

Youth Competition Times

B.Sc. Nursing

(■ BIOLOGY ■ PHYSICS ■ CHEMISTRY)

Entrance Exam

Chapterwise

Topicwise & Sub-Topicwise

Solved Papers

Useful for : AIIMS, CNET, RUHS, PNST, GNMST, ABVMU, PGIMER, PPMET, PPCNET, KGMU, BCECE, PGIMS, BHU, JIPMER, BFUHS, JKOPEE, RML, HNBU, JCECE, AMU, MNS, IPU, UPUMS, CPEB, LBS KERALA, HNBUMU, WBJEE, CGVYAPAM, MPESB, IGNOU

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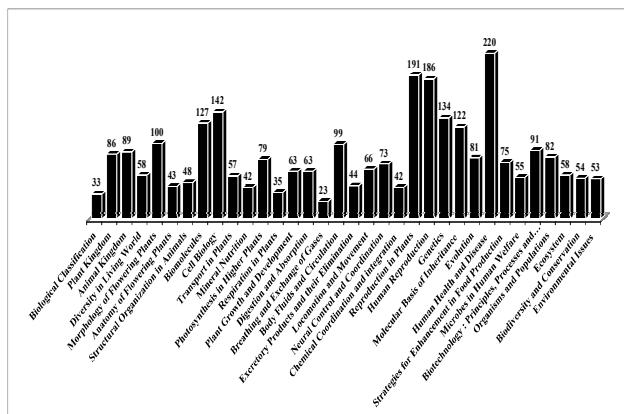
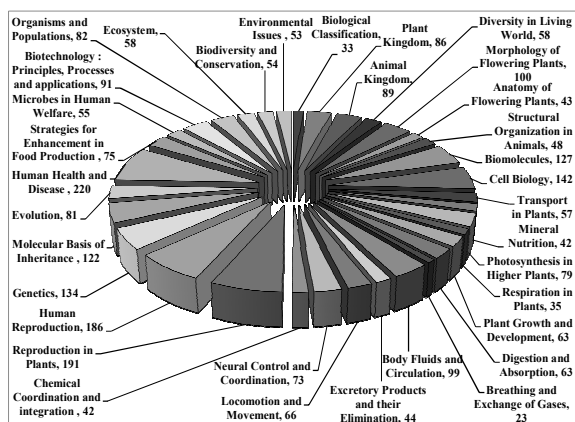
Previous Years Exam Papers Analysis Chart

Paper	Physics	Chemistry	Biology	Total No. of Question
1. WB JENPAS 2023	20	20	20	60
2. CG BSC NURSING 2023	20	20	20	60
3. WB JENPAS 2022	20	20	20	60
4. CG BSC NURSING 2022	20	20	20	60
5. CG BSC NURSING 2021	25	25	50	100
6. CG BSC NURSING 2019	25	25	50	100
7. MP GNTPNST 07/July 2019 Shift -1	30	30	60	120
8. MP GNTPNST 07/July/2019 Shift -2	30	30	60	120
9. MP GNTPNST 08/July 2019 Shift -1	30	30	60	120
10. MP GNTPNST 08/July 2019 Shift -2	30	30	60	120
11. CG BSC NURSING 2018	25	25	50	100
12. MP GNTPNST 19/June 2016 Shift -1	30	30	60	120
13. MP GNTPNST 19/June 2016 Shift -2	30	30	60	120
14. MP GNTPNST 19/June/2016 Shift -3	30	30	60	120
15. MP GNTST_PNST 2014	30	30	60	120
16. MP GNTST_PNST 2013	30	30	60	120
17. MP PNST 07/JULY 2023	30	30	60	120
18. MP PNST 08/JULY 2023 Shift-II	30	30	60	120
19. MPPNST-4/JUNE/2017	30	30	60	120
20. MP PNST-4/JUNE/2017	30	30	60	120
21. MP PNST-4/JUNE/2017	30	30	60	120
22. MP PNST-7/JUNE/2023 Shift-II	30	30	60	120
23. MP PNST-8/JUNE/2023 Shift-I	30	30	60	120
24. MP PNST-10/JUNE/2018	30	30	60	120
25. MP PNST-10/JUNE/2018	30	30	60	120
26. MP PNST-2015	30	30	60	120
27. MP PNST-2020	30	30	60	120
28. Atal Medical & Research University	20	20	20	60
29. CG B.Sc Nursing -2024	20	20	20	60
30. HNBUMU 2023	20	20	20	60
31. JENPAS_UG_2024	20	20	20	60
32. RUHS 2018	35	35	40	110

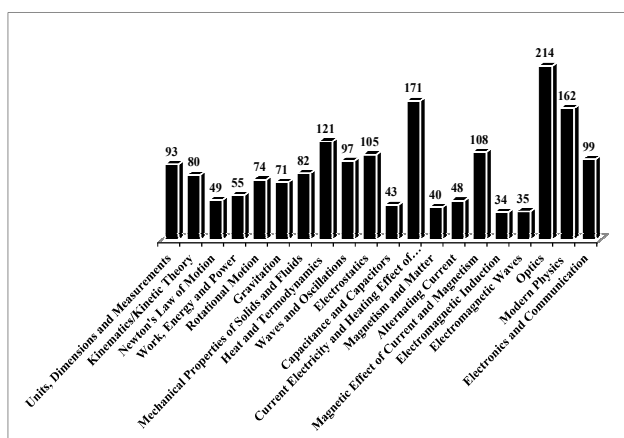
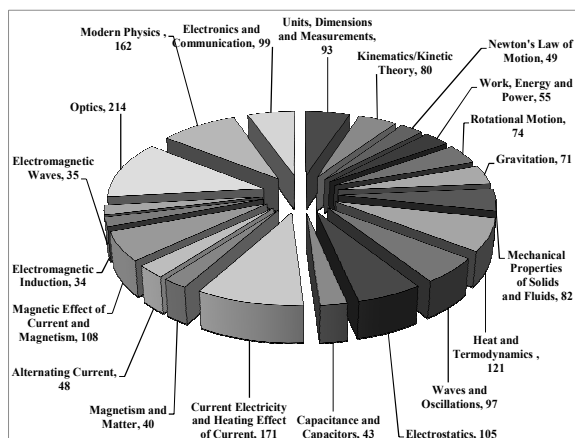
33. RUHS 2019	35	35	40	110
34. RUHS 2020	35	35	40	110
35. RUHS 2021	35	35	40	110
36. RUHS 2022	35	35	40	110
37. RUHS 2023	35	35	40	110
38. RUHS 2024	35	35	40	110
39. AMRU B.Sc Nursing 2021	25	25	25	75
40. BHU B.Sc Nursing 2019	25	25	50	100
41. AMRU B.Sc Nursing 2023	20	20	20	60
42. HBNU B.Sc Nursing 2021	20	20	20	60
43. HBNU B.Sc Nursing 2019	25	25	50	100
44. HBNU B.Sc Nursing 2020	25	25	50	100
45. HBNU B.Sc Nursing 2022	20	20	20	60
46. HBNU B.Sc Nursing 2017	40	40	40	120
47. HBNU B.Sc Nursing 15/06/2024	20	20	20	60
48. J & K B.Sc Nursing 2021	60	60	60	180
49. J & K B.Sc Nursing 2023	60	60	60	180
50. Jharkhand B.Sc Nursing 2018	50	50	50	150
51. PPMET (BFUHS) B.Sc Nursing	20	20	40	80
52. PPMET BFUHS B.Sc Nursing	20	20	20	60
53. UPMSU B.Sc Nursing	25	25	25	75
54. UPMSU B.Sc Nursing	25	25	25	75
55. Uttarakhand GNM Question Paper-2022	0	0	60	60
56. BHU 2013 Nursing	25	25	50	100
57. BHU 2014 Nursing	25	25	50	100
58. BHU 2015 Nursing	25	25	50	100
59. BHU 2016 Nursing	25	25	50	100
60. BHU 2017 Nursing	25	25	50	100
61. MP PNST 9/07/2023 Shift-I	30	30	60	120
62. MP PNST 9/07/2023 Shift-II	30	30	60	120
63. IGNOU Entrance-Paper B.Sc Nursing 2017	0	0	70	70
64. Jharkhand B.Sc 2022 Nursing	50	50	50	150
65. Jharkhand B.Sc Nursing 2019	50	50	50	150
66. Jharkhand B.Sc Nursing 2023	50	50	50	150
TOTAL	1895	1895	3015	6805

Trend Analysis of Previous Year Papers Through Pie Chart and Bar Graph

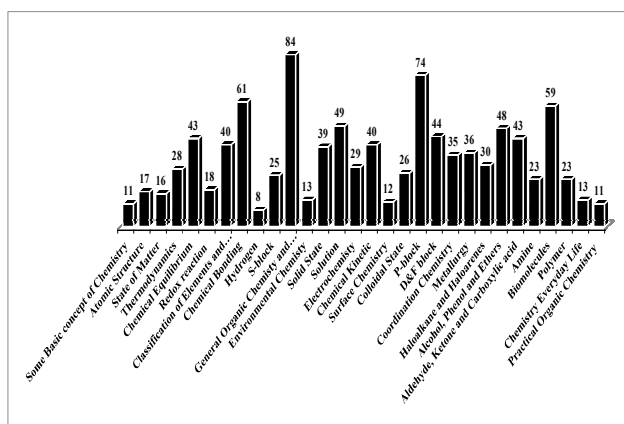
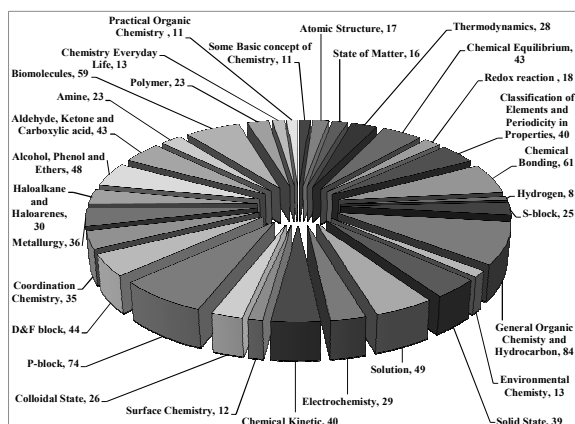
BIOLOGY



PHYSICS



CHEMISTRY



1.

Biological Classification

1. Who is the author of 'Systema Naturae'?
सिस्टेमा नेचुरे के लेखक कौन है?

- (a) John Ray/जॉन रे (b) Darwin/डार्विन
(c) Linnaeus/लिनियस (d) Bentham/बेन्थम

WB-JENPAS-2024

Ans. (c) : Carl Linnaeus authored Systema Naturae, first published in 1735. This seminal work established the modern framework for biological classification introducing the biological nomenclature system for naming species and organizing living organisms into a hierarchical structure, significantly influencing taxonomy and biological sciences.

2. Who introduced the binomial system of nomenclature?

नामकरण का द्विनाम पद्धति किसने प्रस्तुत किया था?

- (a) Carolus Linnaeus/कैरोलस लिनियस
(b) J B Lamarck/जे बी लैमार्क
(c) Ernst Haeckel/अर्नस्ट हेकेल
(d) Robert Whittaker/रॉबर्ट व्हिटैकर

MP-PNST-08.07.2023, Shift-II

Ans. (a) : The binomial system of nomenclature was introduced by Carolus Linnaeus. He developed this system in the 18th century which uses two names (genus and species) to identify each species of organism, providing a standardized way to name and classify living things.

3. The Greek thinker _____ classified animals according to their habitat was:

यूनानी विचारक _____ ने जानवरों को उनके आवास के अनुसार वर्गीकृत किया।

- (a) Archimedes/आर्किमिडीज
(b) Newton/न्यूटन
(c) Aristotle/अरस्तू
(d) Mendel/मेंडेल

MP-PNST-08.07.2023, Shift-II

Ans. (c) : The Greek thinker who classified animals according to their habitat was Aristotle. He is well-known for his work in categorizing and studying different animal species based on their environment and characteristics.

4. α -taxonomy deals with

अल्फा-टैक्सोनामी के अन्तर्गत अध्ययन किया जाता है

- (a) Chemotaxonomy / कीमोटैक्सोनामी
(b) Phylogeny / फायलोजेनी
(c) Experimental taxonomy / प्रयोगात्मक टैक्सोनामी
(d) Classical taxonomy / क्लासिकल टैक्सोनामी

CG BSc. Nursing-2021

Ans. (d) : α - taxonomy deals specifically with classical taxonomy, which involves the identification, classification, and naming of living organisms based on their morphological and anatomical characteristics.

5. Five-kingdom classification of Whittaker is mainly based on

5-किंगडम वर्गीकरण वाइटैकर द्वारा किस पर आधारित है ?

- (a) Nucleus / न्यूक्लियस
(b) Cell structure / कोशा संरचना
(c) Mode of nutrition / मोड ऑफ न्यूट्रीशन
(d) Complexity of organs / अंगों की काम्प्लेक्सिटी

CG BSc. Nursing-2021

Ans. (b&c) : Whittaker's five-kingdom classification is based on cell structure (nucleus presence) and mode of nutrition (autotrophic vs. heterotrophic), dividing organisms into Monera, Protista, Fungi, Plantae and Animalia.

6. In binomial nomenclature, the names stand for

द्वि-नाम पद्धति नामकरण में नामों का मतलब है

- (a) One scientific and one popular/एक वैज्ञानिक एवं एक मशहूर
(b) Both are name of species /दोनों नाम जातियों के
(c) One generic and one specific/एक वंशीय तथा दूसरा जाति का
(d) Both names are generic/दोनों नाम वंशीय के

CG BSc. Nursing-2019

Ans. (c) : In binomial nomenclature, the names stand for one generic and one specific name.

The first name represents the genus, and the second name represents the species. For example, in Homo sapiens, Homo is the genus and sapiens is the species.

7. The universal rules of nomenclature include:

नामपद्धति के सार्वभौमिक नियमों में सम्मिलित हैं :

- (a) Only the first part is Generic epithet and second part represents specific epithet./केवल पहला भाग सामान्य संकेतपद (जेनेरिक एपिथेट) होता है और दूसरा भाग विशिष्ट संकेतपद (स्पेसिफिक एपिथेट) को दर्शाता है।
(b) Only the name has been derived from Latin or Latinised/केवल नाम को लैटिन या लैटेनाइज्ड से व्युत्पन्न किया जाना चाहिए।
(c) Only scientific name should be written in italic if printed and underlined if written /केवल मुद्रित किये जाने पर वैज्ञानिक नाम को इटैलिक में लिखा जाना चाहिए और लिखे जाने पर रेखांकित किया जाना चाहिए।
(d) All of these /उपर्युक्त सभी

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (d): The universal rules of nomenclature generally include the following:

- The first part of the scientific name represent the genus, and the second part represent the species.
- The scientific names are typically derived from Latin or Latinized.
- Scientific names should be written in italics when printed and underlined when handwritten.

8. The system of Binomial Nomenclature was given by:

द्विपद नामपद्धति की प्रणाली किसके द्वारा दी गई थी:

- Carolus Linnaeus/कार्ल लीनियस
- Strickland /स्ट्रीकलैंड
- Huxley /हक्सले
- Charles Darwin /चार्ल्स डार्विन

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (a) : Binomial nomenclature is a system of naming species using two names: the genus name and the species name. This system was introduced by Carolus Linnaeus in the 18th century. It provides a standardized way to name and classify living organisms, ensuring that each species has a unique and universally accepted scientific name.

Example :- Homo sapiens, Homo is the genus, and sapiens is the species.

9. Which of the following taxonomical aids provides information for identification of names of species found in an area?

निम्नलिखित में से कौन-सा वर्गीकरण (टैक्सोनॉमिकल) सहायक, किसी क्षेत्र में पाई जाने वाली प्रजातियों के नामों की पहचान करने हेतु जानकारी प्रदान करता है?

- Manuals/नियम पुस्तक (मैनुअल)
- Catalogues/वर्गक संग्रह (केटलॉग)
- Flora/वनस्पति समूह (फ्लोरा)
- Monographs/मोनोग्राफ

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (a) : Taxonomical manuals are detailed guides that aid in identifying species within specific areas. They provide descriptions, illustrations and keys that help distinguish between different organisms, making them essential tools for taxonomists and field biologists.

10. The correct sequence of Hierarchy in biological classification is:

जैविक वर्गीकरण में पदानुक्रम का सही क्रम है:

- Kingdom, Class, Order, Phylum, Family, Genus, Species/जगत, वर्ग, गण, संघ, कुल, वंश, जाति
- Kingdom, Order, Class, Phylum, Family, Genus, Species/जगत, गण, वर्ग, संघ, कुल, वंश, जाति
- Kingdom, Phylum, Class, Order, Family, Genus, Species/जगत, संघ, वर्ग, गण, कुल, वंश, जाति
- Kingdom, Family, Class, Order, Genus, Species/जगत, कुल, वर्ग, गण, वंश, जाति

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (c) : The correct sequence of biological classification hierarchy is: Kingdom, Phylum, Class, Order, Family, Genus, Species. This hierarchical system categorizes organisms into increasingly specific groups based on shared characteristics and evolutionary relationships. It provides a structured framework for organizing and studying biodiversity across different taxonomic levels.

11. Trinomial nomenclature refers to names

त्रिपद नामकरण _____ नामों को संदर्भित करता है।

- for taxa below the level of species/प्रजातियों के स्तर से नीचे वर्गक (टैक्सा) के लिए
- for plant taxa/पादप वर्गक (टैक्सा) के लिए
- for animal taxa/पशु वर्गक (टैक्सा) के लिए
- for microorganisms/सूक्ष्मजीवियों के लिए

MP-GNTST/PNST-08.07.2019, Shift-I

Ans. (a) : Trinomial nomenclature is a naming system used in taxonomy for organisms below the species level. This includes subspecies, varieties and other intra-specific categories. It consists of three parts: the genus name, the species name and the subspecific name. For example, in the name Homo sapiens sapiens the first "Homo" is the genus "sapiens" is the species, and the second "sapiens" denotes the subspecies.

12. The two-kingdom classification given by Linnaeus is considered inadequate presently because of:

लीनियस द्वारा दिए गए द्वि-जगत वर्गीकरण को वर्तमान में निम्न के कारण अपर्याप्त माना जाता है :

- A large number of organisms did not fall into either plants or animals only /बड़ी संख्या में जीव, न पौधों या न ही जानवरों के अंतर्गत आते हैं।
- Not distinguishing photosynthetic and non-photosynthetic plants (fungi) separately only /केवल प्रकाशसंश्लेषक और गैर-प्रकाश संश्लेषक पौधों (कवक) में भेद न कर पाने
- Not distinguishing prokaryotic and eukaryotic organism separately only /केवल प्रोकैरियोटिक (प्राकैट्रकी) और यूकेरियोटिक (यूकैट्रकी) जीवों में भेद न कर पाने
- All of these /उपर्युक्त सभी

MP-GNTST/PNST-08.07.2019, Shift-II

Ans. (d) : Linnaeus two-kingdom classification system (Plantae and Animalia) is considered inadequate for the following reasons:

- A large number of organisms, such as bacteria and fungi, did not fit neatly into either the plant or animal kingdoms.
- The system did not distinguish between photosynthetic organisms (like algae) and non-photosynthetic organisms (like fungi).
- It also did not differentiate between prokaryotic organisms (like bacteria) and Eukaryotic organisms.

