specific endings of their names as division-phyla, Class-ae, family-aceae.

59. Which one of the following pairs is mismatched?
निम्नलिखित में से कौन सा एक जोड़ा गलत मिलाया गया है?

(a) Bombyx mori – Silk/बॉम्बिक्स मोराई- रेशम
(b) Pila globosa – Pearl/पाइला ग्लोबोमा- मोती
(c) Apis indica – Honey/एपिस इंडिका- शहद
(d) Kerria lacca – Lac/केरिया लाका- लाख

AIPMT-2007

Ans. (b) : The Silkworm is the larva or caterpillar of the domesticated silkmoth, *Bombyx mori*. It is an economically important insect, being a primary production of silk.

- *Pila globosa* is a species of freshwater snail with an operculum, an aquatic gastropod mollusca.
- *Apis indica* is Indian honeybee. It is domesticated mainly in India, Bangladesh, Pakistan, Nepal and Sri lanka. It is the largest producer of honeybee.
- *Kerria lacca* is a species of scale insect of the family kerride. It is most well known as one of the primary species of Lac insects.
- Highest quality pearls are formed by the pacific pearl oyster *Pinctada mertensi*.

60. Practical purpose of taxonomy or classification
वर्गीकरण या वर्गिकी की व्यावहारिक उद्देश्य क्या है-

(a) Facilitate the identification of unknown species/अज्ञात जातियों की पहचान में सुविधा हेतु
(b) Explain the origin of organisms
सजीवों के उद्भव को समझाना
(c) To know the evolutionary history
विकासात्मक इतिहास ज्ञात हेतु
(d) Identification of medicinal plants
औषधि पादपों की पहचान हेतु

AIPMT-1999

Ans. (a) : Taxonomy is the science of classification of organism and include identification and nomenclature based on the description of characteristics.

- Taxonomy help to identify the unknown species.

61. Which arrangement is in correct ascending order/निम्न में से कौन-सा आरोही क्रम सही है-

(a) Species < genus < order < family
(b) Genus < species < family < order
(c) Order < family < genus < species
(d) Species < genus < family < order

AIPMT-1999

Ans. (d) : Taxonomic hierarchy refers to the sequence of taxonomic categories in increase or decreasing order. Kingdom is the highest rank and species is the lowest rank. Correct sequence in ascending order is species, genus, family, order, class, phylum or division kingdom.

62. Recently extinct animal from India is
कौन-सा जन्तु भारत से अभी लुप्त हुआ है-

(a) Acinonyx/एसिनोनिक्स
(b) Rhinoceros unicornieus/राइनो सोरस यूनिकॉर्नियस
(c) Panthera leo/पेन्थेरा लियो
(d) Panthera tigris/पेन्थेरा टाइग्रिस

AIPMT-1999

Ans. (a) : In 1999 the acinonyx was extinct Animal from India.
Acinonyx is a genus within the cat family. The only living specific of the genus, the cheetah, living in open grasslands of Africa and Asia.

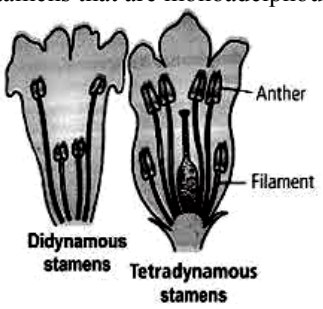
63. Tetradynamous conditions occur in : -
चतुर्दीर्घी अवस्था पायी जाती है-

(a) Cruciferae/क्रूसीफेरी (b) Malvaceae/मालवेसी
(c) Solanaceae/सोलेनेसी (d) Liliaceae/लिलिएसी

AIPMT-2001

Ans. (a) : Tetradynamous condition is found with in the **family of Brassicaceae or cruciferae**.

- In tetradynamous Condition there are Six stamens, 4 are long and 2 are shoot i.e. 4+2 arrangement of stamens. It is characteristic feature of cruciferae members. In liliaceae 6 stamen are arranged in whorls of 3 each (3+3).
- In solanaceae there are 5 stamens they are epipetalous and polyandrous. In malvaceae there are numerous stamens that are monoadelphous.



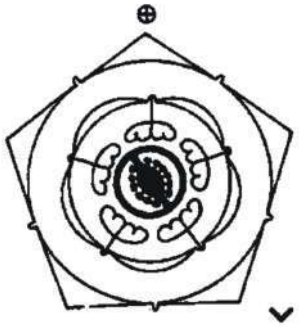
64. Bicarpellary gyanoecium and oblique ovary occurs in : -
द्विअण्डपी जायांग तथा तिरछा अण्डाशय किसमें पाया जाता है-

(a) Mustard/सरसों (b) Banana/केला
(c) Pisum/मटर (d) Brinjal/बैंगन

AIPMT-2001

Ans. (d) :

Formula Ebr⊕♀ K(5)C(5) A5 G(2)



Floral diagram of Solanum nig.

- Brinjal *(Solanum melongena)* belongs to family solanaceae. The fruits are rich in iodine. They are used in the from of vegetable.
- Gynoecium is bicarpellary, Syncarpous, forming a superior bilocular ovary. Each locule has many ovule on axile placentation so members of Solanaceae are characterised by the presence of an obliquely placed septum in the ovary and highly Swollen placentae.
- The oblique septum is probably due to shifting in the position of the ovary.

Fig. Floral diagram of *Solanum nigrum*.

65. L.S.D. is : -/एल. एस. डी. है-

(a) Hallucinogenic/विभ्रामक
(b) Sedative/सेडेटिव
(c) Stimulant/उत्तेजनात्मक
(d) Tranquiliser/ट्रान्क्वेलाइजर

AIPMT-2001

Ans. (a) : Hallucinogenic are drugs that change thoughts, feelings and perceptions of individuals. They cause hallucinations.

- LSD (Lysergic acid diethylamide) is one such hallucinogen that causes horrible dreams, chronic psychosis and servers damage to the Central nervous system.
- Sedatives give a feeling of calmness, relaxation or drowsiness in the body. Their high doses induce sleep.
- Tranquilisers lower tension and anxiety without inducing sleep. Stimulants are the drugs that stimulants the nervous system, make a person more wakeful, alert active; and Cause excitement.

66. In five kingdom system, the main basis of classification is: -
पाँच जगत प्रणाली में वर्गीकरण का मुख्य आधार है-

(a) Structure of nucleus/केन्द्रक की संरचना
(b) Nutrition/पोषण
(c) Structure of cell wall/कोशिका भित्ति की संरचना
(d) Asexual reproduction/अलैंगिक जनन

AIPMT-2002

Ans. (b) : five kingdom system proposed by R.H. Whittaker in 1969.
Monera, protista, fungi, plantae and Animalia are the five kingdom classification based on nutrition.

67. Which of the following is a correct pair : -
निम्न में से कौन-सा सही युग्म है–

(a) Cuscuta– parasite/कस्कुटा – परजीविता (परजीवन)
(b) Dischidia – insectivorous/डिस्चिडिया – कीटभक्षी
(c) Opuntia – predator/नागफनी – परभक्षी
(d) Capsella – hydrophyte/केप्सैला – जलोद्भिद

AIPMT-2002

Ans. (a) : Cuscuta is a parasite of higher plant. Commonly known as **dodder** or **amarbel**. Yellow , Orange, Red in colour of different species.

- Dischidia is non-insectivorous and opuntia is not predator, it is genes in the cactus family. Capsella is not hydrophyte, it is a genes of herbaceous plant and biennial plant is mustard family.

68. Which of the following crops have been brought to India from New world : -
कौन-सी फसल भारत में नयी दुनिया (उत्तरी– दक्षिणी अमेरिका) से लायी गयी है–

(a) Cashewnut, potato, rubber /काजू, आलू, रबर
(b) Mango, tea/आम, चाय
(c) Tea, rubber, mango/चाय, रबर, आम
(d) Coffee/कॉफी

AIPMT-2002

Ans. (a) : Cashew plants native of south and central America are mostly grown in central America, the caribbean and northern south America, including northeasterm Brazil.

- Potato is a native to South America. The major potato growing countries include the USA, Russia, France, Poland, UK etc.
- The rubber tree is a native of the southern Amazon valley in South America.
- Mango is native to East Asia (China).
- The Common coffee is native to Abyssinia.

$\Rightarrow$ Cashewnut, potato, rubber are the crops that have been brought to India from New world.

69. Select the correct statement from the ones given below :
नीचे दिये गये कथनों में से सही कथन का चयन कीजिये :

(a) Barbiturates when given to criminals make them tell the truth/जब बार्बिट्यूरेट्स एक अपराधी को दिया जाता है, तो वह सच बताता है
(b) Morphine is often given to persons who have undergone surgery as a pain killer
मार्फीन के व्यक्तियों में प्रायः दर्द निवारक के रूप में प्रयुक्त किया जाता है
(c) Chewing tobacco lowers blood pressure and heart rate/तम्बाकू का सेवन रक्त दाब और हृदय दर को कम करता है
(d) Cocaine is given to patients after surgery as it stimulates recovery/मरीजों को कोकीन सर्जरी के बाद उद्दीपक सुधारक के रूप में दिया जाता है

AIPMT-2010

Ans. (b) : Morphine is a narcotic drug. It is a good sedative as well as a pain killer, given to patients after surgery.
Barbiturates are sedative hypnotics (CNS depressant) and are used to treat insomnia, seizures and headaches. They are also used as anesthetics.
Smoking cigarettes and chewing tobacco cause an immediate and temporary rise in blood pressure and heart rate. It can damage the lining of artery walls causing arteries to narrow and increasing blood pressure. Cocaine was earlier used as local anesthetics.
It is a highly addictive drug that ups the levels of alertness, attention and energy.

70. Which one of the following depresses brain activity and produces feelings of calmness, relaxation and drowsiness –
निम्नलिखित में से किसके द्वारा मस्तिष्क क्रिया का अवनमन होता है और उसके शांतता, विश्राम एवं निद्रालुता आती है-

(a) Morphine/मार्फीन
(b) Valium/वेलियम
(c) Hashish/हशिश
(d) Amphetamines/ऐम्फेटेमीन्स

AIPMT-2005

Ans. (b) : Valium is a benzodiazepine (sedative) that gives a feeling of relaxation, calmness or drowsiness in the body.

- Morphine is the main opium alkoloid that depressed respiratory centre and contribute to the fall in blood pressure.
- Amphetamine are synthetic drug and are stimulated in nature.
- Hashish is hallucinogenic.

71. According to IUCN Red List, what is the status of Red Panda (Ailurus fulgens) ?
IUCN रेड लिस्ट के अनुसार लाल पांडा (एल्यूरस फुल्गेन्स) का क्या कथन ?

(a) Critically endangered species
क्रांतिक संकटग्रस्त स्पीशीज
(b) Vulnerable species/सुमेघ स्पीशीज
(c) Extinct species/विलुप्त स्पीशीज
(d) Endangered species/सकंटग्रस्त स्पीशीज

AIPMT-2005

Ans. (d) : Endangered species are those species which are on verge of becoming extinct.
According to IUCN red list, the red panda (Ailurus fulgens) come under the list of endangered species. Due to deforestation, poaching red panda are at very risk being extinct.
Its population has declined below 50% in last three generation.

72. Pentamerous, actinomorphic flowers, bicarpellary ovary with oblique septa, and fruit a capsule or berry, are characteristic features of-
पंचतयी, त्रिज्या-सममित फूलों, आड़े पटों ये युक्त द्विअंडपी अण्डाशय तथा फलका केप्सूल (संपुट) अथवा सरस प्रकार का होना, किसके विशिष्ट लक्षण हैं?

(a) Asteraceae/एस्टेरेसी
(b) Brassicaceae/ब्रैसिकेसी
(c) Solanaceae/सोलेनेसी
(d) Liliaceae/लिलिएसी

AIPMT-2006

Ans. (c) : A pentamerous actinomorphic flower is one where the floral parts are in multiples of five and the flower can be divided into two equal halves in more than one plane.

- Gynoecium is bicarpellary Syncarpus, forming a superior bilocular ovary. Each locule has many ovule on axile placentation.
- Member of Solanaceae are characterised by the presence of an obliquely placed septum in the ovary and highly swollen placentae. The oblique septum is probably due to shifting in the position of the ovary.
- Family lilliaceae has trimerous actinomorphic flowers with tricarpellary syncarpous Superior ovary.
- Family asteraceae has actinomorphic or zygomorphic flowers and family brassicaceae has dimerous or tetramerous actinomorphic or rarely zygomorphic flower with bicarpellary syncarpous superior ovary.

73. In china rose the flowers are :
चीनी रोज (चीनी गुलाब) में पुष्प कैसे होते हैं?

(a) Zygomorphic, epigynous with twisted aestivation
एकव्यास सममित, जायांगोपरिक तथा व्यावर्ती पुष्पदल
(b) Actinomorphic, hypogynous with twisted aestivation/ त्रिज्या सममित, अधोजायांगी तथा व्यावर्ती (ट्वीस्टेड) पुष्पदल विन्यास
(c) Actinomorphic, epigynous with valvate aestivation/ त्रिज्या सममित, जायांगोपरिक तथा कोरस्पर्शी पुष्पदल विन्यास
(d) Zygomorphic, hypogynous with imbricate/ एकव्यास सममित, अधोजायांगी तथा कोरछादी पुष्पदल विन्यास

NEET (UG)-05.05.2013

Ans. (b) : China rose is flower are hypogenous with twisted aestivation and actinomorphic.
In hypogynous flowers, the perianth and stamens are attached to the receptacle below the gynoecium, the ovary is superior to these organs, and the remaining floral organs arise from below the point of origin of the carpel.
In twisted aestivation margin of a petal covers adjacent petal and the other margin is covered by another petal.
Actinomorphic is a type of flower symmetry where it is distinguished by being radically symmetrical and capable of division by any longitudinal plane into essentially symmetrical halves.