These limitations led to the development of more modern classification systems.

**13. Biological names are given in _____ language
जैविक नाम _____ भाषा में दिए गए हैं।**

- Sanskrit / संस्कृत
- Greek / ग्रीक
- English / अंग्रेजी
- Latin / लैटिन

MP-GNTST/PNST-08.07.2019, Shift-II

Ans. (d) : Biological names, or scientific names, are given in Latin because Latin was historically the language of scholars and scientists. This tradition helps ensure consistency and universal understanding in scientific classification.

**14. All biological classifications of two-kingdom system are divided into -
सभी जैवकीय वर्गीकरण के दो जगत सिस्टम को विभाजित किया गया है-**

- Plantae and Animalia / प्लांटे और एनिमेलिया
- Monera and Animalia / मोनेरा और एनिमेलिया
- Protista and Animalia / प्रोटिस्टा और एनिमेलिया
- Protista and Plantae / प्रोटिस्टा और प्लांटे

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (a) : All biological classifications of two-kingdom system are divided into Plantae and Animalia. Carolus Linnaeus introduced the two-kingdom classification system in 1758, classifying living organisms into kingdom Plantae and kingdom Animalia.

**15. New systematics proposed by Sir Julian Huxley is known as -
सर जूलियन हक्सले द्वारा प्रस्तावित न्यू सिस्टैमैटिक्स को कहा जाता है-**

- Phynetics / फेनेटिक्स
- Bio-systematic / बायो-सिस्टैमैटिक्स
- Cladistics / क्लेडिस्टिक्स
- Numerical taxonomy / न्यूमेरिकल टेक्सोनॉमी

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (b) : The New systematics proposed by Sir Julian Huxley is known as bio-systematics. Biosystematics is the study of biodiversity, focusing on the classification, identification and evolutionary relationships of organisms.

**16. Plant classification of Linnaeus is-
लीनियस का पादप वर्गीकरण है-**

- Natural / प्राकृतिक
- Phylogenetic / वंशावली
- Artificial / कृत्रिम
- None of these / इनमें से कोई नहीं

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (c): Linnaeus' plant classification system is categorized as "artificial". This classification method is based on artificial or arbitrary characteristics chosen by Linnaeus for grouping plants, such as the number of stamens, arrangement of petals, and other morphological features. It aimed to simplify plant identification evolutionary relationships (phylogenetic) or natural groupings (natural).

**17. Binomial nomenclature designates:
द्विनाम नामाकरण दर्शाता है:**

- Genus and species / वंश व जाति
- Order and Family / गण व परिवार
- Species and subspecies / जाति व उपजाति
- Genus and Family / वंश व परिवार

MP-GNTST/PNST-2014

Ans. (a) : Binomial nomenclature names organisms using two components : the genus and the species. This system provides a unique, standardized way to identify and classify organisms, ensuring clarity and consistency in scientific communication. For example, Homo sapiens refers to the genus Homo and the species sapiens.

**18. Five kingdom scheme of classification was proposed by:
वर्गीकरण की पंचजगत स्कीम का प्रतिपदान किया था:**

- Linnaeus / लीनियस ने
- Whittaker / हिट्टेकर ने
- Hymen / हायमेन ने
- Mayer / मेयर ने

MP-GNTST/PNST-2014

Ans. (b) : The Five Kingdom Classification was proposed by Robert H. Whittaker in 1969. He categorized life into five kingdoms : Monera, Protista, Fungi, Plantae and Animalia, based on cell structure, mode of nutrition and ecological roles.

**19. Who proposed binomial nomenclature?
द्विपद-नाम-पद्धति किसने प्रतिपादित की ?**

- Mendel / मेन्डल
- De Vries / डी वरीस
- Darwin / डार्विन
- Linnaeus / लीनियस

MP-GNTST/PNST-2013

Ans. (d) : Carl Linnaeus, a Swedish botanist, physician, and zoologist, introduced this system in the 18th century. It assigns each species a two-part scientific name consisting of its genus and species, providing a standardized way to identify and classify organisms globally.

20. Which place has been given to bacteria in Whittaker's classification?

व्हीटकर के वर्गीकरण में जीवाणु को कौन-सा स्थान दिया गया है?

- (a) Protista/ प्रोटिस्टा (b) Monera/ मोनेरा
(c) Plants/ पादप (d) Fungus/ कवक

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (b): In Whittaker's classification, bacteria are placed in the Kingdom Monera. This kingdom includes prokaryotic organisms that lack a defined nucleus, distinguishing them from other kingdoms like Protista, Plantae and Fungi which contain eukaryotic organisms.

21. Taxonomy is the science related to what?

टैक्सोनामी किससे सम्बन्धित विज्ञान है?

- (a) Classification of all living things/सभी जीवित वस्तुओं का वर्गीकरण
(b) Classification of plants/पौधों का वर्गीकरण
(c) All living things, someone's identification naming and classification/सभी जीवित वस्तुओं की पहचान, नामकरण और वर्गीकरण
(d) The structure and type of all living things/सभी जीवित वस्तुओं की संरचना एवं प्रकार

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (c) : Taxonomy is the science of identifying, naming, and classifying all living things. This includes all plants, animals, and microorganisms. The concept is common in life sciences, where taxonomy is used to classify plants and animals. Carolus Linnaeus is called the Father of taxonomy.

22. Who wrote 'Species Plantarum' and provided the basis for classification of plants?

'स्पीशीज प्लाण्टेरियम' किसने लिखी तथा पादपों का वर्गीकरण का आधार किसने दिया?

- (a) Carolus Linnaeus/कैरोलस लिनियस
(b) Robert Hooke/रॉबर्ट हुक
(c) Leeuwenhoek/ल्यूवेनहॉक
(d) Charles Darwin/चार्ल्स डार्विन

MP-GNTST/PNST-10.06.2018, Shift-II

Ans. (a) : Swedish botanist Carolus Linnaeus wrote a two-volume book called 'Species Plantarum', published in 1753, which listed all known plant species and classified them into genera. He also laid the foundation for the modern classification of plants.

23. The term 'taxon' is used for what?

'वर्गक' शब्द किसके लिए प्रयुक्त किया जाता है?

- (a) Any category in the taxonomic hierarchy/वर्गकों पदानुक्रम में किसी भी श्रेणी के लिए
(b) Categories upto phylum/संघ तक की श्रेणियों के लिए
(c) Categories of species and genus /प्रजातियों व वंश की श्रेणियों के लिए
(d) Only for species epithets/केवल प्रजाति गुणसूचकता के लिए

MP-GNTST/PNST-10.06.2018, Shift-II

Ans. (a) : The term 'taxon' is used for any category in the taxonomic hierarchy. All taxonomic categories together form a taxonomic classification.

24. Which of the following animal collections belongs to a single taxonomic group?

निम्नलिखित में से कौन-सा प्राणी समूह एक ही वर्गीकीय समूह से संबंधित है?

- (a) Silkworm, Tapeworm, Earthworm/सिल्कवर्म, टैपवर्म, केंचुआ
(b) Bat, Pigeon, Butterfly चमगादड़, कबूतर, तितली
(c) Monkey, Chimpanzee, Human/बन्दर, चिम्पैंजी, मनुष्य
(d) Cuttle fish, Silverfish, Dogfish, Starfish, Jellyfish /कतलाफिश, जेलीफिश, सिल्वरफिश, डॉगफिश, स्टारफिश

MP-GNTST/PNST-10.06.2018, Shift-II

Ans. (c) : Monkeys, chimpanzees and humans are primates belonging to the class Mammalia. Animals belonging to the mammalian class have hair on their skin. The skin has sweat glands and oil glands. Both males and females have mammary glands.

25. The binomial nomenclature system was given

द्विनाम नामकरण पद्धति दी गयी थी

- (a) Julian Huxley/जूलियन हक्सले द्वारा
(b) Bentham and Hooker/बेन्थम एवं हुकर द्वारा
(c) By Linnaeus/लिनियस द्वारा
(d) By T.H. Morgarn/टी एच मॉर्गन द्वारा

MP-GNTST/PNST-2020

Ans. (c) : Binomial nomenclature, introduced by Carolus Linnaeus in the 18th century, is a system for classifying species with two names: the first name is the generic name (genus), written with an initial capital letter, while the second is the specific name (species), typically started with lowercase letter. The specific name may be single or compound and capitalization may occur if it references a place or person.

26. What are the two domains of Prokaryotes?

प्रोकैरियोट्स के दो डोमेन कौन- से हैं-

- (a) Fungi and Algae/कवक और शैवाल
(b) Protist and Algae/प्रोटिस्ट और शैवाल
(c) Bacteria and Archaea/बैक्टीरिया और आर्किया
(d) Archaea and Fungi/आर्किया और कवक

J&K NURSING 2023

Ans. (c) : The two domains of prokaryotes are bacteria and archaea. These domains consists of unicellular organisms without a membrane- bound nucleus, differing in genetic, biochemical, and structural characteristics. Fungi, algae, and protists belong to other domains.

27. If we want to know evolutionary relationship between organisms then which classification will resolve it:
यदि हम जीवों के बीच विकासवादी संबंध जानना चाहते हैं तो कौन- सा वर्गीकरण इसे हल करेगा।

- (a) Artificial Classification/कृत्रिम वर्गीकरण
- (b) Natural Classification/प्राकृतिक वर्गीकरण
- (c) Phylogenetic Classification /फाइलोजेनेटिक वर्गीकरण
- (d) Cytotaxonomy/साइटोटैक्सोमोमी

J&K NURSING 2023

Ans. (c) : Phylogenetic classification is based on evolutionary relationships between organisms, using genetic, morphological, and molecular data to group organisms according to shared ancestry. Unlike artificial or natural classifications, it reflects the evolutionary history, showing how species have diverged from common ancestors over time.

28. The scientific name of mango is written as *Mangifera indica*. In this name *Mangifera* represents the genus while *indica* is a particular.

आम का वैज्ञानिक नाम मैंगीफेरा इंडिका लिखा जाता है इस नाम में मैंगीफेरा जीनस का प्रतिनिधित्व करता है जबकि इंडिका एक विशेष

- (a) Kingdom/किंगडम
- (b) Class/क्लास
- (c) Family/परिवार
- (d) Species/प्रजाति

J&K NURSING 2021

Ans. (d) : In *Mangifera indica*, *Mangifera* is the genus and *indica* is the species. The species name identifies the specific organism within the broader genus, following the binomial nomenclature system.

29. Select the correctly written scientific name of Mango which was first described by Carolus Linnaeus:

आम का कैरोलस लीनयस द्वारा सर्वप्रथम व्यक्त किया गया सही लिखित वैज्ञानिक नाम का चयन कीजिए:

- (a) *Mangifera indica* Car. Linn.
- (b) *Mangifera indica* Linn.
- (c) *Mangifera indica*
- (d) *Mongifera Indica*

HBNU B.Sc NURSING 2020

Ans. (b) : The scientific name of mango is *Mangifera indica*, and the correct way to cite its original description by Carolus Linnaeus is by using "Linn" as an abbreviation for Linnaeus. This is a standard convention in Botanical nomenclature.

Thus, the correct format is *Mangifera indica* Linn, where "Linn" acknowledges Linnaeus as the author of the name.

30. The Central National Herbarium (CNH) is located at-
केन्द्रीय राष्ट्रीय वनस्पति संग्रहालय (सी. एन. एच.) अवस्थित है-

- (a) Mumbai/मुम्बई
- (b) Dehradun/देहरादून
- (c) Kolkata/कोलकाता
- (d) Bengaluru/बेंगलुरु

HBNU B.Sc NURSING 2019

Ans. (c) : The Central National Herbarium (CNH) is located in Kolkata, West Bengal and is part of the Botanical Survey of India (BSI). Established in 1797, it is one of the oldest and largest herbaria in India, housing a vast collection of plant specimens from across the country for scientific research and conservation.

31. Binomial nomenclature was proposed by:
द्विपद नामकरण को किसने प्रस्तावित किया था?

- (a) Darwin/डार्विन
- (b) Linnaeus/लीनीयस
- (c) de Vries/डे व्रीस
- (d) Mendel/मेंडल

BHU B.Sc NURSING 2019

Ans. (b) : Binomial nomenclature, proposed by Carl Linnaeus, is a system of naming species using two Latin names: genus and species.

32. National Botanical Institute is located in –
राष्ट्रीय वनस्पति संस्थान कहाँ स्थित है?

- (a) Mumbai/मुम्बई
- (b) Kolkata/कोलकाता
- (c) Lucknow/लखनऊ
- (d) Chennai/चेन्नई

AMRU B.Sc NURSING 2021

Ans.(c): The National Botanical Research Institute (NBRI) is located in Lucknow. It is a premier research institution in India, focusing on plant science, conservation, and the sustainable utilization of plant resources. It plays a crucial role in botanical research.

33. The taxonomic category 'Class' is between वर्गीकरण विज्ञान में 'वर्ग' निम्न में से किनके बीच में आता है :

- (a) Order and Family /ऑर्डर तथा फैमिली
- (b) Order and Genus/ ऑर्डर तथा जीनस
- (c) Kingdom and Phylum/किंगडम तथा फाइलम
- (d) Division and Order/डिविजन तथा ऑर्डर

BHU NURSING 2015

Ans. (d) : In biological classification, the category class comes between division and order in plants or between phylum and order in animals. It is a higher taxonomic rank used to group related orders with shared characteristics.

Plant Kingdom

1. Plants having naked seeds are
नग्न बीज वाले पौधे हैं

- (a) Angiosperms/एंजियोस्पर्म
(b) Gymnosperms/जिम्नोस्पर्म
(c) Pteridophytes/टेरिडोफाइट्स
(d) Bryophytes/ब्रायोफाइट्स

Atal Medical & Research University H.P. 07.07.2024

Ans. (b) : In gymnosperm, seeds that develop post fertilization, are not covered, i.e. they are naked seeds. The gymnosperms (gymnos: naked, sperma: seeds) are plants in which the ovules are not enclosed by any wall and remain exposed both before and after fertilization.

2. Selaginella is a member of which of the following class?

सिलैजिनेला निम्न में से किस वर्ग का सदस्य है?

- (a) Psilopsida/साइलोपसिडा
(b) Lycopside/लाइकोपसिडा
(c) Sphenopsida/स्फिनोपसिडा
(d) Pteropsida/टिरोपसिडा

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Ans. (b) : Selaginella is classified under Lycopside, a class of vascular plants commonly known as clubmosses. Lycopside is characterized by having microphyll leaves and reproducing through spores. Selaginella, often referred to as "spike moss" is notable for its unique adaptations, including heterospory, which contributes to its survival in various habitat.

3. The food in onion is stored in the form of

प्याज में खाद्य पदार्थ _____ रूप में संचयित होती है।

- (a) Sugar/शर्करा (b) Starch/स्टार्च
(c) Protein/प्रोटीन (d) Cellulose/सेल्युलोज

MP-GNTST/PNST-07.07.2023, Shift-II

Ans. (d) : The food substance in onion is stored as cellulose. Cellulose is an important structural component of the primary cell wall of green plants, many forms of algae and oomycetes.

4. To which species is the potato associated?

आलू कौन-सी जाति से सम्बन्धित है?

- (a) Solanaceae/सोलेनेसी (b) Compositae/कंपोसिटी
(c) Graminae/ग्रामिनी (d) Cruciferae/क्रूसिफेरी

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (a) : The potato (*Solanum tuberosum*) belongs to the Solanaceae family, also known as the nightshade family. This family includes other important crops like tomatoes, eggplants and peppers. Solanaceae species typically have alkaloids and are known for their flowering plants, which are important in agriculture and horticulture due to their edible fruit or tubers.

5. The carbohydrates which are not used immediately in plants are stored in which of the following forms?

पौधों में तुरंत उपयोग नहीं किए जाने वाले कार्बोहाइड्रेट निम्नलिखित में से किस रूप में संग्रहीत होते हैं?

- (a) Starch/मंड
(b) Protein/प्रोटीन
(c) Roughage/रफेज
(d) Glycogen/ग्लाइकोजन

MP-PNST-08.07.2023, Shift-II

Ans. (a): Plants store the carbohydrates that are not immediately used in the form of starch. Starch serves as an energy reserve that can be broken down into glucose when needed, for energy. This stored starch is mainly found in seeds, roots and tubers of plants.

6. Pinus is a member of -
पाइनस सदस्य है-

- (a) Gymnosperm / जिम्नोस्पर्म (अनावृतबीजी) का
(b) Angiosperm / आवृतबीजी का
(c) Pteridophyta / टेरिडोफाइट का
(d) Bryophyta / ब्रायोफाइट का

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Ans. (a): Pinus is a member of Gymnosperm. Gymnosperms are a group of seed-producing plants that includes conifers like Pinus. They are characterized by seeds that are not enclosed in an ovary, distinguishing them from angiosperms.

7. Botanical name of groundnut is-
मूंगफली का वानस्पतिक नाम है-

- (a) Arachis hypogea / एरेचिस हाइपोजिया
(b) Brassica campestris / ब्रेसिका कम्पैस्ट्रिस
(c) Glycine max / ग्लाइसीन मैक्स
(d) Dolichos lablab / डौलीकोस लबलब

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Ans. (a) : The botanical name Arachis hypogea refers to groundnut, commonly known as peanut. It denotes a species whose seeds develop underground (hypogea), distinguishing it from other legumes.

8. Which one of the following pairs of plants are not seed producers?

निम्न में से किस एक पादप जोड़े में बीज नहीं बनते?

- (a) Fern and Funaria/फर्न और फ्यूनेरिया
(b) Funaria and Ficus/फ्यूनेरिया तथा फाइकस
(c) Ficus and Chlamydomonas/फाइकस तथा क्लैमिडोमोनास
(d) Punica and Pinus/प्यूनिका तथा पाइनस

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (a) : Ferns and Funaria (moss) are non-seed producing plants. They reproduce through spores instead of seeds. Ferns belong to the group pteridophyta, while Funaria is a bryophyte. Both rely on moist environments for spore dispersal and germination, distinguishing them from seed-producing plants like Ficus and Pinus.

9. **Ganja is obtained from which part of plant?**

गांजा पौधे के किस भाग से प्राप्त होता है?

- (a) Female inflorescence/मादा पुष्पक्रम
- (b) Leaves of male plant/नर पौधे की पत्तियों से
- (c) Both male and female inflorescences/नर और मादा दोनों पुष्पक्रम
- (d) Leaves of both male and female plant/नर और मादा दोनों पौधों की पत्तियाँ

MP-PNST-08.07.2023, Shift-II

Ans. (a) : Ganja (Cannabis) is obtained from the female inflorescence of the plant. It is primarily derived from the flowering tops of female Cannabis plant, which contain the highest concentration of cannabinoids like THC. The leaves and male plants are less potent and typically not used for this purpose.

10. **Spirogyra is a**
स्पायरोगायरा है

- (a) Unbranched filamentous alga/अशाखित तन्तुवत् शैवाल
- (b) Branched filamentous alga/शाखित तन्तुवत् शैवाल
- (c) Unicellular alga/एककोशिकीय शैवाल
- (d) Colonial alga/मण्डलीय शैवाल

CG BSc. Nursing-2019

Ans. (a) : Spirogyra is an unbranched filamentous alga, characterized by its long, thread-like chains of cells. It is commonly found in freshwater environments, where it forms green, slimy masses.

11. **The source of morphine is**
मॉर्फिन का स्रोत है -

- (a) Rauvolfia serpentina/राउल्फिया सरपेंटिना
- (b) Cannabis sativa/कैनाबिस सेटाइवा
- (c) Papaver somniferum/पैपावर सोमनीफेरम
- (d) Cajanus cajan/केजनस काजन

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Ans. (c) : Papaver somniferum is the source of morphine. It is extracted from the latex of the opium poppy plant and narcotic drug due to its pain-relieving properties. It is generally administered by injection or in various forms, including tablets.

12. **Prothallus is an independent gametophyte seen in:**
प्रोथैलस एक स्वतंत्र युग्मकोद्भिद् (गैमेटोफाइट) है, जो इसमें देखा जाता है:

- (a) Thallophytes/थैलोफाइट्स
- (b) Bryophytes/ब्रायोफाइट्स
- (c) Pteridophytes/टेरिडोफाइट्स
- (d) Angiosperms/आवृतबीजी (एंजियोस्पर्म)

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (c) : In Pteridophytes, such as ferns, the prothallus is a separate, independent gametophyte that emerges from a spore. It contains reproductive structures (antheridia and archegonia) responsible for producing gametes, facilitating fertilization and subsequent sporophyte development.

13. **Which of the following ferns also show heterospory apart from Selaginella?**

निम्नलिखित में से कौन-सा फ़र्न भी सेलैजिनेला के अलावा विषमबीजागुणता (हेट्रोस्पोरी) दिखाता है?

- (a) Salvinia/सैल्वीनिया
- (b) Psilotum/साइलोटम
- (c) Adiantum/एडिएंटम
- (d) Pteris/टेरिस

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (a) : Salvinia is a genus of aquatic ferns that exhibits heterospory, producing two types of spores: microspores and megaspores. In contrast with homosporous ferns like Adiantum, Psilotum and Pteris, which produce only one type of spore. Heterospory in Salvinia supports reproductive versatility and adaptation to aquatic environments.

14. **Saccharum barberi and Saccharum officinarum are different varieties of:**

सैकेरम बारबरी एवं सैकेरम ऑफिसिनरम इसकी विभिन्न किस्में हैं:

- (a) Sugarcane/गन्ना
- (b) Maize/मक्का
- (c) Wheat/गेहूँ
- (d) Rice/चावल

MP-GNTST/PNST-08.07.2019, Shift-I

Ans. (a): Saccharum barberi and Saccharum officinarum are different varieties of sugarcane. Saccharum officinarum is the most commonly cultivated sugarcane species worldwide, while Saccharum barberi is another important variety grown primarily in India. Both are significant for sugar production due to their high sucrose content in the stalks.

15. **Nux vomia tree belongs to genus -**

नक्सवोमिका का वृक्ष किस वंश में आता है-

- (a) Emblica / एम्बलीका
- (b) Ferula / फेरूला
- (c) Strychnos / स्ट्राइकनोस
- (d) None of the above / उपरोक्त में से कोई नहीं

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (c) : Nux vomia tree belongs to the genus Strychnos (family Loganiaceae). Nux-vomica contains strychnine and brucine, which are used for treating dysfunction, swelling of the stomach, constipation etc.

16. **Asparagus is a native of-
एस्पेरेगस का उत्पत्ति स्थल है**
- Europe and Western Asia / यूरोप तथा पश्चिमी एशिया
 - India / भारत
 - China / चीन
 - USA / यूएसए

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (a) : Asparagus is native to Europe and Western Asia. Asparagus is a genus in the family Asparagaceae, with up to 300 species native from Siberia to Southern Africa. It is rich in minerals and vitamins A, C and folic acid.

17. **One character is common in between Funaria and Dryopteris. That character is -
एक लक्षण जो फ्यूनेरिया और ड्रियोप्टेरिस दोनों में ही पाया जाता है -**

- Monoecious gametophyte / मोनोशियस गैमेटोफाइट
- Dioecious gametophyte / डायोशियस गैमेटोफाइट
- Heterosporous sporophyte / हेटरोस्पोरस स्पोरोफाइट
- Stele (protostele) / स्टील (प्रोटोस्टील)

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (a) : The common characters between Funaria and Dryopteris is monoecious gametophyte i.e., both male and female reproductive structures are produced on the same plant body.

18. **Viscum is a
विस्कम है**

- Total stem parasite/पूर्णतः तना परजीवी
- Total root parasite/पूर्णतः जड़ परजीवी
- Partial stem parasite/आंशिक तना परजीवी
- Partial root parasite/आंशिक जड़ परजीवी

MP-GNTST/PNST-2013

Ans. (c) : Viscum, commonly known as mistletoe, is partial stem parasite. It attaches to the branches of host trees and derives water and nutrients from them, while still performing some photosynthesis on its own. This relationship classifies it as a partial stem parasite, as it primarily depends on the host's stem for support and sustenance.

19. **Which of the following is a group of algae?
निम्न में से कौन-सा शैवाल का एक समूह है?**

- Chara, Fucus and Polysiphonia/ कारा, फ्यूकस और पॉलीसिफोनिया
- Volvox, Spirogyra and Chlamydomonas/ वॉलवॉक्स, स्पाइरोगाइरा और क्लैमाइडोमोनस
- Porphyra, Ectocarpus, and Ulothrix/ पोर्फिरा, एक्टोकार्पस और यूलोथ्रिक्स
- Sargassum, Laminaria, and Gracilaria/ सरगासम, लैमीनारिया और ग्रेसिलेरिया

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (b) : The correct answer is Volvox, Spirogyra and Chlamydomonas. This group consists of green algae, which are characterized by their chlorophyll content and ability to perform photosynthesis. Other options include a mix of algae from different categories.

20. **Which ovule is the largest in the plant kingdom?
पादप जगत में सबसे बड़ा बीजाण्ड किसका होता है?**

- Coccus/ कोकस
- Gnetum/ ग्नेटम
- Cycas/ साइकस
- Pinus/ पाइनस

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (c) : Cycas, a gymnosperm, has largest ovules in the plant kingdom. These ovules are prominent and can reach several centimeters in size, playing a crucial role in its reproduction process.

21. **Winged seeds are found in which of the following?
पंखदार बीज निम्न में से किसमें पाए जाते हैं?**

- Cycas/ साइकस
- Pinus/ पाइनस
- Papaver species/ पेपेवर जातियाँ
- None of these/ इनमें से कोई नहीं

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (b) : Pinus, which is a gymnosperm, has winged seeds. Pinus seeds are found in cones, that open after drying allowing the seeds to come out. The wings attached to the seeds help them travel through the wind. This process helps the seeds of Pinus to disperse, allowing them to germinate in new places.

22. **Agar-agar is obtained from which of the following?
अगार-अगार निम्न में से किससे प्राप्त होता है?**

- Zygotene/ जाइगोटीन से
- Geledium/जेलीडियम से
- Gracilaria/ग्रेसिलेरिया से
- Both (b) and (c)/ इनमें से कोई नहीं

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (d) : Agar-agar is obtained from certain species of red algae, primarily Gelidium and Gracilaria. These sea weeds are the main sources of agar, which is widely used in microbiology and food industry as a gelatin substitute.

23. **In which of the following mannitol is a stored food?
मैनिटोल निम्न में से किसका संचित भोजन है?**

- Gracilaria/ग्रेसिलेरिया
- Porphyra/ पोर्फिरा
- Fucus/ फ्यूकस
- None of these/ इनमें से कोई नहीं

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (c) : Mannitol is a stored food in Fucus, a type of brown algae. It serves as a carbohydrate reserve in many species brown algae. Gracilaria and Porphyra, on the other hand, are red algae and do not store mannitol.

24. **Opium is obtained from which plant?**
ओपियम किस पादप से प्राप्त किया जाता है?
- (a) Cannabis sativa/केनाबिस सटाइवा
(b) Papaver somniferum/पेपेवर सोमनीफेरम
(c) Claviceps purpurea/क्लेविसेप्स परप्पूरिया
(d) Erythroxine cocoa/एरिथ्रोक्सीन कोकोआ

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (b) : Opium is obtained from Papaver somniferum is the form of dried latex of the poppy plant. Opium is chemically processed to produce heroine and other opioids.

25. **Which of the following produces seeds but not flowers?**
निम्न में से कौन बीज उत्पन्न करता है परन्तु पुष्प नहीं?
- (a) Pine/पाइन (b) Coffee/कॉफी
(c) Peanut/मूँगफली (d) Cashew/काजू

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (a) : Pine trees are gymnosperms, meaning they produce seeds but do not form flowers. Instead, they develop seed in cones. In contrast, angiosperms like coffee, peanuts and cashew produce both flowers and seeds. Flowers facilitate pollination in angiosperms, while gymnosperms rely on cones for reproduction.

26. **Which structures are enclosed within the fleshy receptacle of the fig syconium ?**
अंजीर के साइकोनस के मांसल पुष्पासन के भीतर कौन-सी बहुसंख्यक संरचनाएँ बन्द रहती है?
- (a) False fruit/फलासमाशंक (b) Achene/ऐकीन
(c) Samara/समारा (d) Beri/बेरी

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (b) : Within the fleshy inflorescence of the fig syconium, numerous structures called achenes are enclosed. Fig trees are tropical plants with many species around the world.

27. **Match the following List -I and List-II**
निम्नलिखित सूची I को सूची II से मेल कराए

	Column-I / स्तम्भ I	Column-II / स्तम्भ II
A	Opioids / ओपियोइड्स	1. Reacts with receptors present mainly in the brain / मुख्य रूप से मस्तिष्क में मौजूद रिसेप्टर्स के साथ प्रतिक्रिया
B	Cannabinoids / कैनाबिनोइड्स	2. React with opioid receptors in the central nervous system / केन्द्रीय तंत्रिका तंत्र में ओपियोइड रिसेप्टर्स के साथ प्रतिक्रिया

C	Cocaine / कोकीन	3. Interferes with transport of neurotransmitters / न्यूरोट्रांसमीटर के परिवहन में हस्तक्षेप करता है
D	Atropa Belladonna / एट्रोपा बेलाडोना	4. Plant with hallucinogenic properties / मतिभ्रमकारी गुणों वाला पौधा

Code / कोड

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

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (d) :

List-I		List-II	
A.	Opioids	2	Reacts with opioid receptors in the central nervous system.
B.	Cannabinoids	1	Reacts with receptors present mainly in the brain.
C.	Cocaine	3	Interferes with the transport of neurotransmitters.
D.	Atropa belladonna	4	Plant with hallucinogenic properties

28. **Most of the economically important fibre, the plants belong to which providing crops come under?**

अधिकतर आर्थिक रूप से महत्वपूर्ण, रेशे प्रदान करने वाले पौधे किस कुल (Family) के अन्तर्गत आते हैं?

- (a) Malvaceae/मालवेसी (b) Solanaceae/सोलेनेसी
(c) Cruciferae/क्रूसीफेरी (d) Poaceae/पोएसी

MP-GNTST/PNST-2020

Ans. (a) : The Malvaceae family includes economically important fiber-producing plants like cotton (Gossypium species). Cotton is the primary natural fiber used globally for textiles. Plants in this family produce fibers that are strong, durable and versatile, making them crucial in the textile industry.

29. **The male cones of Pinus contain a large number of**
पाइनस के नर शंकु में बहुत अधिक संख्या में उपस्थित होती हैं

- (a) Ligules/लिग्यूलस
(b) Pollen/परागकोष
(c) Microsporophyll's/माइक्रोस्पोरोफिलस
(d) Megasporophylls/मेगास्पोरोफिलस

MP-GNTST/PNST-2020

Ans. (c): Male cones of Pinus consist of microsporophylls, which are specialized structures that bear microsporangia. Within these sporangia, microspores are produced through meiosis. These microspores develop into pollen grains, which are essential for reproduction, facilitating the transfer of sperm to female cones for fertilization.

30. Which of the following plant products is the hardest?

निम्न में से कौन-सा पादप उत्पाद सबसे कठोर है?

- (a) Lignin/लिग्निन
- (b) Cutin/क्यूटिन
- (c) Suberin/सुबेरिन
- (d) Sporopollenin/स्पोरोपोलेनिन

MP-GNTST/PNST-2020

Ans. (d) : Sporopollenin is a complex polymer found in the outer walls of spores and pollen grains, making it highly resistant to decay and environmental factors. Its unique structure and chemical properties contribute to its hardness, surpassing other plant products like lignin, cutin and suberin in terms of durability and strength.

31. Which of the following is not a characteristic of gymnosperms?

निम्न में से कौन-सा अनावृतबीजियों का लक्षण नहीं है?

- (a) Parallel veins/समांतर शिराविन्यास
- (b) Perennial plants/बहुवर्षी पौधे
- (c) Different branches (long and short)/भिन्न शाखाएँ (लम्बी एवं छोटी)
- (d) Ducted xylem/वाहिनीयुक्त जाइलम

MP-GNTST/PNST-2020

Ans. (d) : Gymnosperms primarily contain tracheids in their xylem for water transport, lacking vessels, which are characteristic of angiosperms. They exhibit distinct branching patterns, are mostly perennial plants, and can have leaves with parallel venation. However, the presence of vessels in xylem is not a characteristic of gymnosperm.

32. When green tomatoes turn red हरे टमाटर लाल होते हैं

- (a) When new chlorophyll is formed/जब नए हरितलवक बनते हैं
- (b) When chloroplasts transform into chromoplasts/हरितलवक का वर्णालवक में परिवर्तन होने पर
- (c) When thallus changes into chloroplasts /वर्णालवक का हरितलवक में परिवर्तन होने पर
- (d) When regeneration activity starts/पुनर्जीवन क्रियाशीलता प्रारम्भ होने पर

MP-GNTST/PNST-2015

Ans. (b) : Green tomatoes turn red when chloroplasts transform into chromoplasts. This transformation involves the breakdown of chlorophyll and the synthesis of carotenoids which are responsible for the red or orange colour in ripe tomatoes.

33. Insectivorous plants eat insects to obtain - कीटभक्षी पौधे कीटों का भक्षण करते हैं-

- (a) Na and K / Na व K हेतु
- (b) Chloride / क्लोराइड हेतु
- (c) Nitrogen / नाइट्रोजन हेतु
- (d) None of these / इनमें से कोई नहीं

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (c) : Insectivorous plants eat insects to obtain Nitrogen. These plants typically grow on soil deficient in nitrogen. Hence, they feed on insects to meet their nitrogen deficiency, examples are Bladderworts, Venus flytrap and Pitcher plants.

34. In plant kingdom, second largest chloroplast is found in पादप जगत में दूसरा सबसे बड़ा क्लोरोप्लास्ट पाया जाता है -

- (a) Chlorella / क्लोरेल्ला में
- (b) Azolla / एजोला में
- (c) Scenedesmus / सेकेन्डेस्मस में
- (d) Pandanus / पेण्डेनस में

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (c) : In plant kingdom, Scenedesmus, is a genus of green algae, in the class Chlorophyceae, has relatively large chloroplast. It is used experimentally to study pollution, photosynthesis and is a potential source of biodiesel.

35. Which of the following are correct about plants? पौधों के बारे में निम्न में से कौन से कथन सही हैं?

- P. Plants do not gastrulate/पौधे कंदूकन नहीं करते हैं**
- Q. Land plants have sporic meiosis rather than gametic meiosis/स्थलीय पौधों में युग्मकी अर्धसूत्रण के बजाय बीजाणु अर्धसूत्रण होता है**
- R. The life cycle of land plants includes both diploid and haploid multicellular stages/स्थलीय पौधों के जीवन चक्र में द्विगुणित और अगुणित बहुकोशिकाओं के दोनों अवस्थाएं होती हैं।**
- S. Gamete formation involves mitosis not meiosis/युग्मक निर्माण में अर्धसूत्रण नहीं समसूत्रण होता है।**
- (a) P and Q/P और Q
- (b) Q and R/Q और R
- (c) P, Q and R/P, Q और R
- (d) P, Q, R and S/P, Q, R और S

RUHS NURSING 2018

Ans. (d) All the Statement are correct:

P: Gastrulation (gastrula formation) does not occur in plants because it is an animal development process.

Q: The life cycle of terrestrial plants is based on sporangium meiosis, where the diploid (2n) sporophyte produces spores.

R: Terrestrial plants have both diploid (sporophyte) and haploid (gametophyte) multicellular stages during their life cycle.

S: Gametes in plants are formed by mitosis while spores are formed by meiosis.

36. Which of the following plant is used for the purification of water?

निम्नलिखित में से किस पौधे का उपयोग जल के शुद्धिकरण के लिए किया जाता है?

- (a) Biggiata / बिगियाटा
- (b) Chlorella / क्लोरेला
- (c) Spirogyra / स्पाइरोगाइरा
- (d) Eichhornia / जलकुंभी

MP PNST 09.07.2023 SHIFT-II

Ans. (d) : Eichhornia (water hyacinth) purifies water by absorbing pollutants, heavy metals and excess nutrients, making it effective for phytoremediation.

37. Marchantia belongs to -

मार्केशिया (Marchantia) संबंधित है-

- (a) Thallophyta / थैलोफाइटा से
- (b) Bryophyta / ब्रायोफाइटा से
- (c) Pteridophyta / टेरिडोफाइटा से
- (d) Gymnosperms / जिम्नोस्पर्म से

MP PNST 09.07.2023 SHIFT-II

Ans. (b) : Marchantia is a liverwort from the Bryophyta division, consisting of non-vascular plants, including mosses, liverworts and hornworts.

38. Which of the following belongs to the same division of Kingdom Plantae?

निम्नलिखित में से कौन किंगडम प्लांटी के एक ही डिवीजन से संबंधित है?

- (a) Ulva, Funaria, Ulothrix/अल्वा, फ्यूनेरिया, युलोथ्रिक्स
- (b) Marchantia, Marsilea, fern/मार्केशिया, मार्सीलिया, फर्न
- (c) Riccia, Marchantia, Funaria/रिक्सिया, मार्केशिया, फ्यूनेरिया
- (d) Spirogyra, Riccia, Cycas/स्पाइरोगाइरा, रिक्सिया, साइकस

MP PNST 09.07.2023 SHIFT I

Ans. (c) : Riccia, Marchantia, Funaria these plants belongs to the division Bryophyta which includes non vascular plants like liverworts (Riccia, Marchantia) and mosses (Funaria). They lack true vascular tissue & reproduce through spores.