74. Which one of the following is not a correct statements?
निम्नलिखित में से कौन सा कथन सही नहीं है?

(a) Key is taxonomic aid for identification of specimens/ कुँजी नमूनों को पहचानने के लिए एक वर्गीकी सहायक है।
(b) Herbarium houses dried, pressed and preserved plant specimens/पादपालय में शुष्कीकृत, प्रेस किये गये परिरक्षित पादप नमूने होते है।
(c) Botanical gardens have collection of living plants for reference/ वानस्पतिक उद्यान, सन्दर्भ के लिए जीवित पादपों का संग्रहण है।

(d) A museum has collection of photographs of plants and animals/ संग्रहालय, पादपों और जन्तुओं की तस्वीरों का संग्रहण है।

NEET (UG)-05.05.2013

Ans. (d) : A museum has collection of photographs of plant and animal, this statement is not correct.

A museum has a collection of preserved plant and animals specimens and not just the photographs of the plant and animal. A botanical garden has a collection of living plants along with their several details for reference. Key consists of a contrasting character called cuplet. Key is taxonomic aid for identification of specimens.

The plant specimens are dried, pressed, preserved and labelled on the herbarium sheet.

75. Among bitter gourd, mustard, brinjal, chinarose, pumpkin, lupin, cucumber, sunnhemp, gram, guava, bean, chilli, plum, petunia, tomato, rose, withania, potato, onion, aloe and tulip how many plants have hypogynous flower?

करेला, सरसों, बैंगन, कद्दू, चीनी गुलाब (गुड़हल), ल्यूपिन, खीरा, सनई, चना, अमरूद, सेम, मिर्च, अलुचा, पिटूनियां, टमाटर, गुलाब, विदानियां, आलू, प्याज, एलोय और ट्यूलिप में से कितने पौधों के अधोजायांगी पुष्प हैं?

(a) Eighteen/ अठारह (b) Six/ छः

(c) Ten/ दस (d) Fifteen/ पन्द्रह

NEET (UG)-05.05.2013

Ans. (d) : In hypogynous flowers, the perianth and stamens are attached to the receptacle below the gynoecium, the ovary is superior to these organs, and remaining floral organs arise from below the point of origin of the carpel. The ovary in such flowers is said to be superior, examples :– mustard, brinjal and China rose etc.

76. The common characteristics between tomato and potato will be maximum at the level of their

टमाटर और आलू के बीच सामान्य विशेषताएं उनके स्तर पर अधिकतम होगी।

(a) Genus/जीनस (b) Family/फैमिली

(c) Order/ऑडर (d) Division/डिवीजन

NEET (UG)-18.05.2013

Ans. (b) : Potato (Solanum tuberosum) and tomato (Lycopersicum esculentum) both belong to family solanaceae.

- Taxonomy is a branch of study that deal with principles and procedures of identification, nomenclature and classification of organisms.
- Taxonomy hierarchy is the frame work by which taxonomic group are arranged in definite order from higher to lower. (descending order) or lower to higher (ascending) categories.
- The hierarchical order of classifying organism is:- Kingdom→ Phylum → class → order → family → Genus → species.

77. How many plants among China rose, Ocimum, sunflower, mustard, Alstonia, guava, Calotropis and Nerium (Oleander) have opposite phyllotaxy?

चीन गुलाब, ऑसिमम (तुलसी), सूरजमुखी, सरसों, अलस्टोनिया, अमरूद, कैलोट्रापिस (मदार) और नेरियम (ओलियंडर) में कितने पौधों में विपरीत फिल्लोटैक्सी है?

(a) Two/दो (b) Three/तीन

(c) Four/चार (d) Five/पाँच

NEET (UG)-18.05.2013

Ans. (b) : The pattern & arrangement of leaf, on stem or branch of plant is called Phyllotaxy.

- Ocimum, Guava and Calotropis have opposite phyllotaxy
- China rose, sunflower, grass, Mustard shows alternate phyllotaxy
- Alstonia, Hydrilla, Nerium (Oleander) show whorled phyllotaxy.

78. Which organization publishes the Red Data Book?

(a) GEF (b) IUCN

(c) UNEP (d) WWF

NEET (UG)-18.05.2013

Ans. (b) : The international Union for conservation of nature Red list of threatened species, also known as the IUCN Red list or Red data book, founded in 1964 is the world's most comprehensive inventory of the global conservation status of biological species.

- Red data book is the document established by IUCN for documenting the rare and endangered species of plant, animals, fungi and also a few local species that exist within a state or country.

79. The label of a herbarium sheet does not carry information on

पादपलय पत्र के नामपत्र में निम्नलिखित में से कौन सी सूचना अंकित नहीं होती ?

(a) date of collection/संग्रह की तारीख

(b) name of collector/संग्रहकर्त्ता का नाम

(c) local names/स्थानीय नाम

(d) height of the plant/पौधों की ऊँचाई

NEET (UG) -24.07.2016 Phase-II

Ans. (d) : The herbarium is a collection of preserved plants that are stored cataloged and arranged systematically for study. It does not carry information on plant height.

• The herbarium is a collection of preserved plants that are stored, cataloged and arranged systematically for study. When specimens are collected in the field, the herbarium and associated information in the library are used to identify these specimens, to determine how one species differs from another, or whether a specimen represents a species new to science. Thus helping of plant diversity conservation and sustainable use.

80. Red List contains data or information on
लाल सूची में किनके बारे में आंकड़े या सूचना होती है ?

(a) all economically important plants
आर्थिक रूप से महत्वपूर्ण सभी पादप

(b) plants whose products are in international trade/वे पादप जिनके उत्पाद अंतर्राष्ट्रीय व्यापार में हैं

(c) threatened species/संकटापन्न जातियां

(d) marine vertebrates only
केवल समुद्री कशेरूकी प्राणी में

NEET (UG) -24.07.2016 Phase-II

Ans. (c) : The IUCN Red list provides taxonomic data conservation status and distribution information on species that are facing a high risk of global extinction. It define the extinction risk of species assessed.

• Currently there are more than 134,400 species on the IUCN Red list with more than 37, 400 species threatened with extinction including 41% of amphibians, 34% of conifers, 33% of reef building corals, 26% of mammals and 14% of birds.

81. Match column I with column II for housefly classification and select the correct option using the codes given below:
घरेलू मक्खी के वर्गीकरण के लिए कॉलम-I कॉलम-II मेंमिलान कीजिये तथा नीचे दिये गये कूट का प्रयोग कर सही विकल्प को चुनिय:

Column I/कॉलम-I	**Column II/कॉलम-II**
A.Family/कुल (फैमिली)	**1. Diptera/डिप्टेरा**
B.Order/गण (ऑर्डर)	**2.Arthropoda/आर्थोपोड़ा**
C. Classवर्ग (क्लास)	**3. Muscidae/मक्खीवर्ग**
D.Phylum/संघ (फाइलम)	**4. Insecta/कीटवर्ग**

(a) A-3 B-1 C-4D-2 (b) A-3 B-2 C-4 D-1
(c) A-4 B-3 C-2 D-1 (d) A-4 B-2 C-1 D-3

NEET (UG) -24.07.2016 Phase-II

Ans. (a) : The house fly is the common of all domestic place body divided into head thorax abdomen

• Housefly life cycle complete in 4 stages namely egg, larva, pupa, a adult

Phylum – Arthropoda
Class – Insecta
order – Diptera
Family – Muscidae

82. Tricarpellary, syncarpous gynoecium is found in flowers of/त्रिकोष्ठकी, युक्ताण्डपी जायाँग किसके पुष्प में होता है?

(a) Poaceae/पोएसी (b) Liliaceae/लिलिएसी
(c) Solanaceae /सोलैनेसी (d) Fabaceae /फैबेसी

NEET (UG)-01.05.2016

Ans. (b) : Tricarpellary syncarpous gynoecium is a characteristic features of flowers of liliaceae. The majority of Liliaceae are valuable ornamental plants, Liliaceae family is a monocot family eg- Onion, Garlic
Solanaceae - Persistent Calyx, Superior ovary, epipetalous condition eg- Potato
fabaceae - fabaceae family are known as pulse family, flower bisexual, diadelphous condition.
Poaceae- Monocot family, flower is trimerous, fruit is caryopsis.

83. Nomenclature is governed by certain universal rules. Which one of the following is contrary to the rules of nomenclature
नाम-पद्धति कुद विशेष सार्वजनिक मान्य नियमों द्वारा निर्धारित होती है। निम्नलिखित में से कौन-सा एक कथन नाम पद्धति के नियमों के विरुद्ध है?

(a) When written by hand, the names are to be underlined/नाम को जब हाथ से लिखते है तो उसे रेखांकित किया जाता है

(b) Biological names can be written in any language /जैविक नाम को किसी भी भाषा में लिखा जा सकता है।

(c) The first word in a biological name represents the genus name, and the second is a specific epithet/जैविक नाम से पहला शब्द वंश नाम और दूसरा शब्द जाति संकेत पद को प्रदर्शित करता है।

(d) The names are written in Latin and are italicised/नामों को लैटिन भाषा में और तिरछे अक्षरों में लिखा जाता है

NEET (UG)-01.05.2016

Ans. (b) : Biological names are derived either from Latin language or are latinised. This is because Latin language is a dead language and therefore it will not change in form or spellings with the passage of time. The scientific name of plants and animals is called **binomial nomenclature.** It was started by Linnaeus.

84. Among flowers of Calotropis, Tulip, Sesbania, Asparagus, Colchicine, Sweet pea, Petunia, Indigofera, Mustard, Soyabean, Tobacco and groundnut how many plants have corolla with valvate aestivation?
कैलोट्रोपिस, ट्यूलिप, सेसबानिया, शतावरी के फलो के बीज मीठे मटर पेटुनिया इंडिगोफेरा, सरसों सोयाबीन, तम्बाकु और मूंगफली कितने पौधों में कोरोला है, valvate सौन्दर्यीकरण

(a) Five/पाँच (b) Six/छः
(c) Seven/सात (d) Eight/आठ

NEET (UG)-18.05.2013

Ans. (c) : Aestivation is the arrangement of petals or sepals in a flower bud. **Valvate, twisted, imbricate and vexillary** are types of aestivation.

(A) Valvate aestivation:- In this sepals or petals or tepals just touch one another without any overlapping e.g.:- *Calotropis procera*.

Valvate Aestivation in found in calotropis, Tulip, Asparagus, Colchicine, Petunia, Mustard, Tobacco, and Sweet pea, Groundnut, Soyabean, Indigofera, Sesbania have vexillary aestivation.

85. Which one of the following is correct match
निम्नलिखित में कौन सा जोड़ा सुमेलित है-

(a) Reserpine – Tranquilliser/रेसरपाइन-ट्रांक्यूलाइजर
(b) Cocaine – opiatic narcotic
कोकेन-आपिएटिक नारकोटिक
(c) Morphine – Hallucinogenic/मोरफीन विभ्रामक
(d) Bhang – Analgesic/भंग- दर्दनिवारक

AIPMT-2001

Ans. (a) : Tranquillisers are drugs that have good effect in all types of psychosis, especially in schizophrenia. In a psychotic patient, these drugs reduce aggressiveness, thoughts and behaviour are gradually normalized and anxiety is relieved, e.g reserpine which is an alkaloid extracted from the roots of *Rauwolfia serpentina*. Higher doses of it can cause sedation and mental depression.

- Cocaine is a stimulant.
- Morphine is an opiate narcotic.
- Bhang is a hallucinogenic.

86. Biosystematics aims at: -
जैव-वर्गीकरण विज्ञान का उद्देश्य है:-

(a) The classification of organisms based on broad morphological characters
जीवों का वर्गीकरण करना जो स्थूल आकारिकीय लक्षणों पर आधारित हो
(b) Delimiting various taxa of organism and establishing their relationships
जीवों के विविध टेक्सॉनों का परिसीमन करना एवं उनके परस्पर संबंध स्थापित करना
(c) The classification of organisms based on their evolutionary history and establishing their phylogeny on the totality of various parameters from all fields of studies/जीवों का वर्गीकरण करना जो उनके विकासीय इतिहास पर आधारित हो तथा सभी अध्ययन क्षेत्रों से विविध प्राचलों की सकलता पर उनका जातिवत्त स्थापित करना
(d) Identification and arrangement of organisms on the basis of cytological characteristics
जीवों को उनकें कोशिकाविज्ञानीय लक्षणों के आधार पर पहचानना और उन्हें व्यवस्थित करना

AIPMT-2003

Ans. (c): Biosystematics is the study of identification, nomenclature classification and relationships amongst living beings.
Biosystematics is the classification of organism based on the study of the genetic evolution of plant and animal population. It considers the evolutionary history of these organisms and establishes their phylogeny on the totality of various parameters from all fields of studies.

87. One of endangered species of Indian medicinal plants is that of:-
भारत में, निम्नलिखित में से किस एक औषध पौधे की स्पीशीज संकटग्रस्त है?

(a) Nepenthes/नेपेंथीस
(b) Podophyllum/पोडोफिलम
(c) Ocimum/ओसिमम
(d) Garlic/लहसुन

AIPMT-2007

Ans. (b) : Endangered species is species of animals or plants that is at risk of extinction. Cutting down of forests have drastically decreased the populations of medicinal and aromatic plants due to their habitat destruction eg- different Orchid species, Podophyllum, hexandrum, Atropa acuminata, Skimmia anquetilia.

88. Thorn of *Bougainvillea* and tendril of *Cucurbita* are examples of:
बोगेनवेलिया का कांटा तथा कुकुरबिट का प्रतान किसका एक उदाहरण हैं?

(a) vestigial organs/अवशेषी अंग
(b) retrogressive evolution/प्रतिक्रमणीय विकास
(c) analogous organs/समवृत्ति अंग
(d) homologous organs/समजात अंग

AIPMT-2008

Ans. (d) : Thorns of Bougainvillea and tendrils of cucurbit a are examples of homologous organs. They both are arise from the axillary buds but perform different types of functions.
•The Thorn is for providing protection against the grazing animals and tendrils help in providing support while climbing.
• They are simultaneously similar. But there functions are different.

89. Which one of the following organisms is scientifically correctly named, correctly printed according to the International Rules of Nomenclature and correctly described
निम्नलिखित में से किस एक जीव का सही वैज्ञानिक नाम, जो नामकरण के अंतर्राष्ट्रीय नियमों के अनुसार सही छापा गया है तथा जिसका सही वर्णन भी किया गया है, कौन सा है?