39. What kind of a life cycle does Volvox have?
वॉल्वॉक्स में किस प्रकार का जीवन चक्र होता है?

- (a) Haplontic / अगुणितक
- (b) Diplontic / द्विगुणितक
- (c) Haplodiplontic / मिश्रित
- (d) None of the above / कोई भी नहीं

BHU NURSING 2017

Ans. (a) : Volvox has a haplontic life cycle, meaning it spends most of its life in the haploid (n) stage. During sexual reproduction, it forms a diploid zygote (2n), which then undergoes meiosis to produce haploid (n) cells. These haploid cells grow into new colonies, completing the cycle.

40. Sea lettuce is common name of
सी लेटयूस किसका सामान्य नाम है?

- (a) Laminaria/लैमिनेरिया
- (b) Ulva/अल्वा
- (c) Fucus/फ्यूकस
- (d) Sargassum/सारगासम

BHU NURSING 2017

Ans. (b) : Sea lettuce is the common name for Ulva, a genus of green algae found in marine environments. It is known for its bright green, thin and leafy appearance. Ulva species are commonly found in tidal zones, estuaries and coastal areas.

41. Plants having vascular tissue without seeds
बीज रहित संवहनी ऊतक वाले पौधे-

- (a) Angiosperm/आवृत्तिबीजी
- (b) Pteridophytes/टेरिडोफाइट्स
- (c) Bryophytes/ब्रायोफाइट्स
- (d) Gymnosperms/अनावृत्त बीजी

J&K NURSING 2023

Ans. (b) : Pteridophytes are plants with vascular tissue (xylem and phloem) but do not produce seeds. They reproduce through spores and include ferns, horsetails, and clubmosses. Unlike angiosperms and gymnosperms, they lack flowers and seeds, while bryophytes do not have vascular tissue at all.

42. Thallophytes lack a well-differentiated body structure and the plant body is thallus-like. The common examples are
थैलोफाइट्स में अच्छी तरह से विभेदित शरीर संरचना का अभाव होता है और पौधे का शरीर थैलस जैसा होता है। इसके सामान्य उदाहरण हैं

- (a) Marchantia/मार्केशिया
- (b) Funaria/फ्यूनेरिया
- (c) Volvox/वॉल्वॉक्स
- (d) Selaginella/सिलैजिनेला

J&K NURSING 2021

Ans. (c) : Volvox is a thallophyte, a simple, non-vascular plant with a thallus-like body. It lacks tissue differentiation, unlike more complex plants, making it a typical ple of thallophytes like algae.

43. Coralloid root of Cycas contain colony of : साइकस के कोरेलाइड जड़ों में किसकी कॉलोनी होती है-

- (a) Chlorella/क्लोरेला
- (b) Aulosira/औलोसिरा
- (c) Anabaena/एनाबिना
- (d) Oscillatoria/ऑसिलेटोरिया

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Ans.(c): The coralloid roots of Cycas contain Anabaena, a nitrogen-fixing cyanobacterium. This symbiotic relationship helps Cycas by converting atmospheric nitrogen into a usable form supporting its growth in nutrient-poor soils.

44. Which one is haploid structure in Funaria? फ्यूनेरिया में कौन सी अगुणित संरचना है?

- (a) Protonema /प्रोटोनीमा
- (b) Capsule/कैप्सूल
- (c) Columella/कोल्यूमेला
- (d) Seta/सीटा

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Ans. (a) : The protonema is the haploid stage in Funaria, developing from the spores. It grows into the gametophyte, which produces gametes, marking the beginning of the moss's life cycle.

45. Which of the following statement is correct? निम्नलिखित में से कौन सा कथन सही है।

- (a) Fusion of two cells is called karyogamy/दो कोशिकाओं के संलयन का केन्द्रक संलयन कहा जाता है।
- (b) Fusion of protoplasm between two motile on non-motile gametes is called plasmogamy/अचल युग्मको पर दो चल युग्मको के बीच जीवद्रव्य के संलयन को कोशिका द्रव्य लयन कहा जाता है।
- (c) Organisms that depends on living plants are called saprophytes/जो जीव जीवित पादपो पर निर्भर होते हैं उन्हें मृतोप जीवी कहा जाता है।
- (d) Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells./कुछ जीव वायुमंडलीय नाइट्रोजन के आच्छाद कोशिका कही जाने वाली विशिष्ट कोशिकाओं में स्थिरकृत कर सकते हैं।

HBNU B.Sc NURSING 2022

Ans. (b) : Fusion of protoplasts between two motile or non-motile gametes is called plasmogamy. This statement is correct. Other options are incorrect due to factual inaccuracies about biological processes because:

- Karyogamy refers to the fusion of nuclei.
- Saprophytes depend on dead organic matter, not living plants.
- Nitrogen-fixing cells are called heterocyst, not sheath cells.

46. Pinus seed cannot germinate and established without fungal association. This is because: पाइनस के बीज कवक के सहयोग के बिना अंकुरित और स्थापित नहीं हो सकते। यह किस कारण होता है?

- (a) Its embryo is immature/इसका भ्रूण अपरिपक्व होता है
- (b) It has obligate association with mycorrhizae/इसका कवकमूल (माइकोराइजा) के साथ अनिवार्य संबंध है
- (c) It has very hard seed coat/इसका बीजावरण बहुत कठोर होता है
- (d) Its seeds contain inhibitors that prev germination/बीज में बाधक उपस्थित होते हैं जो अंकुरण को रोकते हैं

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Ans. (b) : Pinus seeds require an obligate association with mycorrhizal fungi to germinate and establish. The fungi form a symbiotic relationship with the roots, enhancing water and nutrient absorption, which is essential for the seedling's growth and survival.

47. Which one is wrongly matched?

निम्नलिखित में कौन सा गलत रूप सुमेलित है?

- (a) Gemma cups - Marchantia/जेमा कप- मार्केशिया
- (b) Biflagellate zoospores - Brown algae/द्विकशाभिक चलबीजाणु - भूरे शैवाल
- (c) Uniflagellate gametes- Polysiphonia/एककशाभिक युग्मक- पॉलिसाइफोनिया
- (d) Unicellular organism- Chlorella /एककोशिक जीव- क्लोरेला

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Ans. (c) : Uniflagellate gametes - Polysiphonia is incorrect because Polysiphonia is a red alga, and red algae do not produce flagellated gametes. Their gametes are non-motile.

48. After karyogamy followed by meiosis, spores are produced exogenously in :

निम्नलिखित में से किसमें केन्द्रकसंलयन तथा अर्धसूत्रीविभाजन के पश्चात बीजाणु बहिर्जात रूप में उत्पन्न होते हैं?

- (a) Agaricus/एगारिकस
- (b) Alternaria/अल्टरनेरिया
- (c) Neurospora/न्यूरोस्पोरा
- (d) Saccharomyces/सैक्रोमाइसिस

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Ans. (a) : Agaricus is a genus of fungi that belongs to the Basidiomycetes class, which produces sexual spores called basidiospores exogenously. This means that the spores are formed outside the body is specialized fruiting bodies.

49. Which among the following is not a prokaryote?
निम्नलिखित में कौन सा एक पूर्वकेन्द्रक नहीं है?

- (a) Nostoc/नास्टॉक
- (b) Mycobacterium/माइकोबैक्टीरीयम
- (c) Saccharomyces/सैक्रोमाइसिस
- (d) Oscillatoria/ऑसिलेटोरिया

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Ans. (c) : Saccharomyces is a genus of fungi (e.g. Saccharomyces cerevisiae) and is a eukaryote, whereas the others (Nostoc, Mycobacterium and Oscillatoria) are prokaryotes.

50. Chilgoza is a fruit, obtained from a gymnosperm which is-
चिलगोजा एक फल है जो कि इनमें से एक जिम्नोस्पर्म से प्राप्त होता है-

- (a) Pinus roxburghii/पाइनस रॉक्सबर्घी
- (b) Pinus gerardiana/पाइनस जिरार्डियाना
- (c) Cycas revoluta/साइकस रेवोलुटा
- (d) Abies balsamina/एबिस बाल्समिना

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Ans. (b) : Chilgoza (Pine nuts) is obtained from Pinus gerardiana, a gymnosperm native to the Himalayas. It is known for its edible seeds, which are commonly used as snacks.

51. The maidenhair tree is-
मेडेन हेयर वृक्ष है-

- (a) Pinus/पाइनस
- (b) Adiantum/एडिअन्टम
- (c) Ginkgo biloba/गिंको बाइलोबा
- (d) Gnetum ula/नीटम उला

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Ans. (c) : The "maidenhair tree" is the common name for Ginkgo biloba, a unique and ancient species. Its fan-shaped leaves resemble the maidenhair fern (Adiantum). Ginkgo biloba is a living fossil and the only surviving species in the group Ginkgoales.

52. Pond silk is common name of-
तालाब का रेशम किसका सामान्य नाम है-

- (a) Spongilla/स्पोंजिला
- (b) Chlorella/क्लोरेला
- (c) Corallina/कॉरालिना
- (d) Spirogyra/स्पाइरोगायरा

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Ans. (d) : "Pond silk" refers to Spirogyra, a type of filamentous green algae commonly found in freshwater ponds. It gets its name due to its slimy, silky texture, forming green mats on water surface.

53. The word "Thallophyta" means.....
"थैलोफाइटा" शब्द का अर्थ..... है

- (a) Plants that don't have well-differentiated structure/ऐसे पौधे जिनकी संरचना अच्छी तरह से भिन्न नहीं होती है
- (b) Plants that have large leaves/बड़े पत्ते वाले पौधे
- (c) Plants that grow in colonies/कॉलोनियाँ में उगने वाले पौधे
- (d) Plants that are filamentous/पौधे जो फिलामेंटस हैं

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Ans. (a) : Thallophyta refers to simple plants such as algae and fungi, with an undifferentiated body (thallus). They lack distinct structures like stems, leaves and roots unlike more complex plants.

54. How does hydra reproduce?
हाइड्रा कैसे प्रजनन करता है?

- (a) Gemmules/जेम्यूलस
- (b) Budding/बुडिंग
- (c) Conidia/कोनिडिया
- (d) Zoospores/जूसपोर

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Ans. (b) : Hydra primarily reproduce asexually through budding, where small bud grows on the body of the parent and eventually detaches to become a new individual.

55. The most common tree species in Indian rain forest is:
भारतीय रेनफॉरेस्ट में बहुलता में कौन-सी वृक्ष की प्रजाति मिलती है?

- (a) Mangifera/मैंगीफेरा
- (b) Hopea/होपिया
- (c) Tectona/टेक्टोना
- (d) Dalbergia/डालबर्जिया

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Ans. (b) : Hopea is common in Indian rainforests due to its prevalence in tropical, evergreen forests, especially in the Western Ghats.

56. Root like structures present in the bryophytes is known as:
बायोफाइट्स में जड़ की तरह कौन-सी रचना मिलती है?

- (a) Trichome/ट्राइकोम
- (b) Rhizoids/मूलाभास
- (c) Flagellum/कशाभिका
- (d) Protonema/प्रथम तंतु

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Ans. (b) : Rhizoids are thin, root-like structures in bryophytes. They anchor the plant to surfaces and assist in absorbing water and mineral though they lack the complexity of tree roots found in higher plants.

57. Hydra is: / हाइड्रा है:

- (a) Omnivorous/सर्वभक्षी
- (b) Herbivorous/शाकाहारी
- (c) Carnivorous/मांसाहारी
- (d) Viviparous/विविपेरस

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Ans. (c) : Hydra is a carnivorous organism that captures small aquatic prey, like tiny crustaceans and larvae, using its tentacles with stinging cells. This enables it to immobilize and consume its food.

58. Microsporophyll is found on

माइक्रोस्पोरोफिल (microsporophyll) किस पर पाया जाता है

- (a) Leaves of algae for photosynthesis / प्रकाश संश्लेषण के लिए शैवाल की पत्तियों पर
- (b) Leaves of bryophytes for photosynthesis / प्रकाश संश्लेषण के लिए ब्रायोफाइट्स की पत्तियों पर
- (c) Male strobili of gymnosperms / अनावृतबीजी के पुरुष अंग के कोन (strobili) पर
- (d) Female strobili of gymnosperms / अनावृतबीजी के स्त्री अंग के कोन (strobili) पर

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Ans. (c) : Microsporophylls are specialized structures found in the male strobili of gymnosperms. They bear microsporangia, which produce microspores that develop into pollen grains for fertilization in these plants.

59. Female organ of bryophytes is called

ब्रायोफाइट्स के मादा अंगों को क्या कहा जाता है

- (a) Archegonium / आर्चेगोनियम (स्त्रीधानी)
- (b) Gametophyte / युग्मकोद्भिद्
- (c) Sporophyte / बीजाणुद्भिद्
- (d) Spore / बीजाणु

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Ans. (a) : In bryophytes, the archegonium is the female reproductive organ that produces the egg cell. It is typically a flask-shaped structure where fertilization occurs after the sperm reaches the egg.

60. In brown algae, the leaf-like photosynthesis organ is

भूरे शैवाल में, पत्ती की तरह संश्लेषक अंग है

- (a) Stipe / डंठल
- (b) Holdfast / कुंडी
- (c) Frond / फ्रान्ड
- (d) Laminarin / लैमिनैरिन

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Ans. (c) : In brown algae, the frond is the leaf-like structure responsible for photosynthesis. It resembles a leaf and aids in capturing sunlight for the algae's energy production, similar to plant leaves.

61. In red algae, number of flagella are

लाल शैवाल में, फ्लैजिला की संख्या व प्रकार क्या है?

- (a) 2 to 8 equal-sized / 2 से 8 बराबर आकार के
- (b) 2 unequal sized / 2 असमान आकार के
- (c) 2 to 8 unequal sized / 2 से 8 असमान आकार के
- (d) 0 (zero) / शून्य

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Ans. (d) : Red algae (Rhodophyta) lack flagella, making them non-motile. They do not use flagella for movement or reproduction. Instead, they reproduce through spore release or other mechanisms, such as gamete fusion, without the need for flagellated cells.

62. Which one of the following genera shows vessels in xylem:

निम्नलिखित वंशों में से किसके दारु में वाहिकायें होती हैं :

- (a) Cycas /साइकस
- (b) Pinus /पाइनस
- (c) Gnetum /नितम
- (d) Marsilea/मार्सीलिया

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Ans. (c) : Gnetum is a genus of gymnosperms that possesses vessels in its xylem, this feature typically seen in angiosperms. This distinguishes it from other gymnosperms like cycas, pinus and marsilea, which lack vessels.

63. Species of Anthoceros are commonly known as:

एन्थोसेरोस की जाति आम तौर से जानी जाती है :

- (a) hornworts /हॉर्नवर्ट्स
- (b) liverworts /लिवरवर्ट्स
- (c) clubmoss /क्लब मास
- (d) horsetail /हॉर्सहटेल

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Ans. (a) : Species of Anthoceros, commonly called hornworts that are non-vascular bryophytes. They are named for their horn-shaped sporophytes, which grow from a flat, thalloid gametophyte. Hornworts are found in moist habitats and play a role in soil stabilization.

64. Cyanophyceae is separated from algae because it is:

सायनोफाइसी को अन्य शैवालों से अलग किया जाता है, क्योंकि यह:

- (a) Eukaryotic /यूकैरियोटिक होता है
- (b) Unicellular /एक कोशिकीय होता है
- (c) Prokaryotic /प्रोकैरियोटिक होता है
- (d) Filamentous/तंतुवत होता है

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Ans. (c) : Cyanophyceae also known as blue-green algae are classified separately from other algae because they are prokaryotic, meaning they lack a defined nucleus and other membrane-bound organelles. Unlike the eukaryotic algae.

65. Agar- agar is obtained from
अगर- अगर प्राप्त किया जाता है:

(a) Sargassum/सारगासम से
(b) Nostoc /नॉस्टाक से
(c) Gelidium/जिलेडियम से
(d) Ectocarpus/एक्टोकार्पस से

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Ans. (c) : Agar-Agar is a gelatinous substance obtained from Gelidium. It is a type of red algae commonly used in laboratories as a medium for growing cultures and in the food industry as a thickening agent.

66. Plants with great ecological importance but little economic importance belong to
पादप जो पारिस्थितिक दृष्टि से बहुत महत्वपूर्ण है परन्तु आर्थिक महत्व बहुत कम है

(a) Bryophytes / ब्रायोफाइट
(b) Pteridophytes / टैरिडोफाइट
(c) Gymnosperm / जिम्नोस्पर्म
(d) Algae / शैवाल

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Ans. (a) : Bryophytes, commonly known as mosses and liverworts, play a crucial ecological role. They contribute to soil formation, prevent soil erosion and maintain moisture in ecosystems. However, their economic importance is limited as they are not directly used in agriculture industry or as food. Unlike algae, gymnosperms and pteridophytes which have applications in various industries, bryophytes have minimal direct economic utility.

67. Which one of the following is monoecious?
निम्न में से कौन सा पादप उभयलिंगाश्रयी है (द्विलिंगी)?

(a) Marchantia / मार्केन्शिया
(b) Cycas / साइकस
(c) Date palm / खजूर
(d) Pinus / पाइनस (चीड़)

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Ans. (c) : Date palm is monoecious because it has both male and female flowers on the same plant, allowing it to reproduce efficiently. Marchantia, Cycas and Pinus are dioecious, with separate sexes.

68. Peristome teeth is observed which part of Funaria:
परिमुख दन्त रचनाएँ फ्यूनेरिया के किस भाग में पाई जाती है:

(a) Rhizoids / मूलाभास में
(b) Leaf/ पत्तियों में
(c) Stem / तने में
(d) Capsule / सम्पुटिका में

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Ans. (d) : Peristome teeth are observed in the capsule of Funaria, a type of moss. The peristome teeth are part of the structure around the opening of the capsule and play a role in spore dispersal.

69. Prothallus of fern has
फर्न की प्रोथैलस में होता है

(a) Antheridia and archegonia on lower surface / निचली सतह पर एन्थेरिडिया और आर्कीगोनिया
(b) Antheridia on upper surface and archegonia on lower surface/ऊपरी सतह पर एन्थेरिडिया और निचली सतह पर आर्कीगोनिया
(c) Antheridia and archegonia on upper surface/ एन्थेरिडिया और आर्कीगोनिया ऊपरी सतह पर
(d) Antheridia on lower surface and archegonia on upper surface/निचली सतह पर एन्थेरिडिया और ऊपरी सतह पर आर्कीगोनिया

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Ans. (d) : In ferns, the prothallus is a small, heart-shaped gametophyte. It has antheridia (male organs) in lower surface and archegonia (female organs) near the notch of its upper surface, enabling sexual reproduction.

70. Which of the following is not a biofertilizer?
निम्नलिखित में से कौन-सा एक जैव उर्वरक नहीं है?

(a) Aulosira/आलोसाइरा
(b) Mycorrhizae/कवक मूल
(c) Alternaria/आल्टरनेरिया
(d) Azotobacter/एजोटोबैक्टर

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Ans. (c) : Alternaria is a genus of fungi that causes plant diseases. It is not used as a biofertilizer. Biofertilizers like Aulosira, Mycorrhiza and Azotobacter help improve soil fertility by enhancing nutrient availability to plants.

71. In algae where the gametes are similar in appearance and cannot be categorized into male and female, they are called
शैवाल में जहाँ युग्मक दिखने में समान होते हैं और उन्हें नर और मादा में वर्गीकृत नहीं किया जा सकता है, उन्हें कहा जाता है—

(a) Antherozoid and ovum/एन्थेरोजॉइड और डिंब
(b) Sperm and egg/शुक्राणु और अंडा
(c) Homogametes/होमोगैमीट्स
(d) Heterogametes/हेटेरोगैमीट्स

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Ans. (c) : Homogametes are also known as isogametes. In algae, when the gametes are morphologically similar and cannot be differentiated into male and female, they are called homogametes, both gametes appear identical in size and shape.

72. All gymnosperms are pollinated by—
सभी जिम्नोस्पर्म का परागण _____ के द्वारा होता है?
- (a) Wind/हवा (b) Bats/चमगादड़
(c) Insect/कीट (d) Bird/पक्षी

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Ans. (a) : All gymnosperms are pollinated by wind. Gymnosperms, such as conifers, do not have flowers. Instead, they produce cones that release pollen, which is carried by the wind to fertilize the ovules. This type of pollination is known as anemophily.

73. Which of the plants are called naked seed plants?

किन पौधों को नग्न बीज वाला पौधा कहा जाता है?

- (a) Hydrophytes/हाइड्रोफाइट्स
(b) Gymnosperms/जिम्नोस्पर्म
(c) Angiosperms/एंगियोस्पर्म
(d) Pteridophytes/टेरिडोफाइट्स

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Ans. (b) : Gymnosperms are called 'naked seed plants' because their seeds develop on the surface of cones or other structures, without being enclosed by a fruit. This is different from angiosperms, which have seeds enclosed within fruits.

74. In which of the following the apogamy is common?

एपोगैमी निम्न में से किसमें सामान्य है?

- (a) Cycas/साइकस (b) Gnetum/नीटम
(c) Ferns/फर्न्स (d) Tomato/टमाटर

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Ans. (c) : Apogamy is a type of asexual reproduction in which a sporophyte develops from a gametophyte without the fusion of gametes. It is common in ferns and allows them reproduce in unfavorable conditions, by passing the typical sexual reproduction cycle.

75. Identify the pair of heterosporous pteridophytes among the following:

निम्नलिखित में से विषम बीजाणु टेरिडोफाइट के युग्म को पहचानिए:-

- (a) Selaginella and Salvinia/सिलेजिनेला और साल्वीनिया
(b) Psilotum and Salvinia/साइलोटम और साल्वीनिया
(c) Equisetum and Salvinia/इक्विसीटम और साल्वीनिया
(d) Lycopodium and Selaginella/लाइकोपोडियम और सिलेजिनेला

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Ans. (a) : Selaginella and Salvinia are heterosporous pteridophytes, meaning they produce two distinct types of spores: microspores (male) and megaspores (female), unlike other pteridophytes that produce only one type of spore.

76. Which of the following is correctly paired?
निम्नलिखित में से कौन-सा सही सुमेलित है?

- (a) Algae→Hold fast, stipe and frond/शैवाल → तीव्र पकड़, वृन्त, ताल पत्ता
(b) Gymnosperms→ Gemma cup/अनावृत्तबीजी→गैमा कप
(c) Pteridophytes→Protonema and leafy stage/टेरिडोफाइट→ प्रोटोनीमा और पत्र चरण
(d) Bryophytes→Triple fusion and syngamy/ब्रायोफाइट→ त्रि-संलयन और युग्म संलयन

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Ans. (a) : Algae have holdfast (attachm), stipe (support) and frond (photosynthesis). The other options are incorrect : gymnosperms lack a "cup", protonema occurs in bryophytes and triple fusion is exclusive to angiosperms.

77. Trifolium belongs to which family?
ट्राइफोलियम किस परिवार से आता है?

- (a) Brassicaceae/ब्रैसिकेसी
(b) Liliaceae/लिलिएसी
(c) Solanaceae/सालैनेसी
(d) Fabaceae/फैबेसी

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Ans. (d) : Trifolium belongs to the Fabaceae family, known for leguminous plants with compound leaves and nitrogen-fixing abilities. This family includes economically important species like peas, beans and clovers.

78. Wheat belongs to phylum/division
गेहूँ किस समुदाय/प्रभाग से आता है?

- (a) Angiosperms/आवृत्तबीजी
(b) Gymnosperms/अनावृत्तबीजी
(c) Algae/शैवाल
(d) Pteridophytes/टेरिडोफाइट

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Ans. (a) : Wheat is a flowering plant that produces seeds enclosed in a fruit, classifying it under the Angiosperms.

79. Which part of poppy plant is used to obtain the drug "Smack"?

स्मैक नामक ड्रग पोस्ता पौधे के किस भाग से प्राप्त होता है?

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

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Ans. (b) : "Smack" (heroin) is made from the latex of the opium poppy (Papaver somniferum). The unripe seed capsules of the plant are scored to release a milky sap, which dries into opium. This opium is then processed to produce heroin.

80. Opium is obtained from-
अफीम प्राप्त होती है-

- (a) Oryza sativa/ओराइजा सटाइवा से
- (b) Thea sinensis/थिया साइनेन्सिस से
- (c) Coffea arabica/कॉफी अरेबिका से
- (d) Papaver somniferum/पैपेवर सोमनीफेरम से

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Ans. (d) : Opium is obtained from the latex (milky sap) of the poppy plant Papaver somniferum. This plant is cultivated for its seeds and for producing of opium, which is used to make narcotics like morphine and heroin.

81. 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 उसके मुक्त होने के बाद महीनों तक रहती है।

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

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Ans. (d) : In some members of the Rosaceae and Leguminosae families, pollen grains can retain their viability for months after release due to the presence of sporopollenin, which protects the pollen grains. This characteristic is not observed in the Poaceae family, where pollen viability is typically much shorter.

82. Which one is a wrong statement?

निम्नलिखित में से कौन-सा कथन गलत है?

- (a) Brown algae have chlorophyll a and c, and fucoxanthin/भूरे शैवाल में पर्णहरित a और c तथा फ्यूकोजैन्थीन होते हैं।
- (b) Archegonia are found in bryophyte, pteridophyta and gymnosperms/स्त्रीधानी, ब्रायोफाइट, टेरिडोफाइट और अनावृत्ती पादपों में पायी जाती है।
- (c) Mucor has biflagellate zoospores/म्यूकर में द्विकशाभिक चल बीजाणु होते हैं।
- (d) Haploid endosperm is typical feature of gymnosperms/अगुणित भ्रूणपोष अनावृत्त बीजी पादपों का प्रारूपिक लक्षण है।

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Ans. (c) : Mucor, a zygomycete fungus, produces non-motile sporangia that release spores, unlike biflagellate zoospores. Biflagellate zoospores are characteristic of certain other fungi such as those in the chytridiomycota class. The statement about Mucor having biflagellate zoospores is incorrect because mucor's spore are not motile.

83. Which of the following organisms are known as chief producers in the oceans?

निम्नलिखित में से कौन-से जीव महासागरों में मुख्य उत्पादक के रूप जाने जाते हैं?

- (a) Cyanobacteria/सायनोबैक्टीरिया
- (b) Diatoms/डायटम्स
- (c) Dinoflagellates/डायनोफ्लैजेलैट्स
- (d) Euglenoids/युग्लीनाइड्स

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Ans. (b) : Diatoms are the main producers in the oceans, playing a crucial role in photosynthesis and contributing significantly to the marine food web.

Cyanobacteria and dinoflagellates also contribute, but less prominently, while euglenoids are primarily found in freshwater.

84. Vivipary is a character of :

जरायुजता लक्षण है:

- (a) parasite /परजीवी
- (b) mesophyte/मिजोफाइट
- (c) hydrophyte/हार्डिहड्रोफाइट
- (d) halophyte/हैलोफाइट

BHU NURSING 2015

Ans. (d) : Vivipary is a characteristic feature of halophytes, such as mangroves. In vivipary seeds germinate which still attached to the parent plant, enabling young plants to survive in saline or water logged conditions, common in coastal and marshy environments.

85. Which organisms have both types of gametes as motile?

किस जीव में दोनों प्रकार के युग्मक गतिशील होते हैं?

- (a) Few fungi and algae/कुछ कवक और शैवाल
- (b) Gymnosperms/जिम्नोस्पर्म
- (c) Pteridophytes/टेरिडोफाइट्स
- (d) Bryophytes/ब्रायोफाइट्स

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Ans. (a) : Organisms of few fungi and algae have both types of gametes are motile. This is a common feature in aquatic environments, where gametes actively swim toward each other for fertilization. In contrast, gymnosperms, pteridophytes and bryophytes typically have only one type of motile gamete.

86. Name the plant which flowers once in 12 years.

उस पौधे का नाम बनाइए जिस पर 12 वर्ष में एक बार फूल आते हैं।

- (a) Bamboo/बाँस
- (b) Hibiscus/हिबिस्कस
- (c) Neela kurinji/नील कुरिंजी
- (d) Lotus/कमल

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Ans. (c) : Neela kurinji (Strobilanthes kunthiana) flowers once every 12 years, creating a spectacular blue-purple bloom in the Western Ghats.

Animal Kingdom

1. **Presence of feathers is a characteristics of पंखों की उपस्थिति किसकी विशेषता है**

- (a) Mammals/स्तनधारी (b) Reptiles/सरीसृप
(c) Aves/पंखी (d) Amphibians/उभयचर

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Ans. (c) : The characteristic features of Aves (birds) include the presence of feathers and most of them can fly, except flightless birds (e.g. ostrich).

2. **Pearl is obtained from _____ से मोती प्राप्त होता है।**

- (a) Lamellidens/लेमिलीडेन्स
(b) Gastropods/गैस्ट्रोपोड
(c) Protozoans/प्रोटोजोअन
(d) Porifera /पोरिफेरा

CG. BSc. Nursng-2024

Ans. (a) : Pearls are formed within the mantle of bivalve molluscs like Lamellidens. When an irritant, such as a grain of sand, enters the shell, the mollusc secretes layers of nacre (mother-of-pearl) around it. Over time, these layer build up resulting in the formation of a pearl.

3. **Mammary glands in prototherians are : प्रोटोथेरियन में स्तन ग्रंथियाँ हैं :**

- (a) Absent/अनुपस्थित
(b) Functional in female only/केवल मादा में कार्यात्मक
(c) Functional in male only/केवल पुरुष में कार्यात्मक
(d) Functional in both male and female/नर और मादा दोनों में कार्यात्मक

MP-PNST-07.07.2023, Shift-I

Ans. (d) : In prototherians, both males and females have mammary glands although but only females produce milk. These glands are present in both sexes, but functional in females for nourishing the young, reflecting their evolutionary biology among monotremes like the Platypus.

4. **Which of the following is common among mammals? सभी स्तनधारियों में पाया जाने वाला गुण है—**

- (a) They undergo no moulting/निर्मोचन से नहीं गुजरते हैं
(b) They have seven cervical vertebrae उनके पास सात ग्रीवा कशेरुक है
(c) They are carnivores/वे मांसाहारी होते हैं
(d) They have ventral nerve cord/ उनके पास अधर तंत्रिका रज्जु होती है

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Ans. (b) : Most mammals, including humans, have seven cervical vertebrae (neck bones), regardless of whether they are small like mice or large like giraffes. This is a common characteristic among nearly all mammals.

5. **Which of the following is not an example of Kingdom Protista ? निम्न में से कौन-सा प्रोटिस्टा जगत का उदाहरण नहीं है?**

- (a) Nostoc / नास्टाक
(b) Diatoms / डायटोमस
(c) Desmids / डेस्मिड
(d) Dinoflagellates / डायनोफ्लैजिलेट

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Ans. (a): The organism that is not an example of Kingdom Protista is Nostoc. Nostoc is actually a genus of Cyanobacteria, commonly known as blue-green algae, which belong to the Kingdom Monera not Protista.

6. **Which of them is in tracheate group? इनमें से कौन सा ट्रेकिया समूह में है ?**

- (a) Crab-Centipede-Cockroach/केकड़ा-सहस्रपाद-तिलचट्टा
(b) King crab-Scorpion-Housefly /किंगक्रेब-बिच्छू-मकड़ी
(c) Spider-Peripatus-Housefly/मकड़ी-पेरिपेटस-मकड़ी
(d) Bedbug-Sandfly-Silkworm/खटमल-सैण्डफ्लाई-रेशमकीट

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Ans. (d): Bedbugs, Sand flies, and Silkworm belong to the tracheate group of arthropoda due to their respiratory tracheal systems.

7. **Life cycle of Mucor is- म्यूकर का जीवन चक्र है-**

- (a) Haplontic type /हैप्लॉन्टिक टाइप
(b) Isomorphic /आइसोमॉर्फिक
(c) Diplontic type /डिप्लॉन्टिक टाइप
(d) Heteromorphic /हेटेरोमॉर्फिक

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Ans. (a) : The life cycle of Mucor is haplontic because it is dominated by haploid cells, starting from haploid spores, progressing through haploid mycelium growth and primarily reproducing with haploid spores.

8. **Which of the following is an example of Cyclostomes? निम्नलिखित में से कौन साइक्लोस्टोम का उदाहरण है?**

- (a) Petromyzon/पेट्रोमाईजोन
(b) Octopus/ऑक्टोपस
(c) Sea star/तारा मछली
(d) Sea Urchin/समुद्री आर्चिन

MP-PNST-08.07.2023, Shift-II

Ans.(a): Cyclostomes are jawless fish with cartilaginous skeletons, including species like Petromyzon (lamprey). They are characterized by their lack of jaws and paired fins. The octopus belongs to the class Cephalopoda, while the Sea star and Sea urchin are part of phylum Echinodermata, not Cyclostomes.

9. Many invertebrates like Planaria and some vertebrates like lizards replace lost body parts by _____

कई अकशेरुकीय जैसे प्लैनेरिया और कुछ कशेरुकी जैसे छिपकली शरीर के खोए हुए अंगों को प्रतिस्थापित के माध्यम से करते हैं।

- (a) Fragmentation/खंडन
- (b) Regeneration/पुनर्जनन
- (c) Budding/मुकुलन
- (d) Fission/विखंडन

MP-PNST-08.07.2023, Shift-II

Ans. (b) : Regeneration is the biological process where organisms, like Planaria and lizards, can regrow lost body parts, allowing them to recover from injuries and maintain their functionality.

10. _____ is a single cell organism.
_____ एक कोशिका जीव है।

- (a) Amoeba /अमीबा
- (b) Platyhelminthes/पृथुकृमि
- (c) Acanthocephalans/एकैन्थोसेफालन्स
- (d) Nematodes/सूत्रकृमि

MP-PNST-08.07.2023, Shift-II

Ans. (a): Amoeba is a single-celled organism, also known as a protozoan. In contrast, Platyhelminthes (flatworms), Acanthocephalans (thorny-headed worms) and Nematodes (roundworms) are multicellular organisms.

11. Which of the following is an example of Phylum Porifera?

निम्नलिखित में से कौन फाइलम पोरिफेरा का उदाहरण है?

- (a) Hydra/हाइड्रा
- (b) Planaria/प्लैनेरिया
- (c) Sycon/साइकॉन
- (d) Pinworms/पिनवर्म

MP-PNST-08.07.2023, Shift-II

Ans. (c) : Phylum Porifera, also known as sponges, includes simple, multicellular organisms that have porous bodies and are primarily marine. Sycon is a type of sponge, making it an example of Phylum Porifera. The other option. Hydra (Cnidaria), Planaria (Platyhelminthes) and Pinworms (Nematoda) belong to different phyla.

12. Pearl is secreted by _____ layer.
मोती ----- परत द्वारा स्रावित होता है।

- (a) Calcium/कैल्शियम
- (b) Covering of prismic content/प्रिज्मिक तत्व के चढ़ाव
- (c) Mantle/मेंटल
- (d) Matrix/मैट्रिक्स

MP-GNTST/PNST-07.07.2023, Shift-II

Ans. (c) : The mantle secretes calcium carbonate and conchiolin, forming layers around an irritant, leading to pearl formation in molluscs.

13. In fishes the teeth are of :
मछलियों में दन्त पाये जाते हैं :

- (a) Acrodont type/एक्रोडोन्ट
- (b) Thecodont type/थेकोडोन्ट
- (c) Heterodont type/हेट्रोडोन्ट
- (d) Pleurodont type/प्लूरोडोन्ट

MP-GNTST/PNST-07.07.2023, Shift-II

Ans. (a) : Acrodont type of teeth is found in fishes. This type of tooth is attached on the upper surface of the jaw bone. Acrodont teeth are characteristic of some reptiles, amphibians and dwarf fishes.

14. Which of the following is generally oviparous?
निम्नलिखित में से कौन-सा आम तौर पर अंडज या ओविपेरस है?

- (a) Cats/बिल्लियों
- (b) Dogs/कुत्ते
- (c) Cows/गायों
- (d) Birds/पक्षी

MP-GNTST/PNST-07.07.2023, Shift-II

Ans. (d) : Birds are oviparous. Oviparous mammals include early mammals that lay eggs; all oviparous mammals have been replaced in the subclass Prototheria. Since early mammals evolved from reptiles, reptilian characteristics are also found in them.

15. Which of the following has bilaterally symmetrical and triploblastic body?
निम्नलिखित में से किसके पास द्वि-पार्श्व-सममित और त्रिकोरक शरीर है?

- (a) Coelenterata/सीलेन्टरेटा
- (b) Platyhelminthes/प्लैटीहेल्मिन्थेस
- (c) Porifera/पोरिफेरा
- (d) Gymnosperms/जिम्नोस्पर्म

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (b) : Platyhelminthes, or flatworms, are bilaterally symmetrical and triploblastic organisms. Bilateral symmetry allows for a distinct head and tail, promoting directional movement. Being triploblastic means they have three germ layers : ectoderm, mesoderm and endoderm, which contribute to their complex body structures compared to simpler organism like Porifera and Coelenterata.

16. Cleidoic eggs are characteristic of _____.
क्लीडोइक अंडे _____ की विशेषता है।

- (a) Reptiles and Birds/सरीसृप और पक्षी
- (b) Insects only/केवल कीड़े
- (c) Mammals/स्तनधारियों
- (d) Fishes/मछलियों का वर्ग

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (a) : Cleidoic eggs, also known as amniotic eggs, are adapted for terrestrial environments, preventing desiccation. They feature a protective shell and several membranes, allowing reptiles and birds to reproduce away from water. This is an important adaptation for their survival and development in diverse habitats.

17. From which phylum does the species *Laccifer lacca* belong?
लैक्सिफर लक्का प्रजाति किस फाइलम से संबंधित है?
- Mollusca/मोलस्का
 - Arthropoda/आर्थ्रोपोडा
 - Porifera/पोरिफेरा
 - Nematode/निमेटोड

MP-PNST-08.07.2023, Shift-II

Ans. (b) : The species *Laccifer lacca* belongs to the phylum Arthropoda. It is an insect species, specifically a type of lac-producing insect.