(a) Felis Tigris - The Indian Tiger, well protected in Gir forests/ Felis Tigris - भारतीय बाघ, गीर जंगलों में भली भांति सुरक्षित किये गये है।
(b) E.coli-Full name Entamoeba coli, a commonly occurring bacterium in human intestine
E.coli - पूरा नाम Entamoeba coli, मानव अंतड़ियों में सामान्यतः पाया जाने वाला एक जीवाणु
(c) Musca domestica - The common house lizard, a reptile/ Musca domestica - सामान्य घरेलू छिपकली, एक सरीसृप
(d) Plasmodium falciparum - A protozoan pathogen causing the most serious type of malaria/Plasmodium falciparum - एक प्रोटोजोअन रोगजनक जिससे सर्वाधिक गंभीर प्रकार का मलेरिया होता है।

AIPMT (Mains) Exam-2012

Ans. (d) : According to binomial nomenclature the scientific name is consist of genus and species

- Both genus and species are either italicized or are underlined
- In genes first letter is capital whereas species name is always written in lower case letters musca domestica is European housefly, it belongs to phylum arthopoda. E.coli is having full name *Escherichia coli.*
- Scientific name is not italicized in *plasmodium falciparum* is a protozoan pathogen causing the most serious type of malaria.
- *Felis Tigeris* is the scientific name of Indian tiger. The first letter of genus felis is not written is capital letter.
- *Escherichia coli* is the full name of E. coli it commonly occurs in human intenstine.

90. Which one of the following animals is correctly matched with its particular named taxonomic category ?
निम्नलिखित में से कौन-सा एक प्राणी अपनी विशिष्ट नाम से दी गई वर्गीकरण श्रेणी से सही मिलाया गया है?

(a) Housefly – Musca, an order
घरेलू मक्खी-मस्का, जो एक आर्डर है
(b) Tiger – tigris, the species
बाघ-टाइग्रिस, जो एक स्पीशीज है
(c) Cuttlefish – Mollusca, a class
कटलफिश-मोलस्का, जो एक क्लास है
(d) Humans – Primata, the family
मानव-प्राइमेटा, जो एक फैमिली है

AIPMT-2011

Ans. (b) : The taxonomic hierarchy includes eight ranks from general classification to specific classification : Domain, kingdom, phylum, Class, Order, Family Genus and Species.

- The zoological name of the tiger is *Panthera tigris*, tigris being of the species classified under the genus Panthera.
  other options – Cuttlefish belongs to class cephalopodan and phylum mollusca.
- Human belong to order primates and family Hominidae.
- Housefly is *Musca domestica* genes, it belongs to diptera order.

91. Linnaeus is credited with
लीनियस को किस लिए क्रेडिट मिला?

(a) Binomial nomenclature/ द्विपद-नाम पद्धति
(b) Theory of biogenesis/ बायोजेनेसिस के सिद्धांत
(c) Discovery of microscope
माइक्रोस्कोप के अविष्कार
(d) Discovery of blood circulation.
रूधिर परिसंचरण की खोज

AIPMT 1993,1990

Ans. (a) : Carolus Linnaeus father of **modern taxonomy** and methods of classification, was the one who formalized the binomial nomenclature as the modern system of naming organisms. He designed the system so as to differentiate species from one of the other.

- In his book, **systema Naturae** he described and classified thousands of species of plants and animals.
- The theory of **Biogenesis**, was proposed by Louis Pasture. According to this theory life originates from pre-existing life.
- Antoni Van Leeuwenhock (1632-1723) : Father of microscopy.
- William Harvey discovered circulation of the blood.

92. The term "New Systematics" was introduced by
नई वर्गिकी (न्यू सिस्टेमेटिक्स) शब्द का उपयोग सबसे पहले किसने किया?

(a) Bentham and Hooker/ बेन्थम तथा हूकर
(b) Linnaeus/ लीनियस
(c) Julian Huxley/ जूलियन हेक्सले
(d) A.P. de Candolle/ ए. पी. डी. केनडोले

AIPMT 1988

Ans. (c) : The term " New Systematics" was coined by Julian Huxley in 1940. New systematics is the study of taxonomy, on the basis of morphology, ecology, genetic cytology etc of an organism.

93. 'Taxon' is the unit of a group of
'टैक्सॉन' किसकी इकाई है?

(a) Order/ गण
(b) Taxonomy/ वर्गिकी
(c) Species/ जाति
(d) Genes/ जीनस

AIPMT 1988,1992,1990

Ans. (b) : A Taxon is the unit of classification. It includes a taxonomic group of any rank, such as a species, family or class. Species is the lowest level of classification.

- A kingdom is the highest level of classification group of related families join to form an order.

94. Sequence of taxonomic categories is
टैक्सोनोमिक श्रेणी का क्रम है-

(a) Class–phylum–tribe–order–family–genus–species/ वर्ग-संघ-ट्राइब-गण-कुल-वंश-जाति
(b) Division–class–family–tribe–order–genus–species/ प्रभाग-वर्ग-कुल-ट्राइब-गण-वंश-जाति
(c) Division–class–order–family–tribe–genus–species./ प्रभाग-वर्ग-गण-कुल-ट्राइब-वंश-जाति
(d) Phylum–order–class–tribe–family–genus–species./ संघ-गण-वर्ग-ट्राइब-कुल-वंश-जाति

AIPMT 1992

Ans. (c) : The various grouping levels is the classification of organisms are known as taxonomic categories.

- Taxonomic categories are called the Linnaean hierarchy because it was proposed by Linnaeus.
- Examples of taxonomic ranks are species, genus, family, order, class, phylum, kingdom, domain.

The lowest Rank is species and to highest rank is kingdom in the hierarchy of taxonomic categories.

95. The term phylum was given by
परिभाषिक शब्द संघ (phylum) किसने दिया था?

(a) Cuvier/ क्यूवियर
(b) Haeckel/ हेकल
(c) Theophrastus/ थियोफ्रेस्टस
(d) Linnaeus./ लिनियस

AIPMT 1992

Ans. (b) : The term "phylum" was coined by Ernst Haeckel in 1866. He was German zoologist, naturalist, philosopher etc.
• He was Award-winning in Linnean medal in 1894, Darwin-Wallace medal in 1908.

96. A group of plants or animals with similar traits of any rank is
पौधों या जन्तुओं के समूह जो समान लक्षण वाले किसी रैंक के होते हैं, उसे कहते हैं

(a) Species/ जाति (b) Genus / वंश
(c) Order / गण (d) Taxon/ टेक्सॉन

AIPMT 1992,1991

Ans. (d) : A group of plants and animals with similar traits of any rank is known as a taxon.
• Each unit of classification is termed a taxon. All the organisms belonging to the same taxon share similar traits.

97. Basic unit or smallest taxon of taxonomy/ classification is
टेक्सोनोमी या वर्गीकरण की आधारभूत इकाई या सबसे छोटी इकाई है-

(a) Species /जाति (b) Kingdom /जगत
(c) Family /फैमिली (d) Variety. /वेराइटी

AIPMT 1990

Ans. (a) : The term species can also be defined as the most basic category in the system of taxonomy.
• A biological species is a group of organisms that can reproduce with one another in nature and produce fertile offspring.
• The study of the evolutionary relationship among organisms is called phylogenetics.

98. Static concept of species was put forward by
जाति की स्थिर अवधारणा को प्रस्तुत किया था-

(a) De Candolle /डी कैंडोले
(b) Linnaeus /लीनियस
(c) Theophrastus /थिओफ्रैस्टस
(d) Darwin. /डार्विन

AIMPMT 1988

Ans. (b) : Carolus Linnaeus proposed the static notion of species, also known as the morphological concept of species.
• He regarded species as a stable and unchanging thing.
• He stated that "all animals that are the same in shape, size and color belong to the same species" based on external morphology.

99. System of classification used by Linnaeus was
लिनियस द्वारा कौन-सा वर्गीकरण का तंत्र इस्तेमाल किया गया था?

(a) Natural system /प्राकृतिक तंत्र
(b) Artificial system /कृत्रिम तंत्र
(c) Phylogenetic system /जातिवृत्तीय तंत्र
(d) Asexual system. /अलैंगिक तंत्र

AIPMT 1989

Ans. (b) : The system of classification used by Linnaeus was an artificial system. This system is based on the physical characteristics of organisms and is useful for identifying and classifying organisms based on their physical characteristics.
However, it has its limitations, and it is not useful for evolutionary studies.

100. Artificial system of classification was first used by
वर्गीकरण का कृत्रिम तंत्र सबसे पहले इस्तेमाल किया था-

(a) Linnaeus /लिनियस
(b) De Candolle /डी केंडोल
(c) Pliny the Edler /प्लिनी द एडलर
(d) Bentham and Hooker/बेथम और हुकर

AIPMT 1989

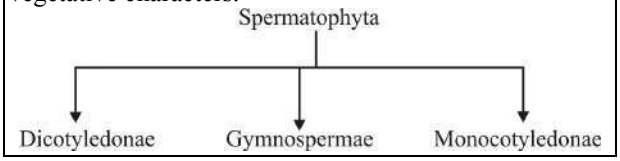
Ans. (a) : Artificial system of classification is one in which only morphological features are taken into account. This was first proposed by Carl Linnaeus.

101. Classification given by Bentham and Hooker is
बेंथम एवं हुकर ने कौन-सा वर्गीकरण बताया था?

(a) Artificial /कृत्रिम
(b) Natural /प्राकृतिक
(c) Phylogenetic /जातिवृत्तीय
(d) Numerical. /संख्यात्मक

AIPMT 1988

Ans. (b) : Classification given by Bentham and Hooker is Natural System. Monocots were placed after dicot, closely related families were separated, gymnosperms were placed between dicots and monocots.
Bentham and Hookers classification was mainly based on floral characters. This was highly appreciated because floral characters tend to be more stable than vegetative characters.



102. Pulses are obtained from
दालें प्राप्त होती हैं-

(a) Fabaceae/ फैबेसी से
(b) Asteraceae/एस्टेरेसी से
(c) Poaceae/ पोएसी से
(d) Solanaceae/ सोलेनेसी से

AIPMT 1993

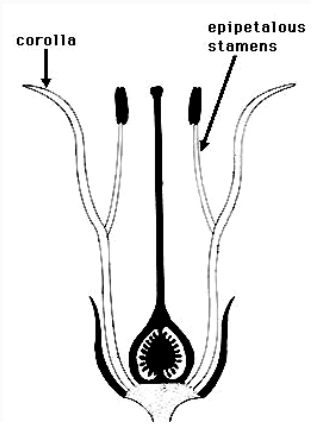
Ans. (a) : Fabaceae family is also known as pulse family, legume, bean, pea family. Fabaceae family is large so divided into **3 sub family**. It is large for economically very important family of the flowering plants. It includes trees, shrubs, perennials, or annual herbaceous plants. Which can easily recognised by fruits (Legume). All pulses are belongs to fabaceae family, such as Soya bean, beans, pea nut, ground nut, etc.

103. Epipetalous stamens with free filaments and fused anthers occur in
समेकित पराग कोष, मुक्त तन्तुओं वाले दललग्न पुंकेसर पाए जाते हैं-

(a) Asteraceae/ स्टेरेसी में
(b) Solanaceae/सोलेनेसी मे
(c) Liliaceae/लिलिएसी मे
(d) Poaceae/ पोएसी में

AIPMT 1992

Ans. (a) : When the stamen are attached to petal of flower that condition is called epipetalous and found in family asteraceae in disc florate flower.



• Sepals and petals are fuse to form a structure called perianth.
• Stamen is attached to perianth called epiphyllous.

104. Epipetalous and syngenesious stamens occur in
दललग्न और युक्तकोशी पुंकेसर किस कुल में पाए जाते हैं-

(a) Solanaceae/सोलैनेसी
(b) Brassicaceae/ब्रेसिकेसी
(c) Fabaceae / फैबेसी
(d) Asteraceae/ एस्टेरेसी

AIPMT 1991

Ans. (d) : Asteraceae family is commonly known as sun flower family. It is largest family of dicotyledons
• Flowers bracteate, sessile, complete
• Head and capitulum inflorescence surrounded by involucres of bracts, ray and disc florets.
• Ovary unilocular, inferior with basal placentation.
• Style slender stigma bifid.
• Fruit cypsela
• Syngenesious (arrangement of stamens where their anthers are fused while their filaments are free.

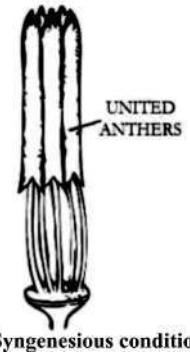
Epipetlous – In epipetlous condition the stamens are attached to petals of flowers.

105. Syngenesious condition is found in
सिन्जिनेसियस (युक्तकोषी) अवस्था पाई जीती है-

(a) Asteraceae / एस्टेरेसी में
(b) Labiatae / लैबिएटी में
(c) Solanaceae / सोलेनेसी में
(d) Fabaceae/ फैबेसी में

AIPMT 1991

Ans. (a) : Syngenesious condition – It is arrangement of stamens where their anthers are fused while their filaments are free. These fused anthers from a circle around the gynoecium.
• Syngenesious condition is seen in the Asteraceae family. **Ex–** Tagetes (merigold), helianthus (Sun-flower).



Syngenesious condition

106. Which of the following is the New World spice, that has become an essential part of Indian cuisine?
निम्नलिखित में से कौन-सा एक नए विश्व का मसाला है जो भारतीय व्यंजनों का एक अनिवार्य हिस्सा बना गया है?

(a) Red pepper/ लाल मिर्च
(b) Black pepper/ काली मिर्च
(c) Ginger/ अदरक
(d) Cardamom/ इलाइची

AIPMT-1995

Ans. (a) : Red pepper originated in Mexico and currently it has come to be one of the spice types in India.
- Red pepper also know as bell pepper is produced from red, green, yellow capsicum.
- Cardamom, ginger and black pepper are histological spices that constantly exist in India.
- Red pepper is newly delivered in Indian spices, it's far the dried ripened fruit pod of capsicum frutescence.

02.

Biological Classification

1. Kingdom Monera

1. Pick up the wrong statement
गलत कथन को चुनिए:

(a) Nuclear membrane is present in Monera
मोनेरा में केंद्रक कला उपस्थित होती है।

(b) Cell wall is absent in Animalia
एनिमेलिया में कोशिका भित्ति अनुपस्थित होती है।

(c) Protista have photosynthetic and heterotrophic mode of nutrition
प्रोटिस्टा में पोषण की विधियां प्रकाश संश्लेषणों एवं विषमभोजी होती है।

(d) Some fungi are edible
कुछ कवक खाने योग्य होते हैं।

AIPMT Re-Exam-25.07.2015

Ans. (a) : The member of kingdom – **monera are prokaryote they lack nuclear membrane.**
Absence of nuclear envelope around nucleus and absence of membrane bound cell organelle is characteristics of prokaryote.

- The taxon monera was first proposed as a phylum by Ernst Haeckel in 1866. Subsequently, the phylum was elevated to the rank of kingdom in 1925 by Edouard chatton.

2. Maximum nutritional diversity is found in the group:
सबसे अधिक पोषण विविधता किस समूह में पाई जाती है?

(a) Monera/मोनेरा (b) Plantae/प्लॉन्टी
(c) Fungi/फंजाई (d) Animalia/ऐनिमेलिया

AIPMT-2012

Ans. (a) : Maximum nutritional diversity is found in the Monera.

- Monera is comprised of two group of Archaebacteria and Eubacteria.
  Monera is a biological kingdom that is made up of prokaryotic organism. as such, it is composed of single celled organism that lack a nucleous.
- The taxon Monera was first proposed as a phylum by Ernst Haeckel in 1866.

3. In which kingdom would you classify the archaea and nitrogen-fixing organism, if the five-kingdom system of classification is used:
पाँच-जगत वर्गीकरण पद्धति में आर्कीया तथा नाइट्रोजन स्थिरीकारी जीवों को आप किस जगत में रखेंगे:

(a) Plantae/प्लार्टी (b) Fungi/फंजाई
(c) Protista/प्रोटिस्टा (d) Monera/मोनेरा

AIPMT-2003

Ans. (d): The five kingdom classification system is comprised of Monera, Protista, Fungi, Plantae and Animalia. The kingdom Monera is divided into the Archaebacteria and the Eubacteria. The Archaebacteria group includes primitive prokaryotes and Eubacteria group includes the nitrogen -fixing bacterium. Archaea and nitrogen-fixing organism are prokaryotic in nature. Hence, they can be placed in the kingdom Monera.

4. According to five kingdom system blue green algae belongs to/पांच जगत प्रणाली के अनुसार नील हरित शैवाल किसमें सम्मिलित है:

(a) Metaphyta (b) Monera
(c) Protista (d) Algae

AIPMT-1998

Ans. (b) : Blue green algae, also called cynobacteria, are heterogeneous prokaryotic organism.

- They belong to the kingdom monera.
- They are considered the first organism to release oxygen.
- They use solar energy and have pigments and used water as raw material
- They are believed to be organisms to convert reducing atmosphere to oxidizing atmosphere, as they have chlorophyll, cynobacteria believed to be developed by end symbiosis.

5. Which one belongs to Monera?
मोनेरा में, इनमें से एक कौन-सा जीव है?

(a) Amoeba /अमीबा
(b) Escherichia /एश्चेरिशिया
(c) Gelidium /जेलीडियम
(d) Spirogyra /स्पाइरोगायरा

AIPMT 1990

Ans. (b) : Prokaryotes are members of the kingdom monera family.

- There is no real nucleus in any of the species that make up this kingdom.
- These are the planet's oldest known microbes.
- Their nucleus does not contain their DNA.
- They can be discovered as parasites in other creatures, hot springs, deep oceans and snow.
- Organelles that are bound to membranes are absent in monerans.

Exa- *E.coli, Heliobacter pylori, Salmonella* etc.

2. Kingdom Protista

6. Match the following group of organisms with their respective distinctive characteristics and select the correct option
निम्न जीवों के समूहों को उनके विशिष्ट लक्षणों से मिलान कर सही विकल्प का चयन करें :

Organisms/जीव		Characteristics/विशिष्ट	
A.	Platyhelminthes/ प्लेटीहैल्मिंथीज	i.	Cylindrical body with no segmentation
B.	Echinoderms/ एकाइनोडर्मेटा	ii.	Warm blooded animals with direct development नियततापी रक्त एवं प्रत्यक्ष परिवर्धन
C.	Hemichordates हेमीकार्डेट्स	iii.	Bilateral symmetry with incomplete digestive system द्विपार्श्व सममिति एवं अपूर्ण पाचन तंत्र
D.	Aves/एवीज	iv.	Radial symmetry with indirect development/अरीय सममिति एवं अप्रत्यक्ष परिवर्धन

(a) (A)-(i), (B)-(ii), (C)-(iii), (D)-(iv)
(b) (A)-(iii), (B)-(iv), (C)-(i), (D)-(ii)
(c) (A)-(ii), (B)-(iii), (C)-(iv), (D)-(i)
(d) (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)

NEET (UG) -14.10.2020, Phase-II

Ans. (b) : (a) **Platyhelminthes**:- bilateral symmetry with incomplete digestive system.
(b) **Echinoderms**:- Radial symmetry with indirect development.
(c) **Hemichordates**:- cylindrical body with no segmentation.
(d) **Aves**:- Warm blooded animals with direct development.

7. Ciliates differ from all other protozoans in
सिलिएट्स अन्य सभी प्रोटोजोअन्स से किस प्रकार भिन्न हैं ?

(a) using flagella for locomotion
ये गमन के लिए कशाभिका का प्रयोग करते हैं
(b) having a contractile vacuole for removing excess water / इनमें अतिरिक्त पानी को निकालने के लिए संकुचनशील धानी होती है
(c) having two types of nuclei
इनमे दो प्रकार के केन्द्रक होते हैं
(d) using pseudopodia for capturing prey
ये शिकार को पकड़ने के लिए पादाभ का प्रयोग करते हैं

NEET (UG)-06.05.2018

Ans. (c) : Ciliated are differs from all outer protozoan's in having two type of nuclei. i.e micro nuclei and macronuclei.
Macronuclei is kidney like or ellipsoidal in shape.
Its density packed within the DNA.
The macronucleas control all the vegetative functions of paramecium hence called **vegetative nucleus.**
Micronucleus :
It is small and compact structure found close to the macronucleus.
The fine chromatin thread and granules are uniformly distributed throughout the cell and control reproduction of the cell.
The number of cell varies from species to species.

8. Select the wrong statement :
गलत कथन को चुनिए:

(a) Cell wall is present in members of Fungi and Plantae/कवकों और पादप जगत के सदस्यों में कोशिका भित्ति उपस्थित होती है।
(b) Mushrooms belong to Basidiomycetes
छत्रकों का सम्बन्ध बैसिडियोमाइसिटीज से है।
(c) Mitochondria are the powerhouse of the cell in all kingdoms except Monera
मोनेरा को छोड़कर सभी जीवजगतों की कोशिका में सूत्रकणिकाएँ एक शक्तिगृह हैं।
(d) Pseudopodia are locomotory and feeding structures in Sporozoans/स्पोरोजोऑन्स में पादाभ चलने और खाद्य ग्रहण करने की संरचनाएँ हैं।

NEET (UG)-06.05.2018

Ans. (d) : Pseudopodia are locomotory and feeding structure in sporozoans.
- Pseudopodia is a temporary arm like projection of a Eukaryotic cell membrane that is emerged in the direction of movement.
- Filled with cytoplasm, Psuedopodia primarily consist of actin ***filaments*** and may also contain microtubules filaments.

Pseudopods are used for motility and ingestion.
They are often found in Amoebas.

9. Which of the following characteristic features always holds true for the corresponding group of animals
निम्नलिखित में से कौन-से विशिष्ट लक्षण हमेशा ही जंतुओं के अनुरूपी वर्ग में पाए जाते हैं?

	Animal/जन्तु	Feature/लक्षण
(a)	Reptilia/रेप्टीलिया	3 - chambered heart with one incompletely divided ventricle /3-कक्ष वाला हृदय जिसमें अपूर्णतः बंटा हुआ एक निलय होता है।
(b)	Chondrichthyes/ कॉड्रिक्थीज	Cartilaginous endoskeleton/ उपास्थिल अंतःकंकाल
(c)	Mammalia/ मेमैलिया	Viviparous/ सजीव प्रजक
(d)	Chordata/कॉर्डेटा	Possess a mouth with an upper and a lower jaw/ऊपरी और निचले जबड़े वाला मुख का पाया जाना

NEET (UG)-01.05.2016

Ans. (b) : Chondricthyes is a class that contains the cartilaginous fishes: They are jawed vertebrates with paired fins, paired nares, scale a heart with its chambers in series, and skeletons made of cartilage rather than bone. **eg-** Sharks

Viviparous- Giving birth to living young that develops within the mother's body rather than hatching from egg. It is the characteristics features of mammalia.

Cyclostomata belongs to the phylum chordata that lack jaws. **eg :-** Circular mouth (Petromyzon)

All reptiles have three chambered hearts except crocodiles, which have four chambered hearts like mammals and birds.

10. Chrysophytes, Euglenoids, Dinoflagellates and slime moulds are included in the kingdom
क्राइसोफाइट, यूग्लीनॉइड, डाइनोफ्लेजेलेट और अवपंक फफुंदी किस जीव जगत् के अन्तर्गत आता है-

(a) Animalia /जन्तु जगत् (b) Monera /मोनेरा
(c) Protista /प्रोटिस्टा (d) Fungi/कवक

NEET (UG)-01.05.2016

Ans. (c) : Chrysophytes, Euglenoids, dinoflagellates and slime moulds are included in the kingdom protista. This kingdom includes all single celled eukaryotes.

R.H. Whittaker proposed a five kingdom classification in 1969 in which portista is a kingdom which comprises organism which are unicellular but eukaryotic organism. These members may be autotrophic or heterotrophic. Primarily these are aquatic.

- **Animalia -** Animals are multicellular , Eukaryotic organism in the biological kingdom Animalia.
- **Monera**- monera is a biological kingdom that is made up of Unicellular prokaryotic organism
- **fungi -** fungus(singular) is a type of eukaryotic organism belonging to the kingdom fungi.

11. Single-celled eukaryotes are included in:
एक कोशिकीय यूकैरियोट्स को सम्मिलित किया जाता हैः

(a) Protista/प्रोटिस्टा में (b) Fungi/कवक में
(c) Archaea/आर्चिया में (d) Monera/मोनेरा में

AIPMT-2010

Ans. (a) : Kingdom – Protista includes all unicellular eukaryotic organisms like flagellates, diatoms, dinoflagellate slime mould, sarcodina, etc.

- Fungi represents a group of eukaryotic, a chlorophyllous, non-photosynthetic heterotrophic organism of diverse form sizes shape and physiology made up of in reproduction.
- The members of Archaea (Archaebacteria) are prokaryotes and thermo acidophillus and the methanogens.

Monera is the kingdom that in order classification contains all prokaryotes.

12. In the five-kingdom classification, Chlamydomonas and Chlorella have been included in
पाँच-जगतीय वर्गीकरण में, क्लैमाइडोमोनास तथा क्लोरैला किसमें सम्मिलित किए गए हैं?

(a) Plantae/प्लैन्टी (b) Monera/मोनेरा
(c) Protista/प्रोटिस्टा (d) Algae/ऐल्गी

AIPMT (Mains) Exam-2012

Ans. (c) : In the five kingdom classification, chlamydomonas and chlorella have been included in kingdom protista.

- According to R.H Whittaker protista (kingdom) includes all eukaryotes, unicellular organism.
- Chlamydomonas and chlorella comprises mainly cell wall having cellulose having chloroplast and autotrophic in nature.

13. The chief advantage of encystment to an Amoeba is: -
अमीबा में पुटीभवन होने का एक मुख्य लाभ क्या है:-

(a) The ability to survive during adverse physical conditions/प्रतिकूल भौतिक दशाओं के दौरान उत्तरजीविता की क्षमता
(b) The ability to live for some time without ingesting food/बिना आहार-अतंर्ग्रहण के कुछ तक जीवित रहने की क्षमता
(c) Protection from parasites and predator
परजीवियों तथा परभक्षियों से बचाव
(d) The chance to get rid of accumulated waste products
संचित उत्सर्गी उत्पादों से छुटाकरा पाने का अवसर

AIPMT-2003

Ans. (a): During adverse environmental conditions, Amoeba becomes circular, loses most of its water and secretes a cyst membrane that serves as a protective covering. When the environment is again suitable the envelope ruptures and the amoeba emerges.

14. When a fresh water protozoan possessing a contractile vacuole, is placed in a glass containing marine water, the vacuole will-
जब किसी अलवणजलीय प्रोटोजोअन को जिसमे एक संकुचनशील धानी है, एक पात्र में भरे समुद्री जल के भीतर रखा जाता है, तब उसकी यह धानी-

(a) Disappear/विलीन हो जाती है
(b) Increase in size/आकार में बड़ी हो जाती है
(c) Decrease in size/आकार में छोटी हो जाती है
(d) Increase in number/की संख्याएँ बढ़ जाती है

AIPMT-2004

Ans. (a) : Contractile vacuole is help in osmoregulation, when a fresh water protozoan placed in marine water i.e. hypertonic solution, the water inside the cell (vacuole) rashes out, disappearing the vacuole.

- Contractile vacuole is sub cellular structure predominantly found in amoeba and in unicellular algae it was previously known as pulsatile or pulsating vacuole.

15. In contrast to Annelids, the Platyhelminthes show
एनीलिड्स से विपरीत प्लैटीहेल्मिन्थिस में क्या होता पाया जाता है-

(a) Absence of body cavity
देह गुहा की अनुपस्थिति में
(b) Presence of pseudocoel/कूटगुहा की उपस्थिति में
(c) Radial symmetry/अरीय सममिति में
(d) Bilateral symmetry/द्विपार्श्वीय सममिति में

AIPMT-2005

Ans. (a) : Flatworm or Platyhelminthes have no body cavity gut and lack anus while annelids have a fluid filled cavity between the outer body wall and the gut and this is referred as a coelom.