18. Classification of phylum Protozoa is based on
संघ प्रोटोजोआ का वर्गीकरण आधारित है
- Locomotory organs/प्रचलन अंगों पर
 - Shape of body/शरीर के आकार पर
 - Canal system/केनाल तंत्र पर
 - Reproduction/प्रजनन पर

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Ans. (a) : Protozoans are classified into different groups primarily based on the type of locomotory structures they possess, such as flagella, cilia and pseudopodia.

19. Plasmodium requires two hosts to complete its life cycle. In which host does the gamete production take place?
प्लास्मोडियम को अपने जीवन चक्र को पूरा करने के लिए दो मेजबानों की आवश्यकता होती है। युग्मक उत्पादन किस मेजबान में होता है ?
- None of these/इनमें से कोई नहीं
 - Female *Anopheles* Mosquito /मादा एनोफिलीज मच्छर
 - Male *Anopheles* Mosquito/नर एनोफिलीज मच्छर
 - Man /मानव

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (b): In the life cycle of *Plasmodium*, gamete production occurs in the gut of the female *Anopheles* mosquito. When the mosquito takes a blood meal from an infected human, it ingests *Plasmodium* gametocytes, which then mature into gametes within the mosquito's gut. These gametes fuse to form a zygote, continuing the parasite's life cycle.

20. The water vascular system is a unique characteristic possessed by which phylum?
जल संवहनी प्रणाली एक अनूठी विशेषता है जो इस संघ में पाई जाती है ?
- Coelenterata /सीलेन्टरेटा
 - Porifera /पोरिफेरा
 - Echinodermata/शूलचर्म या इकाइनोडर्मेटा
 - Hemichordata/हेमाकोर्डेटा

MP-GNTST/PNST-08.07.2019, Shift-II

Ans. (c) : The water vascular system is a unique characteristic of the phylum Echinodermata. This system is used for locomotion and feeding in sea urchins.

21. Which of the following features of cartilaginous fishes is absent in bony fishes?
निम्नलिखित में से उपास्थिदार मछलियाँ (कार्टिलेजिनस फिश) की कौन-सी विशेषता हड्डीदार मछलियाँ (बोनी फिश) में अनुपस्थित होती है ?
- Viviparous /जरायुज
 - Gills /गलफड़े
 - Streamlined body /सुव्यवस्थित शरीर
 - Poikilothermic /विषमतापी

MP-GNTST/PNST-08.07.2019, Shift-II

Ans. (a) : Viviparity, or giving birth to live young, is common in many cartilaginous fishes like sharks and rays. In contrast, most bony fishes are oviparous, meaning they lay eggs that develop outside the mother's body. While some bony fishes do exhibit a form of viviparity, it is not as widespread as in cartilaginous fishes.

22. Which one of the following is NOT related to Pinus?
निम्न में से कौन पाइनस से संबंधित नहीं होता?
- Mycorrhizic roots / माइकोराइजिक जड़ें
 - Companion cells in phloem/फ्लोएम में सखी कोशिकाएँ
 - Dwarf shoots / बौनी शाखाएँ
 - Seed formation / बीजों का निर्माण

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Ans. (b) : Pinus does not have companion cell in their phloem. Companion cells are found in the phloem of angiosperm, not gymnosperms like Pinus.

23. Which of the following is NOT the locomotory organ of protozoa?
निम्न में से कौन-प्रोटोजोआ का प्रचलन अंग नहीं है ?
- Cilia/सीलिया
 - Flagella/फ्लैजिला
 - Parapodia/पैरापोडिया
 - Pseudopodia/स्यूडोपोडिया

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Ans. (c) : Parapodia are locomotory appendages found in certain marine worms (Polychaetes) not in protozoa. These structures are used by these worms for crawling and swimming.

24. Among the following, a poisonous lizard is
निम्न में कौन जहरीली छिपकली है ?
- Wall lizard/वाल लिजार्ड
 - Heloderma/हेलोडर्मा
 - Chamaeleon/केमेलियॉन
 - Veranus/वेरेनस

CG BSc. Nursing-2018

Ans. (b) : Heloderma refers to the genus of lizards known as the Gila monsters and beaded lizards. These lizards are venomous, possessing venom glands in their lower jaws and delivering venom through grooves in their teeth when they bite. The venom is primarily used for defense rather than for hunting prey.

25. Pearl producing species of mollusc is:
मोती बनाने वाली मोलस्का प्रजाति हैं
- (a) *Tridacna maxima*/ट्रिडाकना मैक्सिमा
 - (b) *Mytilus viridus*/माइटिलस विरिडस
 - (c) *Solen kemp*/सोलन केम्पी
 - (d) *Pinctada vulgaris*/पिंक्टाडा वल्वैरिस

MP-GNTST/PNST-2013

Ans. (d) : *Pinctada vulgaris*, also known as the Gulf pearl oyster, is a species of mollusc known for producing pearls. *Tridacana maxima*, *Mytilus viridus*, and *Solen kemp*, are different species of mollusc and do not typically produce pearls.

26. From which of the following high quality pearls are made?
निम्न में से उच्च कोटि के मोती किससे बनते हैं?
- (a) *Pinctada radiata*/पिंक्टाडा रेडिएटा
 - (b) *Placuna placenta*/प्लेकुना प्लासेंटा
 - (c) *Pinctada margaritifera*/पिंक्टाडा मार्ग्रेटीफेरा
 - (d) *Pinctada maxima*/पिंक्टाडा मैक्सिमा

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (c): High quality pearls are produced from *Pinctada margaritifera*. Tahitian pearls (black lip pearls) are specifically developed from *Pinctada margaritifera*.

27. *Fasciola hepatica* is/ फेसिलोला हिपेटिका है
- (a) Dioecious self-fertilized/द्विलिङ्गीय, स्वतः प्रजनित
 - (b) Bisexual, hybrid bred/द्विलिङ्गीय, संकर प्रजनित
 - (c) Bisexual or homosexual/उभयलिङ्गी या एकसमान
 - (d) Both (a) and (b)/दोनों (a) एवं (b)

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (c): *Fasciola hepatica* is a hermaphroditic parasite, having both male and female reproductive organs, allowing it to self-fertilize or cross-fertilize with other individuals, hence classified as bisexual or homosexual.

28. The most distinctive feature of the crocodile is:
मगरमच्छ का सर्वाधिक विशिष्ट लक्षण है:
- (a) Strong oral cavity/मजबूत मुखगुहा
 - (b) Eggs with shell/छिलके युक्त अण्डे
 - (c) Theodont teeth/थिकोडोन्ट दाँत
 - (d) Four chambered heart/चार कक्ष वाला हृदय

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (d) : Crocodiles possess a four-chambered heart, enabling efficient blood separation, which supports their active lifestyle and distinguishes them from other reptiles.

29. Which of the following organisms is a prokaryote?
निम्न में से कौन-सा जीव प्रोकैरियोट है?
- (a) *Salmonella*/साल्मोनेला
 - (b) Green algae/हरी शैवाल
 - (c) Bacteriophage/जीवाणुभोजी
 - (d) *Agaricus*/एगेरिकस

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (a) : *Salmonella* is a type of bacteria, which is a prokaryotic organism. Prokaryotes are characterized by the lack of a true nucleus and membrane-bound organelles.

30. Which of the following pair is incorrect?
निम्न में कौन-सा युग्म गलत है ?

- (a) Euglenoids-Myonemes/यूग्लीनॉइड्स-मायोनिम्स
- (b) Ciliophora-Axonema/सिलियोफोरा-एक्सोनीम
- (c) Annelida-Notopodia/एनिलिडा-नोटोपोडिया
- (d) Cnidaria-Parapodia/निडेरिया-पैरापोडिया

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (d) : Cnidaria- Parapodia, is incorrect because cnidarians (like jellyfish and corals) do not have parapodia, which are structures used for locomotion and are found in some annelids (segmented worms)

31. Periodic migration is observed when
आवधिक प्रवास तब देखा जाता है, जब

- (a) Migration of locusts in search of food/भोजन की तलाश में टिड्डी दल का प्रवास
- (b) Whales migrate in search of food/व्हेल भोजन की तलाश में प्रवास करती हैं
- (c) Phytoplanktons come to the surface of water /पादप प्लवक पानी की सतह पर आ जाते हैं
- (d) Birds migrate using direction/पक्षी दिशा का उपयोग करके प्रवास करते हैं

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (a) : Periodic migration refers to the movement of a certain species to a different environments. In simple terms, periodic migration is observed when locusts migrate in search of food. Desert locusts breed based on seasonal rainfall and the scarcity of food along with an increase in the number of locusts, causes migration from one area to another in search of food.

32. Which of the following statement is incorrect?
निम्नलिखित में से कौन-सा कथन गलत है?

- (a) In Ctenophores locomotion is mediated by the comb plate /टीनोफोरा में, गमन कॉम्ब प्लेट की मध्यस्थता से होता है
- (b) Excretion of waste material in shrimp occurs through the Malpighian tubule /झींगा में अपशिष्ट सामग्री का उत्सर्जन मेलपीथियन ट्यूब्यूल के माध्यम से होता है
- (c) Earthworms are dioecious organisms and yet they undergo cross-fertilisation/केंचुआ द्विलिङ्गी जीव है और फिर भी उनमें पर-निषेचन होता है
- (d) Flame cells in *Fasciola* take part in excretion /फेसिलोला में ज्वाला कोशिकाएँ उत्सर्जन में भाग लेती हैं

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (b) : In shrimp, excretion of waste material does not take place through Malpighian tubules; instead it occurs through green glands. Malpighian tubules are found in insects like cockroaches.

33. Which characteristic is common to leeches, cockroaches and scorpions?
लीच, तिलचट्टा और बिच्छू के लिए कौन-सी विशेषता समान है?

- (a) Cephalization/सिफेलाइजेशन
- (b) Antenna/एण्टीना
- (c) Ventral nervous system/अधर तन्त्रिका तन्त्र
- (d) Nephridia/नेफ्रीडिया

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (c) : The common characteristics among leeches, cockroaches and scorpions is the presence of ventral nervous system. All three have their nervous system located on the ventral (belly) side of their bodies, consisting of a series of nerve cords and ganglia.

34. Which of the following characteristics is common to birds and mammals?
पक्षी और स्तनधारी में निम्न विशेषताओं में से कौन-सी विशेषता एक समान होती है?

- (a) Skin color/ त्वचा रंग
- (b) Homeothermy/समतापी
- (c) Alimentary canal/आहारनाल
- (d) Living beings/सजीवप्राजक्ता

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (b) : The common feature present in both birds and mammals is homeothermy. Both are warm-blooded animals, meaning they can regulate their body temperature internally, regardless of external conditions. Skin pigment and viviparity are not common to both groups, as most birds lay eggs.

35. In the phylum Mollusca, the eye is situated on a thin structure called-
मोलस्का संघ में आँख एक पतली रचना के ऊपर स्थित होती है जिसे कहते हैं

- (a) Ostracum/ऑस्ट्रेकम
- (b) Operculum/ऑपरकुलम
- (c) Ommatophore/ओमेटोफोर
- (d) Osphradium/ऑस्फ्रेडियम

MP-GNTST/PNST-2020

Ans. (c) : In the phylum Mollusca, specifically in gastropods like snails, the eyes are situated on a thin, retractable stalk known as an ommatophore. This structure allows the eyes to extend outward for better visual coverage and retract for protection. Ommatophores enhance the organism's ability to sense its environment.

36. Which of the following is a resident insects?
निम्न में से कौन निवही कीट है?

- (a) Locust/लोकस्ट
- (b) Mosquitoes/मच्छर
- (c) White ant/सफेद चींटी (दीमक)
- (d) Bedbugs/खटमल

MP-GNTST/PNST-2020

Ans. (c) : White ants (termites) are considered resident insects because they typically live in colonies in a fixed location, like soil, wood or mounds.

37. In Ascaris, it is called coelom
ऐस्कैरिस में सीलोम कहलाती है

- (a) Schizocoelom/सिजोसीलोम
- (b) Pseudocoelom/स्यूडोसीलोम
- (c) True coelom/वास्तविक सीलोम
- (d) Hemocylome/हीमोसीलोम

MP-GNTST/PNST-2020

Ans. (b) : Ascaris, a nematode, has a pseudocoelom which is a body cavity filled with fluid. Unlike a true coelom, a pseudocoelom is not entirely lined by mesoderm. This cavity allows for the circulation of nutrients and waste, facilitating movement and organ function in the worm's body.

38. In rabbit, the apex of the epididymis which is present at the head of the testis, is called?
खरगोश में अधिवृषण का शीर्ष, जो वृषण के सिर पर उपस्थित होता है, क्या कहलाता है?

- (a) Venus carrier/शुक्रवाहक
- (b) Caudal epididymis/पुच्छ अधिवृषण
- (c) Gubernaculum/गुबरनाकुलम
- (d) Top adrenal gland/शीर्ष अधिवृषण

MP-GNTST/PNST-2020

Ans. (b) : In rabbits, the apex of the epididymis located at the head of the testis is known as the caudal epididymis. It serves as the site for sperm maturation and storage, playing a crucial role in the reproductive system by facilitating sperm transport from the testis to the vas deference.

39. The excretory substance of bony fish is
अस्थिल मछली का उत्सर्जी पदार्थ है

- (a) Urea/यूरिया
- (b) Protein/प्रोटीन
- (c) Ammonia/अमोनिया
- (d) Amino acid/अमीनो अम्ल

MP-GNTST/PNST-2020

Ans. (c) : Bony fish excrete ammonia as their primary nitrogenous waste. Since ammonia is highly toxic, it must be rapidly removed from the body. Bony fish are adapted to release ammonia directly into the surrounding water through their gills, where it quickly dilutes, making this method of excretion efficient for aquatic life.

40. The body of a fish is divided into
मछली का शरीर निम्न में विभाजित होता है

- (a) Head, Neck, Tail/सिर, गर्दन, पूँछ
- (b) Head, Torso, Tail/सिर, धड़, पूँछ
- (c) Head, Tail/सिर, पूँछ
- (d) Head, Neck, Torso, and Tail/सिर, गर्दन, धड़, और पूँछ

MP-GNTST/PNST-2015

Ans. (b) : Fish bodies are divided into three main parts: the head, which houses sensory organs; the torso, which contains vital organs; and the tail, which aids in movement and propulsion.

41. Which of the following is NOT a characteristic of chordates?

निम्नलिखित में से कौन रज्जुकी (कॉर्डेट्स) की विशेषता नहीं है ?

- (a) Post anal tail present/गुदपश्चपुच्छ (पोस्ट एनल टेल) उपस्थित है
- (b) Heart is ventral/हृदय अधर है
- (c) Ventral Central Nervous System/अधर केन्द्रीय तंत्रिका तंत्र (वेंट्रल सेंट्रल नर्वस सिस्टम)
- (d) Notochord is present/पृष्ठरज्जु (नोटोकॉर्ड) मौजूद है

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (c) : Chordates have a dorsal, hollow nerve cord, not a ventral one. The other characteristics listed-post-anal tail, a ventral heart in some species and a notochord, are all features found in various chordates at some stage of their development.

42. Which among the following is NOT a coelomate? निम्नलिखित में से कौन - सा एक प्रगुही नहीं है?

- (a) Platyhelminthes /प्लैटीहेलिमिन्थीज
- (b) Annelida /ऐनेलिडा
- (c) Arthropoda /आर्थ्रोपोडा
- (d) Echinodermata /एकाइनोडर्मेटा

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (a): Platyhelminthes or flatworms are acoelomates, meaning they do not have a coelom. The other groups listed - Annelida, Arthropoda and Echinodermata are all coelomates, possessing a coelom, which is a fluid - filled body cavity.

43. Pneumatic bones are found in which Class —. वातिल अस्थियां वर्ग — में पाई जाती हैं ।

- (a) Mammalian /स्तनधारी
- (b) Reptilian /सरीसृप
- (c) Osteichthyes /ऑस्टिक्थीज
- (d) Aves /पक्षिवर्ग

MP-GNTST/PNST-07.07.2019, Shift-I

Ans. (d) : Pneumatic bones are found in the class Aves, which includes birds. These bones are air-filled and reduce the weight of the skeleton, aiding in flight.

44. Which of the following is an edible fresh water fish?

निम्नलिखित में से कौन खाने योग्य मीठे पानी (फ्रेश वाटर) की मछली है?

- (a) Sardine/सारडीन (b) Hilsa/हिल्सा
- (c) Mackerel/मैकेरल (d) Common Carp/कॉमन कार्प

MP-GNTST/PNST-08.07.2019, Shift-I

Ans. (d) : The Common Carp is a freshwater fish commonly found in rivers and lakes, making it edible. Sardines, Hilsa and Mackerel are primarily saltwater fish, unsuitable for freshwater consumption.

45. Which of the features is NOT the basis for the broad classification of Animalia?

एनीमेलिया के व्यापक वर्गीकरण के लिए कौन-सी विशेषता आधार नहीं है?

- (a) Levels of organization/संगठन के स्तर
- (b) Symmetry/सममिति
- (c) Body cavity or coelom/शारीरिक गुहा या प्रगुहा (बॉडी कैविटी या कोइलोम)
- (d) Locomotion/गमन (लोकोमोशन)

MP-GNTST/PNST-08.07.2019, Shift-I

Ans. (d) : Locomotion refers to the ability to move from one place to another, which is not a primary basis for the broad classification of animals. The major features used for classification include levels of organization, symmetry and the presence or absence of a body cavity or coelom. These characteristics help classify animals in to different phyla and groups based on fundamental structural and developmental traits.

46. Pearl is produced by -

पर्ल (मोती) बनाया जाता है-

- (a) Mytilus /माइटिलस
- (b) Pinctada /पिंकटाडा
- (c) Pecten /पेक्टेन
- (d) Unio/यूनियो

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (b): Pearl (moti) is produced inside the shell of a mollusc called Pinctada which is a genus of saltwater oyster. These molluscs create pearls as a defense mechanism against irritants such as a parasite or a grain of sand. When an irritant enters the shell, the oyster secretes layers of nacre (mother of pearl) around it, eventually forming a pearl.

47. Which is the largest bird known ?

निम्न में से अब तक ज्ञात सबसे बड़ा पक्षी है?

- (a) Great Indian Bustard / ग्रेट इंडियन बस्टर्ड
- (b) California Condor / कैलीफोर्निया कॉन्डर
- (c) Aepyornis / एपीऑर्निस
- (d) Cassowary / कैसोवरी

MP-GNTST/PNST-2014

Ans. (c) : Aepyornis or the elephant bird, was the largest bird ever known, native to Madagascar. It was flightless, standing upto 3 meters tall and weighing around 500 kilograms. Aepyornis went extinct around 1,000 years ago due to human activity.

48. The example of auxetic growth is?

शीर्षस्थ वृद्धि का उदाहरण है?