	Platyhelminthes	Annelids
•	Acoelomate	Enterocoelomate
•	Bilaterally symmetrical	Bilaterally symmetrical
•	flat worms	Segmented round worms
•	metamerism absent	metamerism present.

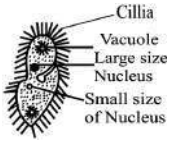
16. In which of the animal dimorphic nucleus is found : -
निम्न में से किस जन्तु में केन्द्रकीय द्विरूपता पायी जाती है-

(a) *Amoeba proteus* /अमीबा प्रोटियस
(b) *Trypanosoma gambiens*/ट्रिपेनोसोमा गेम्बियस
(c) *Plasmodium vivax*/प्लाज्मोडियम वाइवेक्स
(d) *Paramecium caudatum*/पेरामिसियम कोडेटम

AIPMT-2002

Ans. (d) : *Paramecium caudatum* shows nuclear dimorphism. There are two types of nuclei, a-large, bean-shaped, polyploidy, vegetative nucleus called macronucleus and a small, rounded, diploid, reproductive nucleus known as micronucleus.

• In case of *paramecium caudatum* have two nucleus. One large size and other small size.

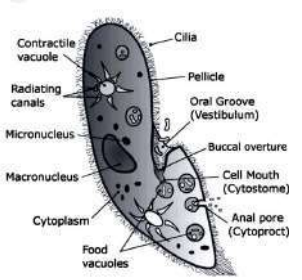


17. Which of the following unicellular organism has a macronucleus for trophic function and one or more micronuclei for reproduction –
निम्नलिखित में से किस एक एककोशिक जीव में एक गुरूकेन्द्रक पोषण कार्य के लिए तथा एक या अधिक सूक्ष्मकेन्द्रक जनन के लिए पाए जाते है-

(a) Trypanosoma/ट्रिपैनोसोमा
(b) Paramecium/पैरामीशियम
(c) Euglena/यूग्लीना
(d) Amoeba/अमीबा

AIPMT-2005

Ans. (b) : Paramecium have two kind of nuclei, a small nucleus, germinal nucleus also known as micro nucleus is involved in sexual processes and large ellipsoidal, somatic nucleus, also known as macro-nucleus participate in the process of transcription and ensure the expression of genetic information needed for the everyday functioning of the cell.



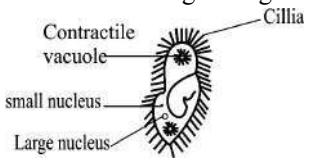
18. In protozoa like *Amoeba* and *Paramecium*, a organ is found for osmoregulation which is : -
प्रोटोजोआ जैसे अमीबा तथा पेरामिसियम जन्तुओं में जल सन्तुलन के लिए एक अंग पाया जाता है जिसका नाम है–

(a) Contractile vacuole/संकुचनशीन रिक्तिका
(b) Mitochondria/माइटोकोण्ड्रिया
(c) Nucleus/केन्द्रक
(d) Food vacuole/खाद्यधानी

AIPMT-2002

Ans. (a) : The contractile vacuole is an osmoregulatory organelle found amongest the Amoeba & Paramecium. It controls the water balance by releasing or accumulating water into the cell or out of it.

• They performed in a periodic manner by expanding while collection and contracting during release.



19. Motile zygote of Plasmodium occurs in:
प्लाज्मोडियम का गतिशील जाइगोट (युग्मनज) कहाँ हुआ करता है?

(a) Human RBCs/ मानव RBCs में
(b) Human liver/ मानव यकृत में
(c) Gut of female Anopheles
मादा ऐनाफिलीस की आहार नाल में
(d) Salivary glands of Anopheles
ऐनाफिलीसी की लार ग्रंथियों में

AIPMT-2012

Ans. (c) : Plasmodium, a tiny protozoan parasite causes malaria in humans and is transmitted through the bite of infected female Anopheles mosquito.

- When female anopheles sucks the blood of infected human it takes up gametocytes (sexual stages of parasite) with blood meal.
- The gametocytes come out of the RBCs into the lumen (cavity) of the stomach of the mosquito.
- In the stomach the male gametocyte divides and forms 6 to 8 long motile whip-like microgamete (male gametes).
- The female gametocyte does not divide but undergoes a process of 1 maturation to become the macrogamete (female gamete) a microgamete penetrates a macrogamete and fertilization (syngamy) takes place resulting in the formation of zygote.
- The zygote elongates and becomes worm like motile organism called Ookinete
- Ookinete further changes into sporozoite (mature infective stage of plasmodium).

20. What is common about Trypanosoma, Noctiluca, Monocystis and Giardia-
ट्रिपैनोसोमा, नॉक्टीलूका, मोनोसिस्टिस तथा जिआर्डिया में कौनसा एक लक्षण समान पाया जाता है?

(a) These are all unicellular protists.
ये सभी एककोशिकीय प्रजीव (प्रोटिस्ट) हैं।

(b) They have flagella/इन सब में कशाभ पाए जाते हैं।

(c) They produce spores/इनमें बीजाणु बनते हैं।

(d) These are all parasites/ये सभी परजीवी हैं।

AIPMT-2006

Ans. (a) : Trypanosoma, Noctiluca, Monocystic and Giardia are all unicellular protists.

- Trypanosoma gambiense is the single-celled, parasitic zooflagellate causing trypanosomiasis or sleeping sickness.
- Noctiluca is marine colourless dinoflagellate.
- Monocystis is a microscopic unicellular endoparasitic protozoan found in the coelom and seminal vesicles of earthworms. Giardia is a diplomonad parasitic flagellate occurring in the intestine of man and causes diarrhea.

21. The function of contractile vacuole, in protozoa, is
प्रोटोजोआ में संकुचनशील रसधानी सहायता करती है।

(a) osmoregulation / जल के परासरण में

(b) reproduction /प्रजनन में

(c) locomotion /गति में

(d) digestion of food. /भोजन के पाचन में

AIPMT 1995, AIPMT 1991

Ans. (a) : The contractile vacuole complex is an osmoregulatory organelle of free-living amoebae and protozoa, which controls the intercellular water balance by accumulating and expelling excess water out of the cell, allowing cells to survive under hypotonic stress as in pond water.

• In the absence of functional vacuole complex, cells cannot expel water, become highly swollen, and lyse.

22. The protists have
प्रोटिस्टन जीनोम में होता है

(a) only free nucleic acid aggregates
केवल मुक्त न्यूक्लिक अम्ल सकल

(b) membrane bound nucleoproteins lying embedded in the cytoplasm / झिल्लीयुक्त न्यूक्लियो-प्रोटीन जो जीवद्रव्य में घिरा रहता है

(c) gene containing nucleoproteins condensed together in loose mass / न्यूक्लियो प्रोटीन युक्त जीन जो संघनित होकर ढीला पिण्ड बनाता है

(d) nucleoprotein in direct contact with the rest of the cell substance. / न्यूक्लियोप्रोटीन जो कोशिका के पदार्थ के सीधे संपर्क में हो

AIPMT 1994

Ans. (b) : Like all other eukaryotes, protists have a nucleus containing their DNA. They also have other membrane-bound organelles, such as mitochondria and the endoplasmic Reticulum.

• Protists have a membrane-enclosed nucleus and membrane–enclosed organelles. This nucleus is embedded in the cytoplasm.

23. Genetic information in *Paramecium* is contained in
पैरामीशियम में आनुवांशिकीय सूचना किसमें होती है?

(a) micronucleus /सूक्ष्म केन्द्रक

(b) macronucleus /दीर्घ केन्द्रक

(c) both micronucleus and macronucleus
दोनों (a) एवं (b)

(d) mitochondria. / माइटोकॉण्ड्रिया

AIPMT 1990

Ans. (a) : Paramecium are single-celled protists .That are naturally found in aquatic habitats.

• The 2 types of nuclei are the micro nucleus and macronucleus.

• The micronucleus is deploid; that is, it contains two copies of each paramecium chromosome.

• Forney notes that the micronucleus contains all of the DNA that is present in the organisms. On the other hand, the macronucleus contains a subset of DNA from the micronucleus.

24. *Trypanosoma* belongs to Class
ट्रिपैनोसोमा किस वर्ग में है?

(a) Sarcodina /सारकोडिना

(b) Zooflagellata /जूफ्लेजेलाटा

(c) Ciliata /सिलिएटा

(d) Sporozoa/स्पोरोजोआ

AIPMT 1989

Ans. (b) : Trypanosoma are unicellular, parasitic and flagellated protozoans that belong to the family kinetoplastea.

• They are generally uninucleate, body is covered by a firm pellicle.

• All the members belonging to the zooflagellate, protozoan Trypanosoma genus are referred to as trypanosomes.

• They are obligatory parasites, meaning they require at least one host to complete their life cycle.

25. Besides annelida and arthropoda, the metamerism is exhibited by
ऐनेलिडा व आथ्रोपोडा के अतिरिक्त विखण्डन पाया जाता है –

(a) mollusca/मोलस्का में

(b) acanthocephala/अकैन्थेसिफैला में

(c) cestoda/सिस्टोडा में

(d) chordata/कॉर्डेटा में

AIPMT 1995

Ans. (d) : Metameric segmentation or metamerism is an architectural body plan is some animals, in which the similar body segments and organ system are serially repeated one after another.

• The similar body segments are called metameres or somites.

• The animals which exhibit such features called metamerically segmented.

• Metamerism is first seen in annelids in animal kingdom. Each segment usually contains appendages muscles, nerve, blood vessels.

• Excretory organs and a pair of coelomic sacs which are repeated in almost all segments.

(I) True Metamerism:- Segmentation of the body develops by the segmentation of the mesoderm. It occurs in annelids, arthropods and most chordates.

(II) Homonomous Metamerism :- If the segements or somites of the animal are all alike the segmentation is called homonomous metamerism.

(III) Heteronomous Metamerism :- In Arthropods and Chordates the segments of the body are dissimilar in different body regions and restricted only to certain organ.

26. A chordate character is
एक कशेरुकी गुण है-

(a) gills / गिल्स
(b) spiracles / स्पाइरेकिल्स (वायु द्वार)
(c) post-anal tail / पश्च गुद पुच्छ
(d) chitinous exoskeleton. / काइटिन का बाह्य कंकाल

AIPMT 1989

Ans. (c) : All chordates mainly three characters.
(I) Dorsal hollow nerve chord.
(II) Series of pharyngeal gill slits.
(III) Notochord
• Phylum chordate belongs to the kingdom animalia and includes all the vertebrates i.e animals with a back bone. They possess a bilaterally symmetrical body.

3. Kingdom Plantae

27. Zygotic meiosis is characteristic of
युग्मज अर्द्धसूत्री विभाजन किसका विशिष्ट लक्षण है?

(a) Marchantia/मार्केशिया
(b) Fucus/ फाइकस
(c) Funaria/फ्यूनेरिया
(d) Chlamydomonas/क्लेमाइडोमोनास

NEET (UG) -07.05.2017

Ans. (d) : As **Chlamydomonas** pertains to kingdom planate and division thallophyta zygotic meiosis is the characteristic feature observed in them.
• In zygotic meiosis and meiotic division happens in zygote resulting in the development of hoploid individuals. Thallophytes have dominant gametophytic generation i.e., the proximity of hoploid individuals.

28. Five kingdom system of classification suggested by R.H. Whittaker is not based on:
आर.एच. ह्विटेकर द्वारा प्रस्तावित पांच जगत वर्गीकरण निम्नलिखित में से किस पर आधारित नहीं हैं?

(a) Presence or absence of a well defined nucleus/सुपरिभाषित केन्द्रक की उपस्थिति और अनुपस्थिति
(b) Mode of reproduction/प्रजनन का ढंग
(c) Mode of nutrition/पोषण का ढंग
(d) Complexity of body organisation
काय संघटन की जटिलता

AIPMT -06.05.2014

Ans. (a) : The main principle for analysis by R.H. Whittaker include.
(1) **Complexity of cell structure** (eukaryotic or prokaryotic)
(2) **Body organization** (unicellular or multicellular)
(3) Thallus organization.
(4) **Mode of nutrition** (autotrophs or heterotrophs)
(5) Reproduction (sexual or asexual)
(6) Phylogenetic relationships
And therefore presence or absence of a well-defined nucleus is not the basis for R.H. Whittaker's classification.

29. Which of the following less general in characters as compared to genus : -
निम्न में से कौन जीनस की तुलना में कम सामान्य लक्षण रखता है-

(a) Species/स्पीसीज (b) Division/डिवीजन
(c) Class/क्लास (d) Family/फैमिली

AIPMT-2001

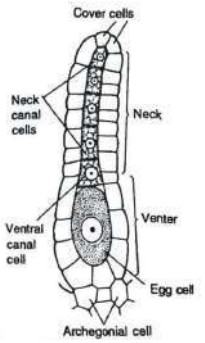
Ans. (a) : 'Species' is less general in following to genus.
There are seven obligate categories-kingdom, division, class, order, family, genus and species.
• Species are the smallest group among all the eight levels of taxonomy with almost similar characters. It is followed by genus with slightly fewer similarities among its members.
Example: Armadillo- Dasypus, novemcinctus
Cat : Felis catus, etc.

30. Bryophytes can be separated from algae, because they?/ब्रायोफाइटा, अन्य शैवाल से पृथक् किया जा सकता है क्योंकि ?

(a) Possess archegonia /स्त्रीधानी पाई जाती है
(b) Contain chloroplast / हरितलवक पाए जाते हैं
(c) Are thalloid forms /सभी थैलाभ रूप में होते हैं
(d) Have no conducting tissue
इनमें संवहन ऊतक नहीं हैं

AIPMT 1997

Ans. (a) : Archegonia is female sex organ in bryophytes. It is a flask-shaped multicellular organ. It is composed of a cylindrical upper portion called neck with a single layer of sterile cells called neck canal cells (NCC) and a lower swollen sac-like portion called Venter. It also has layer or layer of sterile cells. Venter encloses a larger egg cell and a smaller (just above to egg) Venter Canal Cell (VCC).



31. Which one of the following constitutes natural silk?
निम्न में से प्राकृतिक रेशम का एक घटक है-

(a) Nitrogen/ नाइट्रोजन
(b) Magnesium/ मैग्नीशियम
(c) Potassium/ पोटैशियम
(d) Phosphorus/ फास्फोरस

AIPMT-1996

Ans. (a) : Many insects can produce the silk fibres and the proteins that are needed for weaving.

• Silk mainly consists of fibroin, which is a protein that certain types of insect larvae secrete to make cocoons. As proteins consist of nitrogen component so, it is a main constituent of natural silk.

• Most of the world's silk is derived from *Bombyx mori* larvae, which are worms that only live on mulberry trees.

32. The silkworm silk is the product of
रेशम कीट का रेशम उत्पाद होता है-

(a) Salivary gland of the larva/ लार्वा की क्यूटिकल
(b) Salivary gland of the adult/ वयस्क की क्यूटिकल
(c) Cuticle of the larva/ लार्वा की लसीका
(d) Cuticle of the adult.
वयस्क की लसीका ग्रन्थि का स्राव

AIPMT-1995

Ans. (a) : Silk worm moth (Bombyx mori). lepidoptex whose caterpillar has been used in silk production (sericulture) for thousands of years.

• Silkworm pupae are a good source of protein, lipid, minerals and vitamins and are considered a good source of nutrients for human.

• Sericulture is the practice of breeding silk worms for the production of raw silk.

• Cocoon is made up of raw silk produced by salivary glands.

• Caterpillar larva of *Bombyx mori* secretes liquid silk from its salivary glands.

4. Kingdom Animalia

33. Match List-I with List-II
सूची I का सूची II के साथ सुमेलित करो-

List-I/सूची-I		List-II/सूची-II	
A.	**Pleurobrachia प्लूरोब्रेकिआ**	**I.**	**Mollusca मोलस्का**
B.	**Radula/रेडुला**	**II.**	**Ctenophora टीनोफोरा**
C.	**Stomochord स्टोमोकॉर्ड**	**III.**	**Osteichthyes ऑस्टीक्थीज**
D.	**Air bladder वायु कोष**	**IV.**	**Hemichordata हेमीकॉर्डेटा**

Choose the correct answer from the options given below:
नीचे विकल्पों से सही उत्तर का चयन करो :

(a) A-IV, B-II, C-III, D-I
(b) A-II, B-I, C-IV, D-III
(c) A-II, B-IV, C-I, D-III
(d) A-IV, B-III, C-II, D-I

NEET (UG) 05.05.2024

Ans. (b)

	List-I		List-II
A.	Pleurobrachia	–	Ctenophora
B.	Radula	–	Mollusca
C.	Stomochord	–	Hemichordata
D.	Air bladder	–	Osteichthyes

34. Match List-I with List-II
सूची- I को सूची- II से सुमेलित कीजिए।

	List-I/सूची- I		**List-II/ सूची- II**
(A)	**Contractile vacuole/प्रक्षेपण वैक्यूओल**	**(i)**	**Asterias/ तारकमीन**
(B)	**Water vascular system/ जल संवहनी प्रणाली**	**(ii)**	**Amoeba/ अमीबा**
(C)	**Canal system/ नलिका प्रणाली**	**(iii)**	**Spongilla/ स्पंजिला**
(D)	**Flame cells/ लौ कोशिकाओं**	**(iv)**	**Taenia/ टीनिया**

Choose the correct answer from the options given below:
नीचे दिए गए विकल्पों में सही उत्तर का चयन कीजिए:

(a) (A)-(iii), (B)-(ii), (C)-(i), (D)-(iv)
(b) (A)-(ii), (B)-(i), (C)-(iii), (D)-(iv)
(c) (A)-(iv), (B)-(ii), (C)-(i), (D)-(iii)
(d) (A)-(i), (B)-(iii), (C)-(ii), (D)-(iv)

RE-NEET Manipur (UG)-06.06.2023

Ans. (b) : Contractile vacuole is present in Amoeba and helps in osmoregulation . Water vascular system is the most distinctive feature of Echinoderms such as Asteriasis, Echinus etc. Sponges have water transport or canal system in spongilla.
Platyhelminthes like Taenia have specialized cells called flame cells that helps in osmoregulaion and excretion.

Contractile Vacuole → Amoeba
Water Vascular system → Asterias
Canal system → Spongilla
Flame cells → Taenia

35. Radial symmetry is NOT found in adults of phylum _____.
किस संघ के वयस्कों में अरीय सममिति नहीं पायी जाती?

(a) Echinodermata/ इकाइनोडर्मेटा
(b) Ctenophora/ टीनोफोरा
(c) Hemichordata/ हेमीकार्डेटा
(d) Coelenterata/ सीलेन्टरेटा

NEET (UG)-07.05.2023

Ans. (c) : The hemichordates are represented by organisms such as the acorn worms and they are solitary worms like organisms with a proboscis and collar. They exhibit bilateral symmetry.

• The condition of having similar parts regularly arranged around a central axis.

36. Nitrogenous waste is excreted in the form of pellet or paste by:
कौन सा प्राणी नाइट्रोजनी अपशिष्टों को गोलिकाओं या पेस्ट के रूप में उत्सर्जित करता है?
(a) Pavo/पैवो
(b) Ornithorhynchus/ऑरनिथोरिनकस
(c) Salamandra/सैलामेण्डर
(d) Hippocampus/हिप्पोकेम्पस

NEET (UG) -17.07.2022

Ans. (a) : Pavo birds excreted nitrogenous waste as uric acid in the form of pellet or paste with a minimum loss of water.
- Ornithorhynchus is a mammals mainly excrete urea and are called **ureotelic animals**.
- Salamander is aquatic amphibians, its ammonotelic in nature
- Hippocampus also known as **seahorse**, it is a bony fish and ammonotelic in nature.

37. Given below are two statements : one is labelled as Assertion (A) and the other is labelled as Reason (R).
नीचे दो कथन दिए गए हैं जिनमें से एक अभिकथन (A) है तथा दूसरा कारण (R) है।

Assertion (A) : All vertebrates are chordates but all chordates are not vertebrates.
अभिकथन (A) : सभी वर्टीब्रेटान रज्जुक हैं लेकिन सभी रज्जुक वर्टीब्रेट नहीं हैं।

Reason (R) : Notochord is replaced by vertebral column in the adult vertebrates.
Reason (R) : वयस्क वर्टीब्रेटान में पृष्ठरज्जु मेरुदंड में परिवर्तित हो जाती है।

In the light of the above statements, choose the most appropriate answer from the option given below:
उपर्युक्त कथनों के प्रकाश में निम्न विकल्पों में से सबसे अधिक उपयुक्त उत्तर का चयन करो:
(a) (A) is not correct but (R) is correct
(A) सही नहीं है लेकिन (R) सही है।
(b) Both (A) and (R) are correct and (R) is the correct explanation of (A)/ दोनों (A) एवं (R) सही हैं तथा (R), (A) की सही व्याख्या है।
(c) Both (A) and (R) are correct but (R) is not the correct explanation of (A)/ दोनों (A) एवं (R) सही है तथा (R), (A) की सही व्याख्या नहीं है।
(d) (A) is correct but (R) is not correct
(A) सही है लेकिन (R) सही नहीं है।

NEET (UG) -17.07.2022

Ans. (b) : All chordates are divided into three subphyla-Urochordates, cephalochordate and vertebrate in subphylum vertebrata, notochord is replaced by bony or cartilaginous vertebral column therefore all vertebrates are chordates but all chordates are not vertebrates.
So the assertion (a) is correct and reason (r) both explanation of assertion (a).

38. Excretion in cockroach is performed by all, EXCEPT:
तिलचट्टे में इसके अलावा सभी से उत्सर्जन होता है-
(a) Urecose glands/यूरेकोस ग्रंथियाँ
(b) Malpighian tubules/मालपीघियन नलिका
(c) Fat body/वसा पिंड
(d) Hepatic caeca/यकृतीय अंधनाल

NEET (UG) Re-Exam-04.09.2022

Ans. (d) : Excretion in cockroach is primarily performed by Malpighian tubules. Each tubule is lined by glandular an ciliated cells. They absorb nitrogenous waste products and convert them into uric acid which is excreted out through the hindgut.
In addition, the fat body, urecose glands also helps in excretion. While Hepatic caeca is used for secrete digestive juices to facilitate digestion.

39. Match List - I with List - II
सूची-I को सूची-II के साथ मिलान करो।

	List - I/सूची-I		**List - II/सूची-II**
(A)	**Metamerism/ विखंडावस्था**	**(i)**	**Coelenterata/ सीलेन्ट्रेटा**
(B)	**canal system/ नाल-तंत्र**	**(ii)**	**Ctenophora /टीनोफोरा**
(C)	**Comb plates/ कंकत पट्टिका**	**(iii)**	**Annelida/ ऐनेलिडा**
(D)	**Cnidoblasts / दंश कोशिका**	**(iv)**	**Porifera / पोरीफेरा**

Choose the correct answer from the options given below.
निम्न विकल्पों में से उचित उत्तर का चयन करो।

	(A)	**(B)**	**(C)**	**(D)**
(a)	(iv)	(i)	(ii)	(iii)
(b)	(iv)	(iii)	(i)	(ii)
(c)	(iii)	(iv)	(i)	(ii)
(d)	(iii)	(iv)	(ii)	(i)

NEET (UG) -12.09.2021

Ans . (d) :

	List - I		**List - II**
(A)	Metamerism	(iii)	Annelida
(B)	canal system	(iv)	Porifera
(C)	Comb plates	(ii)	Ctenophora
(D)	Cnidoblasts	(i)	Coelenterata

40. Match the following:
सूची-I को सूची-II के साथ मिलान करो।

	List-I/सूची-I		**List-II/सूची-II**
(A)	Physalia/ फाइसेलिया	(i)	Pearl oyster/ मुक्ताशुक्ति
(B)	Limulus/ लिमूलस	(ii)	¡uese Man of War/ पुर्तगाली युद्ध मानव
(C)	Ancylostoma/ एनसाइलोस्टोमा	(iii)	Living fossil/ जीवित जीवाश्म
(D)	Pinctada/ पिंकटाडा	(iv)	Hookworm/ अंकुशकृमि

Choose the correct answer from the options given below.
निम्न विकल्पों से उचित उत्तर का चयन करो।

	(A)	(B)	(C)	(D)
(a)	(i)	(iv)	(iii)	(ii)
(b)	(ii)	(iii)	(i)	(iv)
(c)	(iv)	(i)	(iii)	(ii)
(d)	(ii)	(iii)	(iv)	(i)

NEET (UG) -12.09.2021

Ans. (d) :

List-I		List-II	
(A)	Physalia	(ii)	Portuguese Man of War
(B)	Limulus	(iii)	Living fossil
(C)	Ancylostoma	(iv)	Hookworm
(D)	Pinctada	(i)	Pearl oyster

41. All vertebrates are chordates but all chordates are not vertebrates, why?/सभी वर्टीब्रेट कॉर्डेट है, लेकिन सभी कॉर्डेट वर्टीब्रेट नहीं है, क्योंकि:-

(a) All chordates possess notochord throughout their life.
सभी कॉर्डेटों के समस्त जीवन में पृष्ठरज्जु होती है।

(b) Notochord is replaced by vertebral column in adult of some chordates/कुछ कॉर्डेटों के वयस्कों में पृष्ठरज्जु मेरूदंड में बदल जाती है।

(c) Ventral hollow nerve cord remains throughout life in some chordates.
कुछ कॉर्डेटों के समस्त जीवन में अधरीय खोखली तंत्रिका/रज्जु होती है।

(d) All chordates possess vertebral column.
सभी कॉर्डेटों में मेरूदंड होता है।

NEET (UG) -14.10.2020, Phase-II

Ans. (b) : All chordates have a notochord. Chordates include urochordates, cephalochrodates (both are called protochordates) and vertebrates. In vertebrates notochord is replaced by vertebral column (backbone), however vertebral column is not present in protochordates. Therefore, all vertebrates are chordates but all chordates are not vertebrates.

42. Which of the following options does correctly represent the characteristic features of phylum Annelida?
निम्न में कौन सा विकल्प ऐनेलिडा संघ के विशिष्ट लक्षणों को उचित रूप से प्रदर्शित करता है?

(a) Diploblastic, mostly marine and radially symmetrical.
द्विकोरिक, अधिकांशतः समुदी एवं अरीय सममिति

(b) Triploblastic, unsegmented body and bilaterally symmetrical.
त्रिकोरिक, खंडन रहित देह द्विपार्श्व सममिति

(c) Triploblastic, segmented body and bilaterally symmetrical.
त्रिकोरिक, खंडित देह एवं द्विपार्श्व सममिति

(d) Triploblastic, flattened body and acoelomate condition./त्रिकोरिक, चपटा देह एवं अगुहीय अवस्था

NEET (UG) -14.10.2020, Phase-II

Ans. (c) : Option (c) is the correct answer as members of phylum Annelida are segmented worms exhibiting triploblasty. Acoelomate condition and bilateral symmetry are seen in members of phylum platyhelminthes.