- (a) Roundworm / सूत्रकृमि (b) Man / मनुष्य
- (c) Frog / मेंढक (d) Lizard / छिपकली

MP PNST 09.07.2023 SHIFT-II

Ans. (a) : Roundworms show auxetic growth by expanding uniformly in all directions, unlike other organisms that grow in specific areas.

49. In which if the following options are the phylum, class and example correctly matched? निम्नलिखित में से किस विकल्प में संघ, वर्ग और उदाहरण सही सुमेलित है?

- (a) Annelida - Oligochaeta - Nereis/एनिलिडा, ऑलिगोकिटा, नेरिस
- (b) Arthropoda - Arachnida - Palaemon/आर्थोपोडा, अर्केनिडा, पेलिओमोन
- (c) Coelentrata- Scyphozoa - Obelia/सिलेन्ट्रेटा, साइफोजोआ, ओबेलिया
- (d) Platyhelminthes - Turbellaria - Planaria/प्लैटीहेल्मिन्थीज, टर्बेलेरिया, प्लेनेरिया

BHU NURSING 2017

Ans. (d) : *Planaria* is an example of a species belonging to the class Turbellaria, within the phylum Platyhelminthes. The other options have incorrect Phylum-class-example matches.

50. Tachyglossus is a connecting link between: टैकिलोसस किसके बीच एक जोड़ने वाली कड़ी है?

- (a) Reptiles and Birds /सरीसृप और पक्षी
- (b) Amphibians and Reptiles/उभयचर और सरीसृप
- (c) Birds and Mammals/पक्षी और स्तनधारी
- (d) Reptiles and Mammals/सरीसृप और स्तनधारी

BHU NURSING 2017

Ans. (d) : *Tachyglossus* (echidna) is a monotreme, that exhibits reptilian traits like egg-laying and mammalian traits like milk production, linking both groups.

51. Cockroach respire by means of कॉकरोच किसके माध्यम से श्वसन करता है?

- (a) Skin/त्वचा
- (b) Book lungs/बुक लंग्स
- (c) Spiracle/स्पाइरैकल
- (d) Gills/गिल्स

J&K NURSING 2023

Ans. (c) : Cockroaches respire through a network of tubes called tracheae, which open to the outside through tiny pores known as spiracles. Oxygen enters and carbon dioxide exits through these spiracles for respiration.

52. The unique characteristic of Annelida is एनेलिडा की विशिष्ट विशेषता है-

- (a) Coelom/सीलोम
- (b) Nephridia/नेफ्रिडिया
- (c) Hermaphrodite/उभयलिंग
- (d) All of the above/उपरोक्त सभी

J&K NURSING 2023

Ans. (b) : The unique characteristic of annelida is nephridia, specialized excretory organs for osmoregulation and waste removal. While annelids also possess coelom and some are hermaphrodites, nephridia distinctly set them apart in biological processes.

53. Osculum is found in : ऑस्कुलम किसमें पाया जाता है।

- (a) Starfish/स्टारफिश
- (b) Hydra/हाईड्रा
- (c) Rayfish/रेफिश
- (d) Sponge/स्पॉन्ज

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Ans. (d) : The osculum is a large opening found in sponges, through which water exists after circulating through their body.

54. Body having meshwork of cells, internal cavities lined with food filtering flagellated cells and indirect development are the characteristics of phylum :

शरीर में कोशिकाओं का जाल होना, खाद्य पदार्थ का निस्पादन करने वाली कशाभिकामय कोशिकाओं से अस्तरित आंतरिक छिंदों का गुहाओं का पाया जाना तथा अप्रत्यक्ष परिवर्तन का होना किस फाइलम की विशेषताएँ हैं?

- (a) Protozoa/प्रोटोजोआ
- (b) Coelenterata/सीलेन्टरेटा
- (c) Perifera/पेरिफेरा
- (d) Molluscs/मोलस्का

HBNU BSC NURSING 2017

Ans. (c) : Phylum porifera also known as sponges, is characterized by a meshwork of cells, internal cavities lined with flagellated cells (choanocytes) for food filtration, and indirect development, where larval watergo a free-swimming stage before settling and developing into adult forms.

55. Which one of the following organisms bears hollow and pneumatic long bones? निम्न में किस जीव में लम्बी अस्थियाँ खोखली एवं वातिल होती हैं?

- (a) Neophron/नियोफ्रॉन
- (b) Hemidactylus/हैमीडेक्टायलस
- (c) Macropus/मैक्रोपस
- (d) Ornithorhynchus/ऑरनिथोरिंकस

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Ans. (a) : The organism with hollow and pneumatic long bones is Neophron. Neophron, a genus of birds commonly known as vultures, has pneumatic (air-filled) bones that make them lighter for flight. This adaptation is typical in birds, aiding efficient flight dynamics.

56. One of the following is a very unique feature of the mammalian body-

निम्न में से कौन सा स्तनधारियों का अति विशिष्ट लक्षण है-

- (a) Homeothermy/समतापीयता
- (b) Presence of diaphragm/डायाफ्राम की उपस्थिति
- (c) Four chambered heart/चार कोष्ठीय हृदय
- (d) Ribcage/पंजर

HBNU B.Sc NURSING 2019

Ans. (b) : The diaphragm is a unique structure in mammals, a muscular partition that separates the thoracic cavity (where the lungs and heart are located) from the abdominal cavity. This feature aids in efficient breathing, allowing mammals to maintain high metabolic rates. While other vertebrates may have similar features, a true diaphragm is only found in mammals, making it a distinguishing characteristics of the mammalian body.

57. Which among the following is odd?

निम्नलिखित में से कौन सा विषम है?

- (a) Urochordata/यूरोकोर्डेटा
- (b) Cephalochordata/सेफैलोकोर्डेटा
- (c) Vertebrata/कशेरुका
- (d) Agnatha/अगनथा

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Ans. (d) : Urochordata, cephalochordata and vertebrata are subphyla of chordata, while Agnatha is a super class within vertebrata making it the odd one as it is not a separate subphylum, making it odd one out.

58. Which among the following is incorrect about chordates?

कोर्डेट्स के बारे में निम्नलिखित में से कौन सा गलत है?

- (a) They must have notochord at every point of their life/उनके जीवन के हर बिंदु पर उसके पास पुष्टरज्जु होना चाहिए
- (b) They have a post anal tail/उनके पास एक पोस्ट गुदा पूंछ है
- (c) They have hollow dorsal nerve cord/उनके पास खोखली पृष्ठीय तंत्रिका रज्जु होती है
- (d) They have a ventral heart/उनके पास एक उदर हृदय है

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Ans. (a) : Chordates have a notochord at some developmental stage, not necessarily throughout the life. Other features, like the post anal tail, hollow dorsal nerve chord and ventral heart are characteristic of chordates.

59. Which among the following is incorrect about Vertebrata?

निम्नलिखित में से कौन कशेरुका के बारे में गलत है?

- (a) All chordates are vertebrates/सभी कोर्डेट कशेरुकी हैं
- (b) In vertebrates, notochord is replaced by vertebral column in adults/कशेरुकी जंतुओं के व्यस्कों में पृष्टरज्जु को कशेरुक स्तंभ द्वारा प्रतिस्थापित कर दिया जाता है
- (c) They might not have post-anal tail after a certain period of time/एक निश्चित अवधि के बाद उनकी गुदा-पश्च पूंछ नहीं हो सकती है
- (d) Notochord is present during embryonic period/भ्रुण की अवधि के दौरान पृष्टरज्जु मौजूद होता है।

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Ans. (a) : The statement "All the chordates are vertebrates" is incorrect. Not all chordates have a vertebral column, some chordates like tunicates and lancelets lack vertebrae and are not considered vertebrates.

60. Largest phylum of animal kingdom is जन्तु जगत का सबसे बड़ा संघ है-

- (a) Mollusca/मोलस्का
- (b) Annelida/एनेलिडा
- (c) Arthropoda/आर्थ्रोपोडा
- (d) Porifera/पोरीफेरा

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Ans. (c) : The largest phylum in the animal kingdom is Arthropoda. It includes diverse species like Insects, Arachnids, and Crustaceans, making up about 80% of all known animal species. Arthropods are characterized by segmented bodies, exoskeletons, and jointed appendages.

61. Animals are mostly:

पशु अधिकतर हैं:

- (a) Autotrophs/स्वपोषी
- (b) Heterotrophs/परपोषित
- (c) Parasites/परजीवी
- (d) Auxotrophs/विपोषी

BHU B.Sc NURSING 2019

Ans. (b) : Animals are heterotrophs, meaning they rely on consuming other organism for energy and nutrients because they cannot synthesize their own food through photosynthesis or other means like autotrophs.

62. Vertebrates and invertebrates can be differentiated due to the presence of:

कशेरुकी और अकशेरुकी किसकी उपस्थिति के कारण विभेदित हो सकते हैं?

- (a) Tail/पूंछ
- (b) Coelom/सीलोम
- (c) Dorsal tubular nerve chord/पृष्ठीय ट्यूबलर तंत्रिका कॉर्ड
- (d) Brain/मस्तिष्क

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Ans. (c) : Vertebrates possess a dorsal tubular nerve cord, which develops into the brain and spinal cord. Invertebrates lack this feature, differentiating them from vertebrates in terms of structural organization.

63. A Chordate character is :

एक कोर्डेट लक्षण है:

- (a) Gills/गलफड़ा
- (b) Postanal tails/गुदा-पश्चात् पूंछ
- (c) Spiracles/श्वास नलिका
- (d) Chitinous exoskeleton/काइटिनस एक्सोस्केलेटन

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Ans. (b) : Chordates are characterized by a notochord, dorsal nerve cord, pharyngeal gill slits, and a postanal tail. The postanal tail extends beyond the anus and is present at some stage of development in all chordates, distinguishing them from other animals.

64. Physalia is commonly known as

फाईसेलिया सामान्यतः किस नाम से जाना जाता है

- (a) Sea pen / समुद्री कलम
- (b) Portuguese man-of-war / पुर्तगाली मैन ऑफ वार
- (c) Sea fur / समुद्री रोवां
- (d) Dead man's finger / डेड मैनस फिंगर्स

BHU NURSING 2016

Ans. (b) : Physalia, or Portuguese man-of-war, is a colonial organism with a gas-filled bladder, resembling a floating warship, known for its sting.

65. Which of the following animal is colonial?

निम्नलिखित में से कौन सा जानवर औपनिवेशिक है:

- (a) Obelia/ओबेलिया (b) Otohrydra/ओटोहाइड्रा
(c) Adamsia/एडमिसिया (d) Euglena/यूग्लीना

BHU NURSING 2016

Ans. (a) : Obelia forms a colonial structure with interconnected polyps, each performing specific functions like feeding, reproduction and defense.

66. All of the following are crustaceans except

निम्नलिखित में से सभी क्रस्टेशियन हैं सिवाय

- (a) Shrimps / झींगा (b) Daphnia / डैफ्निया
(c) Wasps / तैया (d) Crabs / केकड़े

BHU NURSING 2016

Ans. (c) : Wasps are insects, while shrimps, Daphnia and crabs are Crustaceans, characterized by their segmented bodies and exoskeletons.

67. Common characteristics between septal Nephridia of earthworm and Malpighian tubules of cockroach that both:

केचुए की पटीप नेफ्रिडिया एवं कॉकरोच की मैल्पीघीयन नलिकाओं का एक समान लक्षण यह होता है कि दोनों

- (a) Open in alimentary canal/आहारनाल में खुलती है
(b) Have segmental structures/खण्डीय रचनाएँ होती है
(c) Open directly outside / सीधे बाहर खुलती है
(d) Have nephrostome / नेफ्रोस्टोम होता है

BHU NURSING 2016

Ans. (c) : Both septal nephridia in earthworms and malpighian tubules in cockroaches open directly to the exterior of the body, allowing waste to be excreted outside, bypassing the digestive system.

68. Which one is considered as gregarious pest ?

इनमें से कौन झुंड में रहने वाला जीव है:-

- (a) Bombyx / रेशमकीट (b) Aedes / एडीज
(c) Locusta / टिड्डी (d) Laccifer / लाखकीट

BHU NURSING 2016

Ans. (c) : Locusta (locust) is a gregarious pest forming massive swarms, devastating crops and vegetation. In contrast, Bombyx, Aedes and Laccifer are not gregarious pests, serving other roles like silk or lac production.

69. The biological name and the popular common name of animals are given below select the correctly matched among following :-

नीचे प्राणियों के जीव-वैज्ञानिक और सामान्य नाम दिये गये हैं। इनमें से सही मिलान छाँटिये:-

- (a) Aplysia - Tusk shell / अप्लीसिया - हाथी दाँत कवच
(b) Sepia - Devil fish / सीपिया - दैत्यमछली
(c) Calotes - Garden lizard/कैलोट्स - उद्यान छिपकली
(d) Hemidactylus - Tree lizard/हेमीडेक्टायलस - वृक्षाश्रयी छिपकली

BHU NURSING 2016

Ans. (c) : The correct match is Calotes-Garden lizard because Calotes is the genus of common garden lizards, whereas Aplysia is the sea hare, not the tusk shell; Sepia refers to cuttlefish, not the devil fish (Octopus) and Hemidactylus represents house geckos, not tree lizards.

70. The number of chambers present in the heart of a house lizard are:

छिपकली के हृदय में पाये जाने वाले प्रकोष्ठों की संख्या होता है :

- (a) Two /दो (b) Three /तीन
(c) Four /चार (d) Five /पाँच

BHU NURSING 2015

Ans. (b) : A house lizard has three-chambered heart comprising two atria and one partially divided ventricle. This structure allows partial mixing of oxygenated and deoxygenated blood. Which is a characteristic feature of most reptiles excluding crocodiles, with four chambered hearts.

71. Which of the following snakes will have compressed tail?

इनमें से किस सर्प में चिपटी पूँछ पायी जाती है:

- (a) Sea Snake /समुद्री सर्प में
(b) Rat Snake/रैट सर्प में
(c) Rattle Snake/रैटल सर्प में
(d) Double headed snake /द्विमुखी सर्प में

BHU NURSING 2015

Ans. (a) : Sea snakes have a laterally compressed tail that is Flattened sideways Aiding in swimming. This adaptation allows them to move easily through water, making them highly efficient in aquatic environments compared to other types of snakes.

72. Which one is a connecting link?

इनमें से संयोजक कड़ी है:

- (a) Hirudinaria /हिरुडिनेरिया
(b) Peripatus /पेरीपैटस
(c) Asterias /एस्टेरियास
(d) Neries /नेरीस

BHU NURSING 2015

Ans. (b) : Peripatus is considered a connecting link between annelids and arthropods. It exhibits characteristics of both groups, such as segmented body like annelids and Jointed appendages like arthropods.

73. Osteichthyes gills are covered by:

अस्थिमय मछलियों के गिल ढके रहते हैं:

- (a) Operculum / ऑपरकुलम से
(b) Connective tissue / कनेक्टिव ऊतक से
(c) Operculum / ऑपरकुलम से
(d) None of the above / उपरोक्त में से कोई नहीं

BHU NURSING 2014

Ans. (c) : In Osteichthyes (bony fish), the gills are covered by a bony plate called the operculum. This structure helps protect the gills and assists in respiration by controlling the flow of water over them.

74. The Arthropod, which is known as living fossil आर्थ्रोपोडा, जिसे जीवित जीवाश्म के रूप में जाना जाता है

- (a) Bombyx (silkworm)/बोम्बिक्स (रेशम कीट)
- (b) Locusta (locust)/लोकस्टा (झींगा मछली)
- (c) Limulus (King Crab)/लिमुलस (केकड़ा)
- (d) Apis (honey bee)/एपिस (मधुमक्खी)

BHU NURSING 2013

Ans. (c) : The arthropod, Limulus (king crab) is known as living fossil. Apis (Honey bee) Bombyx (silkworm), and Laccifer (Lac insect) are economically important insects. Locusta (Locust) is the gregarious pest.

75. Which of the following is egg laying mammal? निम्न में से कौन-सा अंडयुज स्तनपायी है?

- (a) Pangolin/पेंगोलिन
- (b) Tachyglossus/टेकीग्लोसस
- (c) Porcupine/साही
- (d) Bat/चमगादड़

BHU NURSING 2013

Ans. (b) : Tachyglossus is also known as the short, beaked echidna. It is egg-laying mammals, belonging to the group of monotremes. Unlike other mammals monotremes lay eggs and nurse their young from the eggs after hatching. Pangolin, porcupine and bat are not egg-laying mammals.

76. Which of the following is NOT correctly matched?

निम्न में से कौन सुमेलित नहीं है?

- (a) Sycon - Canal system/साइकॉन - नाल प्रणाली
- (b) Star fish - Radial symmetry/स्टार मछली - रेडियल समरूपता
- (c) Ascaris - Flame cell/एस्केरिस - ज्वाला कोशिका
- (d) Prawn - Haemocoel/झींगा - हिमोसिल

BHU NURSING 2013

Ans. (c) : The pairing that is not correctly matched is Ascaris-Flame cell. Ascaris is a parasitic roundworm, does not have flame cells. Flame cells are associated with the excretory system of flatworm like planarians.

77. Which one of the following animal phyla does not posses a coelom?

निम्नलिखित जंतु संघ में से किसके जीवों में देहगुहा नहीं पायी जाती है?

- (a) Platyhelminthes/प्लेटीहेल्मिंथिस
- (b) Annelida/एनेलिडा
- (c) Mollusca/मोलस्का
- (d) Echinodermata/इकाइनोडर्मेटा

BHU NURSING 2013

Ans. (a) : The animal phylum that does not possess a coelom is platyhelminthes. Platyhelminthes is also known as flatworms are acelomate animals i.e., they lack a body cavity between the digestive tract and the outer body wall.

78. Silk is produced by:

सिल्क (रेशम) का उत्पादन किसके द्वारा होता है?

- (a) Egg of silkworm/रेशम के कीड़े का अण्डा
- (b) Pupa of silworm/रेशम की कीड़े का कोषस्थ कीट (प्यूपा)
- (c) Larva of silkworm/रेशम के कीड़े का डिम्बक (लार्वा)
- (d) Insect itself/स्वयं रेशम के कीड़े द्वारा

UTTARAKHAND GNM 2022

Ans. (c) : Silk is produced by the larva of the silkworm. After hatching from the egg, the larva feeds on mulberry leaves and the larva secretes a protein from its salivary glands, which hardens into silk threads when exposed to air. These threads are used by silkworm to create a protective cocoon around itself before, it transforms into a pupa.

79. Which of the following is primarily composed of calcium carbonate?

निम्न में से कौन मुख्यतः कैल्शियम कार्बोनेट से बना है?

- (a) Fish scales/मछली की पपड़ी (ऊपरी सतह)
- (b) Shark teeth/शार्क के दाँत
- (c) Oyster shells/सीप खोल
- (d) Whale bones/हवेल की हड्डी

UTTARAKHAND GNM 2022

Ans. (c) : Oyster shells are mainly made of calcium carbonate, a substance that provides strength and protection. This material forms the hard outer layer of the shell, helping the oyster protect itself from predators and environmental factors.