43. Which of the following statements are true for the phylum-Chordata?
संघ कॉर्डेटा के लिए कौन से कथन सही है?

(A) In Urochordata notochord extends from head to tail and it is present throughout their life./यूरोकॉर्डेटा में पृष्ठरज्जु सिरे से पूंछ तक फैली होती है और यह जीवन यह जीवन के अंत तक बनी रहती है।

(B) In Vertebrata notochord is present during the embryonic period only./वर्टीब्रेटा में पृष्ठरज्जु केवल भ्रूणीय काल में उपस्थित होती है।

(C) Central nervous system is dorsal and hollow./केन्द्रिय तंत्रिका तंत्र पृष्ठीय एवं खोखला होता है।

(D) Chordata is divided into 3 subphyla: Hemichordata, Tunicata and Cephalochordata.
कॉर्डेटा को तीन उपसंघों में विभाजित किया है : हेमीकॉर्डेटा ट्यूनिकेटा एवं सेफैलोकॉर्डेटा।

(a) (C) and (A)/ (C) एवं (A)
(b) (A) and (B)/ (A) एवं (B)
(c) (B) and (C)/ (B) एवं (C)
(d) (D) and (C)/ (D) एवं (C)

NEET (UG) -13.09.2020

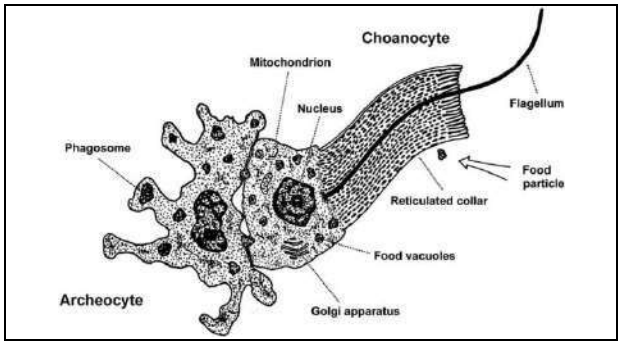
Ans. (c) : Phylum Chordata belongs to the Kingdom Animalia and includes all the vertebrates.
Characteristics of phylum Chordata :
(1) Notochord : It support the nerve chord of replaced by vertebral column after the embryonic state in all vertebrates.
(2) Dorsal hollow nerve chord : It is a bundle of nerves running along the back.
(3) Pharyngeal slits : They are the openings which allow the entry of water through the mouth without enterning the digestive system. They connect mouth and throat.

44. In case of poriferans the spongocoel is lined with flagellated cells called :
पोरीफेरों में स्पंजगुहा कशाभ कोशिकाओं द्वारा आस्तरित होती है, जिन्हें कहते है:

(a) Ostia/ऑस्टिया
(b) Oscula/ऑस्कुला
(c) Choanocytes/कोएनोसाइट
(d) Mesenchymal cells/मीजेनकाइमल कोशिका

NEET (UG) -07.05.2017

Ans. (c) : Choanoderm is the inner cellular layer, lining the Spongocoel in porifera consisting of flagellated cell Choanocytes.
- **Ostia** are small pores with connect the outer environment to spongocoel. **Oscula** is the large aperture in a sponge through which water is expelled.
- **Mesenchyme** also known as methyl in sponges, is a gelatinous matrix that contains skeletal elements and archaeocytes (or Amebocytes).



45. Which of the following features is not present in the Phylum - Arthropoda
निम्नलिखित लक्षणों में से कौन-सा लक्षण फाइलम-आर्थ्रोपोडा में नहीं पाया जाता?

(a) Jointed appendages/संधित उपांग
(b) Chitinous exoskeleton/काइटीन बाह्यकंकाल
(c) Metameric segmentation/विखंडी खंडीभवन
(d) Parapodia/पार्श्वपाद

NEET (UG)-01.05.2016

Ans. (d) : Parapodia is a characteristic of Annelida, which is not present in the phylum-Arthropoda. Arthropods are invertebrates. The invertebrates are bilaterally symmetrical and have metameric segmentation on their bodies. They are characterized by chitinous exoskeleton paired with jointed appendages on each of their segments. Annelids have parapodia for locomotion. It is used for locomotion and for respiration. Sea snails and sea slugs have parapodia that is used for swimming.

46. Which of the following represents the correct combination without any exception?
बिना किसी अपवाद के निम्नलिखित में से कौन-सा सही संयोजन का निरूपण करता है?

	Characteristics/लक्षण	**Class/वर्ग (क्लास)**
(a)	Mouth ventral, gills without operculum; skin with placoid scales; persistent notochord अधरीय मुख, क्लोमों पर प्रच्छद नहीं, त्वचा पर प्लैकॉयड शल्क स्थायी, नोटोकॉड	Chondrichthyes कॉन्ड्रिक्थीज
(b)	Sucking and circular mouth;jaws absent, integument without scales; paired appendages चूषक एवं गोलाकार मुखः जबड़ों का अभाव, अध्यावरण शल्कहीन, युग्मित उपांग	Cyclostomata साइक्लोस्टोमैटा
(c)	Body covered with feathers; skin moist and glandular fore-limbs form wings; lungs with air sacs शरीर परों से ढँका हुआ, त्वचा नम एवं ग्रंथिल, अग्रपाद पंख बनाते हैंः फेफड़ों में वायुकोष होते हैं	Aves एवीज
(d)	Mammary gland; hair on body; pinnae; two pairs of Limbs स्तन ग्रंथि, शरीर पर रोमों का होना, पिन्ना (कर्णपल्लव), दो जोड़ी पाद	Mammalia मैमेलिया

AIPMT-03.05.2015

Ans. (a) : Chondrichthyes are marine animals with streamlined body and have cartilaginous endoskeleton. Mouth is located ventrally. Notochord is persistent throughout life. Gills slits are separate and without operculum (gill cover). The skin is tough, containing minute placoid scales. Teeth are modified placoid scales which are backwardly directed. Their Jaw are very powerful.

47. Which one of the following animals has two separate circulatory pathways?
निम्नलिखित जंतुओं में से किस एक में दो अलग-अलग परिसंचारी पथ होते हैं?

(a) Shark/शार्क (b) Frog/मेंढक
(c) Lizard/छिपकली (d) Whale/ह्वेल

AIPMT Re-Exam-25.07.2015

Ans. (d) : The two separate circulatory pathways refers to double circulation, which is characteristics of mammal i.e. found in whale, human, monkey.
The two separate circulatory is also found in birds.
In double circulatory blood flow twice to the heart, during each cycle of passage through the body. It is required as to keep the oxygenated and deoxygenated blood separate from each other in the body and thus prevent their mixing.
Such separation allowed a highly efficient supply of oxygen to the body.

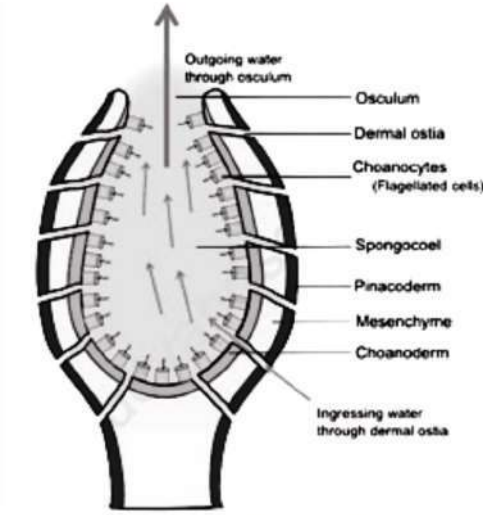
48. Body having network of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum/शरीर में कोशिका जाल होना, खाद्य पदार्थ का निस्यदन करने वाली कशाभिकामय कोशिकाओं से अस्तरित आंतरिक गुहाओं का पाया जाना, तथा अप्रत्यक्ष परिवर्धन का होना किस फाइलम की विशिष्टताएँ हैं?

(a) Protozoa/प्रोटोज़ोआ
(b) Coelenterata/सीलेन्ट्रेटा
(c) Porifera/पॉरिफेरा
(d) Mollusca/मोलस्का

AIPMT Re-Exam-25.07.2015

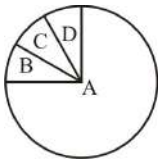
Ans. (c) : Body having network of cells, internal cavities. lined with food filtering flagellate cells and indirect development are the characteristics of the phylum Porifera.
Phylum porifera comprises sponges which are aquatic, marine, sessile, radically symmetrical or asymmetrical animals.

This phylum has characteristics of canal system.
Sponges have a central body cavity know as spongocoel which is lined by specialized flagellated cells called choanocytes or collar cells.



Ascon type canal system (Leucosolenia)

49. Given below is the representation of the extent of global diversity of invertebrates. What groups the four portions (A-D) represent, respectively:-
अकशेरूकी की वैश्विक जैव विविधता का अनुपातिक विस्तर नीचे दिया गया है। चार समूह (A-D) किस का प्रतिनिधित्व करते है:-



	A	B	C	D
(a)	Insects/ कीट	Crustaceans /क्रस्टैशिया	Other animal groups/अन्य प्राणी समूह	Mollusca/ मोलस्का
(b)	Crustaceans/ क्रस्टैशिया	Insects/कीट	Mollusca/ मोलस्का	Other animal groups/ अन्य प्राणी समूह
(c)	Mollusca/ मोलस्का	Other animal groups/ अन्य प्राणी समूह	Crustaceans/ क्रस्टैशिया	Insects/ कीट
(d)	Insects/ कीट	Mollusca/ मोलस्का	Crustaceans/ क्रस्टैशिया	Other animal groups/ अन्य प्राणी समूह

AIPMT -06.05.2014

Ans. (d)
(A) Among animals, insects are the most species-rich taxonomic group, making up more than 70 percent of the total. There are 1.5 million species of beetles which makes insects the largest diverse group.
(B) Mollusca are third among the group of invertebrates.
(C) Custaceans are least in number.
(D) Other animals occupy the second position.

50. In which one of the following, the genus name, its two characters and its phylum are not correctly matched, whereas the remaining three are correct?
निम्नलिखित में से किस एक में एक जीनस नाम, उसकी दो विशिष्टताओं तथा इसके फाइलम को गलत मिलाया गया है जबकि शेष तीन सही है?

	Genus Name/ जीनस नाम	Two Characters/ दो लक्षण	Phylum/ फाइलम
(a)	Sycon/ साइकॉन	(a) Pore bearing/ छिद्रधारी (b) Canal system नॉलतंत्र	Porifera/ पोरीफेरा
(b)	Periplaneta/ पेरिप्लैनेटा	(a) Jointed appendages/ संधित उपांग (b) Chitinuous exoskeleton/ काइटिनयुक्त बाह्यकंकाल	Arthropoda / आर्थ्रोपोडा
(c)	Pila/ पाइला	(a) Body segmented/ देह खंडयुक्त (b) Mouth with Radula/रेडूला से युक्त मुख	Mollusca/ मोलस्का
(d)	Asterias/ ऐस्टेरियास	(a) Spiny skinned/ शूलीय तत्वचा (b) Water vascular system/ जल संवाहक तंत्र	Echinoder-mata/ इकाइनोडर्मेटा

AIPMT-2012

Ans. (c) : Pila belongs to the phylum Mollusca, has unregimented body and has a rasping organ Redula in the mouth meant for feeding.
Genus Asterias belongs to Echinodermata have spiny skinned water vascular system.
Sycon belongs to phylum Porifera are pore bearing having a canal system.
Periplaneta belongs to Arthropod having jointed appendages chitineous exoskeleton.

51. Which one of the following animals is correctly matched with its one characteristics and the taxon?

	Animal	Characteristic	Taxon
(a)	Duckbilled platypus	Oviparous	Mammalian
(b)	Milipede	Ventral nerve cord	Arachnida
(c)	Sea Anemone	Triploblastic	Cnidaria
(d)	Silverfish	Pectoral and Pelvic fins	Chordata

NEET (UG)-18.05.2013

Ans. (a) : Duckbilled platypus is a mammal, which is a oviparous.
- Mammals are usually viviparous but Duckbilled platypus is an oviparous.
- Millipede belongs to class Diplopoda.
- Sea anemone are diploblastic.
- Silverfish in an insect (non-chordate) not fish (chordate).

52. Which one of the following categories of animals, is correctly described with no single exception in it/निम्नलिखित में से प्राणियों की वह कौन सी एक श्रेणी है जिसे बिना एक भी अपवाद के, सही वर्णन किया गया है?

(a) All sponges the marine and have collared cells/सभी स्पंज समुद्री होते हैं एवं उनमें कॉलरयुक्त कोशिकाएं होती है।

(b) All mammals are viviparous and posses diaphragm for breathing
सभी स्तनी शिशुप्रज होते हैं तथा उनमें श्वास लेने के लिए एक डायाफ्राम (मध्यपट) होता है।

(c) All reptiles posses scales, have a three chambered heart and are cold blooded (poikilothermal)
सभी सरीसृपों में शल्क होते हैं, तीन कक्षीय हृदय होता है तथा वे शीतरक्तीय (असमतापी) होते हैं।

(d) All bony fishes have four pairs of gills and an operculum on each side
सभी अस्थिल मछलियों में चार जोड़ी क्लोम तथा दोनों ओर एक-एक प्रच्छद होता है।

AIPMT (Mains) Exam-2012

Ans. (d) : In bony fishes four pairs of gills and each is covered over by operculum on present either side.
- Prototherian mammals are oviparous.
- Sponges are aquatic mostly marine some freshwater and have choanocytes or collar cells are characterstics of porifera.
- Heart is generally 3-chambered in reptiles but in crocodile it is 4 chambered.
- All mammals are viviparous with exception ornithorhynches- (Platypus) which is oviparous (egg laying)

53. What is true about Nereis, Scorpion, Cockroach and Silver fish ?
नेरीस, बिच्छु, कॉकरोच तथा सिल्वर फिश के विषय में क्या एक चीज सही है?

(a) They all belong to the same phylum
ये सभी एक ही फाइलम के सदस्य हैं।

(b) They all have jointed paired appendages
इन सभी में संयुक्त युग्मित उपांग होते हैं।

(c) They all possess dorsal heart
इन सभी में पृष्ठ हृदय होता है।

(d) None of them is aquatic
इनमें से कोई भी जलीय नहीं है।

AIPMT-2007

Ans. (c) : Nereis belonging to class polychaeta of phylum Annelida. They all possess dorsal heart.
- Scorpion and cockroach (belonging to phylum arthropoda) and sliver fish all have dorsal heart.
- Nereis is an aquatic.
- Arthropodans show common characteristic of jointed paired appendages.

54. Which one of the following living organisms completely lacks a cell wall?
निम्नलिखित में से किस जीवित प्राणी में कोशिका भित्ती का पूर्ण अभाव हैं?

(a) Cyanobacteria/सायनोबेक्टीरिया

(b) Sea- fan (Gorgonia)/समुद्री फेन (गोर्गोनिया)

(c) Saccharmyces/सेक्रोमाइसीज

(d) Blue-green algae/नील हरित शैवाल

AIPMT -06.05.2014

Ans. (b) : Gorgonia belongs to cnidaria class-Anthozoa. They are also known as sea whips or sea fans and are similar to the sea pen, a soft coral. These marine invertebrates are multi-cellular, have no cell walls.
- BGA belong to monera and their cell wall is made up of peptidoglycan.
- Saccharomyces fungi cell wall is made up of chitin.

55. Which of the following animals have scattered cells with cell – tissue grade organisation:
कौन-से जन्तु में बिखरी हुई कोशिकाएं कोशिका उत्तक स्तर का संगठन दर्शाती है –

(a) Sponge (b) Hydra
(c) Liver fluke (d) Ascaris

AIPMT-2000

Ans. (b) : Hydra has cells, that are performing similar functions are highly coordinated and are aggregated into tissues and exhibit tissue grade of organization as like most coelenterates. In some cases sponges having cellular grade of organization is an aggregation of cells that are functionally differentiated. Such cells do not become organized into true tissues but may Form definite patterns or layers.

56. In which animal nerve cell is present but brain is absent : -/किस जन्तु में तंत्रिका कोशिका होती है, लेकिन मस्तिष्क अनुपस्थित होता है-

(a) Sponge/स्पंज (b) Earthworm/केंचुआ
(c) Cockroach/कॉकरोच (d) Hydra/हाइड्रा

AIPMT-2002

Ans. (d) : Hydra has nerve cells but it lacks a brain. It belongs to the phylum Coelenterata.
- Its nervous system consists of nerve cells and the activities that occurs insides them.
- Sensory cells are also present but brain is absent.

57. Select the Taxon mentioned that represents both marine and fresh water species./
बताये गये टेक्सोनों में उसका चुनाव कीजिये जिसमें दोनों समुद्री और स्वच्छ जलीय जातियाँ होती है।

(a) Echinoderms/एकाइनोडर्मस

(b) Ctenophora/टेनोफोरा

(c) Cephalochordata/सिफेलोकार्डेटा

(d) Cnidaria/नीडेरिया

AIPMT -06.05.2014

Ans. (d) : Cnidaria phylum is notable in the animal kingdom for exhibiting polymorphism. Most of them are marine and other are fresh water. Example- fresh water cnidarians- Hydra and marine cnidarians - jellyfish, sea anemones, sea fans etc. While members of ctenophora, cephalochordata, echinodermata are found exclusively in the marine environment.

58. Biradial symmetry and lack of cnidoblasts are the characteristics of-
द्विअरीय सममिति का होना तथा दंशकोरकों का अभाव किनकी विशिष्टता है?

(a) Starfish and sea anemone.
स्टारफिश तथा समुद्री ऐनीमोन

(b) Ctenophora and Beroe./टीनोफोरा तथा बेरोई

(c) Aurelia and Paramecium.
औरीलिया तथा पैरामीशियम
(d) Hydra and starfish/हाइड्रा तथा स्टारफिश

AIPMT-2006

Ans. (b) : Biradial symmetry and lack of cnidoblasts are the characteristics of Ctenophora and Beroe.
- Biradial symmetry is a combination of radial and bilateral symmetry.
- Biradial symmetry is found in organism which shows morphological features of both bilateral and radial symmetry.
- Biradial organisms can only be cut along the two planes (longitudinal and transverse plane) equally.

Ctenophora show the biradial symmetry.
Beroe is also known as mellon jellyfish and falls under the phylum ctenophora.

59. Bilaterally symmetrical and acoelomate animals are exemplified by
द्विपार्श्व सममिति एवं अगुहीय जन्तुओं के उदाहरण किस संघ में है?
(a) Platyhelminthes/प्लेटीहैल्मिंथीज
(b) Aschelminthes/एस्केहैल्मिंथीज
(c) Annelida/ऐनेलिडा
(d) Ctenophora/टीनोफोरा

NEET (UG) -13.09.2020

Ans. (a) : Animals belongs to the phylum platyhelminthes are bilaterally symmetrical. They lack Coelome (acoelomate animals).
- Animals of phylum Aschelminthes are Pseudocoelomate animals.
- Annelids are bilaterally symmetrical but they are coelomate animals (coelom present)
- Animals of phylum Ctenophora are radially symmetrical with no coelom.

60. Solenocytes occur in/सोलेनोसाईट पाई जाती है:
(a) Platyhelminthes/प्लैटिहैल्मिंथीज
(b) Arthropoda/आथ्रोपोडा
(c) Annelida/एनीलिडा
(d) Aschelminthes/एस्केहैल्मिंथीज

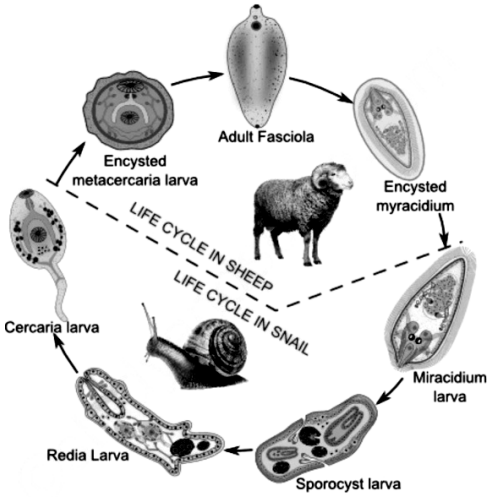
AIPMT-1998

Ans. (a) : Solenocyte also known as flame cells are excretory structures found in platyhelminthes.
- They are meant for excretion and osmoregulation.
- The solenocyte carries a flagellum which wafts excretory products along the tubule.
- The wall of the tube are thin and consist of pillar-like rods.

61. During its life-cycle, *Fasciola hepatica* (liver fluke) infects its intermediate host and primary host at the following larval stage respectively:
अपने जीवन चक्र के दौरान फेसियोला हेपैटिका (यकृत पर्णाभ) अपने मध्यवर्ती परपोषी तथा प्राथमिक परपोषी में निम्नलिखित में से क्रमशः किन लार्वा अवस्थाओं संक्रमण करता है :
(a) Redia and miracidium /रेडिया तथा मिरैसिडियम
(b) Cercaria and redia/सर्केरिया तथा रेडिया
(c) Metacercaria and cercaria
मेटासर्केरिया तथा सर्केरिया
(d) Miracidium and metacercaria
मिरैसिडियम तथा मेटासर्केरिया

AIPMT-2003

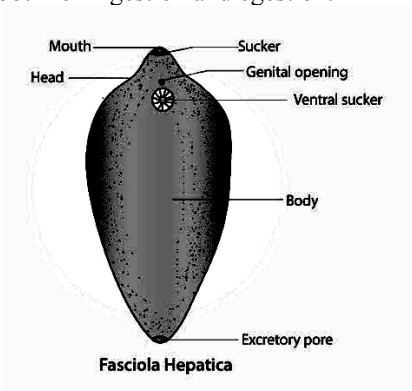
Ans. (d): Fasciola hepatica is a digenetic parasite. It completes its life history in sheep and fresh water snail. Sheep is the primary host and snail acts as an intermediate host. When it contact with water the egg capsule form non-feeding larva miracidium enters the body of snail to the form sporocyst. The sporocyst develops into redia. Redia forms cercaria and comes out of snail. They get encysted forming metacercaria.



62. One example of animals having a single opening to the outside that serves both as mouth as well as anus is
एक जंतु का उदाहरण दीजिए जिसमें बाहर की ओर एकल छिद्र होता है, जो मुख व गुदा दोनों का कार्य करता है -
(a) Octopus/ऑक्टोपस (b) Asterias/एस्ट्रीआस
(c) Ascidia/एसिडिया (d) Fasciola/फैसिओला

AIPMT-2010

Ans. (d) : Fascioala belongs to phylum platyhelminthes and have incomplete alimentary canal, there is a single opening both for ingestion and egestion.



Fasciola Hepatica

This is also called as blind sac body plan.
- Where as, in octopus, Asterias and Ascidia the alimentary canal is complete.

63. Which one of the following kinds of animals are triploblastic?
निम्नांकित में से कौन से प्रकार के जंतु त्रिस्तरीय हैं?
(a) Flat worms/चपटे कृमि (b) Sponges/स्पंज
(c) Ctenophores/टीनोफोरा (d) Corals/कोरल

AIPMT-2010

Ans. (a) : Flatworms are triploblastic and acoelomate. Where as, sponges have cell aggregate type of body plane and ctenophores and corals are diploblastic.

64. Which one of the following groups of animals is bilaterally symmetrical and triploblastic ?
निम्नलिखित में से किस एक वर्ग के प्राणी द्विपार्श्वतः सममित एवं त्रिजनस्तरीय होते है?

(a) Sponges/ स्पंज
(b) Coelentrates (Cnidarians)/ सीलेंट्रेट्स (नीडेरियन)
(c) Aschelminthes (round worms)
एस्केहैल्मिंथीज (गोल कृमि)
(d) Ctenophores/ टीनोफोर

AIPMT-2009

Ans. (c) : Aschelminthes is a subphylum consisting of psuedocoelomates. They are commonly known as round worms and characterized by the presence of a psuedocoelous. Aschelminthes are **bilaterally symmetrical and triploblastic**.

65. *Ascaris* is characterized by :
ऐस्कैरिस की क्या विशिष्टता है?

(a) presence of true coelom but absence of metamerism / वास्तविक सीलोम का होना परंतु विखंडावस्था का न पाया जाना।
(b) presence of true coelom and metamerism (metamerisation)/वास्तविक सीलोम तथा विखंडावस्था (विखंडीभवन) का होना।
(c) absence of true coelom but presence of metamerism/वास्तविक सीलोम का अभाव परंतु विखंडावस्था का पाया जाना।
(d) presence of neither true coelom nor metamerism/न तो वास्तविक सीलोम का होना और न ही विखंडावस्था का पाया जाना।

AIPMT-2008

Ans. (d) : Ascaris belongs to **phylum Aschelminthes**. It lacks a true coelom, possesses pseudocoelom and body is not metamerically segmented. Ascaris is endoparasite of man. It inhabits the small intestine more frequently of children than of adults. Ascariasis is caused by the intestinal nematode *Ascaris lumbricoides* belonging to a class of parasites often referred to as "soil - transmitted helminths." The body is elongate cylindrical is no metameric segmentation.

66. Similarity in Ascaris lumbricoides and Anopheles stephensi:
एस्केरिस लम्ब्रीकोइड्स तथा एनोफ्लीज स्टेफेनाई में क्या समानता है –

(a) Sexual dimorphism/लैंगिक द्विरूपता
(b) Metamerism/समखण्डन
(c) Anaerobic respiration/अवायुवीय श्वसन
(d) Endoparasitism/अन्तः परजीविता

AIPMT-2000

Ans. (a) : Sexual dimorphism is the difference in the form of individuals of different sexes but of same species. Sexes in Ascaris are separate and sexual dimorphism is well defined. Males are smaller than females. They possess a recurved tail with pre and post anal papillae, a cloaca and a pair of spicules or penial setae. In Anopheles, the ends of maxillary palps in males are club-shaped while in females they are not.

67. Which one of the following statements about certain given animals is correct –
निम्न में से कौन सा कथन नीचे दिये गये निश्चित जंतुओं के लिए सत्य है –

(a) Round worms (Aschelminthes) are pseudocoelomates
गोलकमि (एस्केलमिन्थीज) अभासी देहगुहा युक्त होते हैं
(b) Molluces are acoelomates
मोलस्का एसीलोमेट होते हैं
(c) Insects are pseudocoelomates
कीट आभासी देहगुहा वाले होते हैं
(d) Flat worms (Platyhelminthes) are coelomates
चपटे कृमि (प्लेटीहैल्मिथीज) देहगुहायुक्त होते हैं

AIPMT-2010

Ans. (a) : Coelom is the hollow cavity present in the body of lower organism, round worms (Aschelminthes) are pseudocoelomate. Where as, Flatworms are acoelomate, mollusca and insects are coelomate.

68. Which of the following end parasites of humans does show viviparity?
मानवों के निम्नलिखित अंतः परजीवियों में से कौन-सा सजीवप्रजकता प्रदर्शित करता है?

(a) Enterobius vermicularis/एन्टेरोबियस वर्मिकुलेरिस
(b) Trichinella spiralis/ट्राइकिनेला स्पाइरैलिस
(c) Ascaris lumbricoides/ऐस्कारिस लम्ब्रीकोइडीज
(d) Ancylostoma duodenale/ऐन्किलोस्टोमा डूओडिनेल

AIPMT-03.05.2015

Ans. (b) : Trichinella spiralis is endoparasites of humans that show viviparity. Trichinella spiralis occurring in rodents, pigs, bears, hyenas and humans and is responsible for the disease **trichinosis**. It is sometimes referred to as the "pork worm" due to it being typically encountered in undercooked pork products. Trichinella spiralis is a zoonotic infection acquired by ingestion of contaminated undercooked or raw pork or game meat, infectious cysts in striated muscle tissue are digested, releasing L_1 larvae which mature into adults in the small intestine, the adult form release newborn larvae in a few week.

69. Which one of the following is NOT a characteristic of phylum Annelida?
निम्नलिखित में से कौन सा एक लक्षण फाइलम एनिलिडा की विशिष्टता नहीं है ?

(a) Pseudocoelom/आभासी गुहा
(b) Ventral nerve cord/अधर तंत्रिका रज्जु
(c) Closed circulatory system/बंद परिसंचरण तंत्र
(d) Segmentation/सखण्डता

AIPMT-2008

Ans. (a) : Annelids are the Protostomes having a series of rings or segments that make up their whole body known as metameric segmentation.
A ventral nerve cord and a simple brain comprising a pair of ganglia make the nervous system.
The coelom is a fluid-filled space present between the body wall and digestive tube. Annelids have true coelom.
Annelids have a closed circulatory system. Pseudocoelom is a form of coelom that is not made up