80. Life span of crocodile is..... years.

मगरमच्छ का जीवन काल वर्ष होता है।

- (a) 15
- (b) 40
- (c) 60
- (d) 90

JHARKHAND B.Sc NURSING 2018

Ans. (c) : Crocodiles typically live around 60 years due to their resilience, strong physiology and adaptability to aquatic habitats, though their lifespan varies slightly among species and environmental conditions.

81. Which of the following is incorrectly matched? निम्न में से कौन सा असत्य सुमेलित है?

- (a) Body surface is distinctly marked into segments→Phylum Annelida/खंडों में निकाय पृष्ठ पृथकतः चिह्नित होता है→ समुदाय एनेलिडा
- (b) Presence of jointed appendages→ Phylum Arthropoda/संयुक्त उपांगों की उपस्थिति→ समुदाय आर्थ्रोपोडा
- (c) Presence of rasping organ called radula→Phylum Mollusca/रेडूला नामक रेतीले अंग की उपस्थिति→ समुदाय मोलस्का
- (d) Bioluminescence, property to emit light→Phylum Cnidaria/प्रकाश उत्सर्जित करने का जीवदीप्तिगुण→ समुदाय निडेरिया

JHARKHAND B.Sc NURSING 2018

Ans. (d) : Bioluminescence, the ability to emit light, is commonly found in organisms from Phylum Ctenophora (comb jellies) and some arthropods, to in all Cnidarians. While some Cnidarians like jellyfish exhibit bioluminescence, it is not characteristic of the entire phylum.

82. Alligator belongs to class
मगरमच्छ..... वर्ग से आता है।

- (a) Aves/पक्षी
- (b) Mammalia/स्तनधारी
- (c) Reptilia/रेंगनेवाली जीव
- (d) Pisces/मत्स्यवर्ग

JHARKHAND B.Sc NURSING 2018

Ans. (c) : Alligators are reptiles, characterized by scaly skin, cold-blooded metabolism and laying eggs, belonging to the Reptilia class.

83. According to the amount and distribution of yolk in an egg, the eggs of amphibians are:
एक अंडे में जर्दी की मात्रा और वितरण के अनुसार उभचरों के अंडे होते हैं:

- (a) Alecithal and centrolecithal/
एलेसिथल और सेंट्रोलीसिथल
- (b) Microlecithal and telolecithal/
माइक्रोलेसिथल और टेलोलेसिथल
- (c) Mesolecithal and telolecithal/
मेसोलेसिथल और टेलोलेसिथल
- (d) Mesolecithal and isolecithal/
मेसोलेसिथल और आइसोलेसिथल

RUHS NURSING 2019

Ans. (c) : Amphibian eggs are classified as mesolecithal because they contain a moderate amount of yolk and they are considered telolecithal because the yolk is concentrated towards one pole of the egg.

84. Ichthyology is the study of-
इक्थियोलॉजी अध्ययन है-

- (a) Fishes/मछलियों का
- (b) Amphibians/उभयचरों का
- (c) Reptiles/सरीसृपों का
- (d) Aves/पक्षियों का

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Ans. (a) : Ichthyology is the branch of zoology that deals with the study of fishes. The term "ichthyology" is derived from the Greek word "ichthys", meaning "fish".

85. Which one of these animals is not a homeotherm?
निम्नलिखित में से कौन सा जन्तु समतापी नहीं है?

- (a) Camelus/कैमेलस
- (b) Chelone/कीलोन
- (c) Macropus/मैक्रोपस
- (d) Psittacula/सिटैकुला

HBNU B.Sc NURSING 2020

Ans. (b) : Chelone refers to sea turtles, which are reptiles and are poikilotherms. Homeotherms are animals that can maintain a stable internal body temperature regardless of external environmental conditions.

86. Which movement is seen in Paramecium?
पैरामीशियम में कौन-सी हलचल देखी जाती है?

- (a) Flagellar/कशाभिकीय
- (b) Amoeboid/अमीबॉइड
- (c) Ciliary/पक्षमाभिकीय
- (d) Pseudopodia/स्यूडोपोडिया

UPMSU B.Sc NURSING 2020

Ans. (c) : The movement in Paramecium is achieved through cilia, small hair-like structures that cover its body surface. This type of movement is called ciliary movement.

87. Spongilla is an example of:
स्पोंजिला इसका एक उदाहरण है:

- (a) Porifera /पोरिफेरा
- (b) Cnidaria/निडारिया
- (c) Coelenterata/सीलेन्टरेटा
- (d) Annelida/एनेलिडा

MP PNST 09.07.2023 SHIFT I

Ans. (a) : Spongilla is a freshwater sponge which belongs to the phylum porifera these organisms are characterized by a porous body and a simple body structure, lacking true tissues and organs they filter through their pores to obtain food.

88. Ornithology describes about:
ऑर्निथोलॉजी किसके बारे में वर्णन करता है?

- (a) Cow/गाय
- (b) Birds/पक्षी
- (c) Insects/कीड़े
- (d) Snakes/सांप

BHU B.Sc NURSING 2019

Ans. (b) : Ornithology is the study of birds, including their behavior, physiology, ecology and conservation, to understand species and ecosystems.

89. Which of the following statements are not true regarding Ammonia?

निम्नलिखित में से कौन सा कथन अमोनिया के संबंध में सत्य नहीं है?

- (a) It is readily soluble/यह आसानी से घुलनशील है।
- (b) It is generally excreted by diffusion across body surfaces or through gill surfaces (in fish)/यह आसानी से अमोनिया आयनों के रूप में शरीर की सतह या मछलियों के क्लोम (गिल) की सतह से विसरण द्वारा उत्सर्जित हो जाते हैं।
- (c) Kidneys play a significant role in its removal/ इसे दूर करने में किडनी की अहम भूमिका होती है।
- (d) The process of excreting ammonia is Ammonotelism/अमोनिया के उत्सर्जन की प्रक्रिया अमोनियोत्सर्ग है।

MP PNST 09.07.2023 SHIFT I

Ans. (c) : Ammonia (NH₃) is primarily excreted by diffusion across the body surface or gill surfaces in organisms like fish. It is not significantly removed by kidneys instead mammals and birds use kidneys for excreting urea not ammonia.

Diversity in Living World

1. Cell wall of Gram-positive bacteria consists mostly of

ग्राम-पॉजिटिव बैक्टीरिया की कोशिका भित्ति में अधिकांशतः क्या होता है?

- (a) Chitins/काइटिन्स
- (b) Cellulose and hemicellulose/सेल्यूलोज और हेमीसेल्यूलोज
- (c) Peptidoglycan and teichoic acid/पेप्टिडोग्लाइकन और टेकोइक एसिड
- (d) Lipopolysaccharides/लिपोप्लाइसेकेराइड्स

WB-JENPAS-2024

Ans. (c) : Gram-positive bacteria have a thick cell wall composed mainly of multiple layers of peptidoglycan, which provides structural strength. Teichoic acids are embedded in the peptidoglycan, contributing to the cell wall's rigidity and important in cell wall maintenance and regulation of cell growth.

2. Which of the following is rich in protein?
निम्नलिखित में से किसमें प्रचुर मात्रा में प्रोटीन होता है?

- (a) Ulothrix/यूलोथ्रिक्स
- (b) Nostoc/नॉस्टाक
- (c) Chlorella/क्लोरेला
- (d) Spirogyra/स्पाइरोगाइस

HNBUMU BSc. Nursing-2023

Ans. (c) : Chlorella, a type of green unicellular algae, is well-known for its high protein content and is often used as a dietary supplement. It can be consumed by astronauts, which reduces the need to transport food into space.

3. Consider the following statements about a kingdom:

एक जगत के बारे में निम्नलिखित कथनों पर विचार करें:

1. It includes multicellular or many-celled organisms/इसमें बहुकोशिकीय या कई कोशिका वाले जीव शामिल हैं।
2. The body is made of network (mycelium) of fine threads called hyphae/ इनके शरीर हाइफा (माइसीलियम) नामक महीन धागों के जाल से बने होते हैं।

Which of the following is an organism belonging to this kingdom?

निम्नलिखित में से कौन इस राज्य से संबंधित जीव है?

- (a) Amoeba/अमीबा
- (b) Chlamydomonas/क्लैमाइडोमोनास
- (c) Mycobacterium/माइकोबैक्टीरियम
- (d) Mushroom/मशरूम

MP-PNST-08.07.2023, Shift-II

Ans. (d) : These statements describes the characteristics of fungi. Mushroom belongs to the kingdom Fungi, which includes multicellular organisms with a body made of a mycelium (a network of hyphae).

4. Mucor is-/म्यूकर है-

- (a) Fungi / कवक
- (b) Algae / शैवाल
- (c) Bacteria / बैक्टीरिया
- (d) Virus / विषाणु

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Ans. (a) : Mucor is classified as a fungus. It belongs to the group of fungi known as zygomycetes and is commonly found in soil, plant debris and decaying organic matter. Mucor species can sometimes cause infections in humans, particularly in those with weakened immune systems.

5. Leptothrix is an example of which of the following ?

लेप्टोथ्रिक्स निम्न में से किसका उदाहरण है ?

- (a) Sulphur Bacteria / सल्फर जीवाणु
- (b) Iron Bacteria / लौह जीवाणु
- (c) Hydrogen Bacteria / हाइड्रोजन जीवाणु
- (d) Nitrogen Bacteria / नाइट्रोजन जीवाणु

CG BSc. Nursing-2021

Ans. (b) : *Leptothrix* is an example of iron bacteria. These bacteria oxidize iron to obtain energy, often creating deposits of iron oxides. *Leptothrix* species, like (*Leptothrix ochracea*), are known for their filamentous growth and involvement in iron oxidation processes in aquatic environments.

6. Which of the following granules are present in cyanobacteria?/सायनोजीवाणुओं में निम्नलिखित में से कौन-सी कणिकाएँ पायी जाती है?

- (a) Polyglucan/पॉलीग्लूकॉन
- (b) Carboxysomes/कार्बोक्सीसोम
- (c) Gas Vacuoles/गैस रिक्तिका
- (d) All the above/उपरोक्त सभी

CG BSc. Nursing-2019

Ans. (d) : Cyanobacteria contain granules such as polyglucan, carboxysomes and gas vacuoles. These structures serve various function, including carbon fixation and buoyancy regulation.

7. Bacteriophage attacks which of the following? जीवाणुभोजी किस पर आक्रमण करता है?

- (a) Plant cell/पादप कोशिका
- (b) Animal cell/जन्तु कोशिका
- (c) Bacteria/जीवाणु
- (d) Mycoplasma/माइकोप्लाज्मा

CG BSc. Nursing-2019

Ans. (c) : A bacteriophage specifically attacks on bacteria. It is a type of virus that infects bacterial cells by injecting its genetic material, which then replicates within the host, eventually causing the bacteria to burst and release new phages.

8. **Coenogametes are formed in which of the following ?**

किसमें संयुग्मक का निर्माण होता है?

- (a) Funaria/फ्यूनेरिया
- (b) Mucor/म्यूकर
- (c) Spirogyra/स्पाइरोगायरा
- (d) Selaginella/सिलेजिनेला

CG BSc. Nursing-2019

Ans. (b) : Coenogametes are multinucleate gametes typically formed in Mucor, a type of fungus. These gametes result from the fusion of gametangia, leading to the formation of a multinucleate zygospore.

9. **Gram staining identifies bacteria into gram positive and gram negative on the basis of:**

ग्राम अभिरंजन जीवाणु को निम्न के आधार पर ग्राम धनात्मक और ग्राम ऋणात्मक में पहचानता है:

- (a) Cell wall/कोशिका भित्ति
- (b) Cytoplasm/कोशिका द्रव्य
- (c) Granules in the cytoplasm/कोशिका द्रव्य (साइटोप्लाज्म) में कणिकाएँ
- (d) All of these/उपर्युक्त सभी

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (a) : Gram staining differentiates bacteria based on cell wall composition. Grampositive bacteria retain the crystal violet stain due to a thick peptidoglycan layer, while gramnegative bacteria have a thinner layer, not retaining the stain, differentiating them accordingly.

10. **Viruses are exclusively _____.**

वायरस (विषाणु) विशेष रूप से _____ होते हैं।

- (a) saprophytes/मृतजीवी
- (b) parasites/परजीवी
- (c) all of these/उपर्युक्त सभी
- (d) autotrophs/स्वपोषित

MP-GNTST/PNST-08.07.2019, Shift-I

Ans. (b) : Viruses are exclusively parasites. They cannot reproduce or carry out metabolic processes on their own and must infect a host cell to replicate and propagate. Unlike saprophytes (which decompose dead matter) and autotrophs (which produce their own food), viruses rely entirely on a host organism for survival and reproduction, filling the definition of parasites.

11. **Fried egg shaped colonies are formed by तले हुए अण्डे जैसी मण्डल (कॉलोनी) का निर्माण किया जाता है**

- (a) Mycoplasma / माइकोप्लाज्मा द्वारा
- (b) L - form bacteria / एल-फॉर्म बैक्टीरिया द्वारा
- (c) Both A and B / A तथा B दोनों सही
- (d) Bacteriophages / जीवाणुभोजियो द्वारा

CG BSc. Nursing-2018

Ans. (a) : Fried egg-shaped colonies are typically formed by *Mycoplasma* species. *Mycoplasma* are bacteria that lack a cell wall, which gives them a unique appearance when cultured on solid media. Their colonies often spread out flat and have a central dome-like elevation resembling the appearance of a fried egg.

12. **Which of the following is true for TMV (Tobacco Mosaic Virus)?**

टोबैको मोजैक वायरस (TMV) के संबंध में निम्न में से क्या सही है?

- (a) It has double-stranded RNA as genetic material / इनमें आनुवंशिक पदार्थ के रूप में द्विसूत्रीय आर.एन.ए. होता है
- (b) It has single-stranded RNA as genetic material / इनमें आनुवंशिक पदार्थ के रूप में एकसूत्रीय आर.एन.ए. होता है
- (c) It has single- stranded DNA as genetic material / इनमें आनुवंशिक पदार्थ के रूप में एकसूत्रीय डी.एन.ए. होता है
- (d) It has an envelope around its capsid / इनमें केप्सिड एक आवरण द्वारा घिरा होता है

CG BSc. Nursing-2018

Ans. (b) : Tobacco mosaic virus (TMV) has single-stranded RNA (sRNA) as its genetic material. TMV is one of the most well known plant viruses and its RNA serves as the template for both the replication of the viral genome and the production of viral proteins.

13. **The murein found in bacterial cell is -**

जीवाणु कोशिका में पाया जाने वाला म्यूरिन होता है

- (a) Derivative of protein / प्रोटीन का व्युत्पन्न
- (b) Derivative of fat / वसा का व्युत्पन्न
- (c) Derivative of organic acids/कार्बनिक अम्ल का व्युत्पन्न
- (d) Derivative of sugars / शर्करा अम्ल व्युत्पन्न

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (d): The murein found in bacterial cell is derivative of sugars. Murein or mucopeptide, is a polymer composed of N-acetylglucosamine (NAG) and N-acetylmuramic acid (NAM). It is responsible for rigidity and shape of bacterial cells and protects them from osmotic disruption.

14. Which of the following represents obligate anaerobes?/निम्न में से कौन - सा अनिवार्य अवायवीय (obligate anaerobes) है-

- (a) Spirogyra/स्पाइरोगाइरा
- (b) Pisum sativum/पाइसम सटाइवम
- (c) Onion / प्याज
- (d) Methane bacteria / मीथेन जीवाणु

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (d): Methane bacteria are obligate anaerobes that can only survive in environments without oxygen, using alternative metabolic pathways.

15. Gram + ve bacteria have-
ग्राम पॉजिटिव बैक्टीरिया में-

- (a) Thick and homogeneous cell walls / मोटी तथा होमोजीनियस कोशिका भित्ति उपस्थित होती है
- (b) As much as 70% peptide molecules / लगभग 70% पेप्टाइड अणु होते हैं
- (c) Either no lipids or less than 10% lipids / लिपिड्स नहीं होते या 10% से कम लिपिड्स होते हैं
- (d) All the above / उपरोक्त में से सभी

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (d) : Gram + ve bacteria have thick and homogeneous cell walls rich in peptidoglycan, contain approximately as 70% peptide molecules and possess little to no lipids, contributing to their structural integrity.

16. Which group of bacteria is known as Ray-fungus?
जीवाणुओं के किस समूह को रश्मि कवक (Ray-fungus) कहा जाता है-

- (a) Mycobacteria / माइकोबैक्टीरिया
- (b) Mycoplasma/माइकोप्लाज्मा
- (c) Actinomycetes/एक्टिनोमाइसिटीज
- (d) Myxobacteria/मिक्सोबैक्टीरिया

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (c): The group of bacteria known as "Ray -fungus" refers to Actinomycetes. These are filamentous bacteria that resemble fungi in their appearance, hence the term "Ray-fungus". They are characterized by their branching filamentous structures and are known for producing antibiotics and enzymes of medical importance.

17. Which of the following is a photo-autotrophic bacterium?
प्रकाशीय स्वपोषी (फोटो ऑटोट्रोफिक) जीवाणु कौन-सा है?

- (a) Rhodospirillum / रोडोस्पाइरिलम
- (b) Azospirillum / एज़ोस्पाइरिलम
- (c) Nitrosomonas / नाइट्रोसोमोनास
- (d) Nitrobacter / नाइट्रोबैक्टर

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (a) : Rhodospirillum belongs to anaerobic photo-autotrophic, free-living nitrogen-fixing bacteria. It is a facultative anaerobe, meaning it can use different metabolic pathways under low oxygen conditions.

18. Viruses:/वायरस :

- (a) Possess their own metabolic system / मे स्वयं का उपापचयी तंत्र पाया जाता है
- (b) Contain either DNA or RNA / में DNA या RNA पाया जाता है
- (c) Are facultative parasites / विकल्पी परजीवी होते हैं
- (d) Are readily killed by antibiotic / प्रतिजैविक द्वारा मारे जाते हैं

MP-GNTST/PNST-2014

Ans. (b) : Viruses contain either DNA or RNA as their genetic material. They lack a metabolic system, making them dependent on host cells for replication. They are obligate parasites and are not affected by antibiotics, which target bacterial functions.

19. Which of the following is an edible ascomycetes?
निम्न में से कौन-सा खाने योग्य एस्कोमायसीटीज है?

- (a) Morel + Mushroom / मोरल + मशरूम
- (b) Puffball + Mushroom / पफबॉल + मशरूम
- (c) Morel + Truffle / मोरल + ट्रफल
- (d) Truffle + Toadstool/ट्रफल + टोडस्टूल

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (c): Morels and truffles are both edible ascomycetes belonging to the phylum Ascomycota. Morels have a honeycomb-like structure and truffles are underground fungi known for their aromatic flavor. In contrast, mushrooms and puffballs belong to phylum Basidiomycota, and toadstools are typically poisonous.

20. Select the correct statement below for kingdom Fungi

कवक जगत के लिए नीचे दिए गए सही कथन का चयन कीजिए।

- (a) Certain fungi are natural sources of antibiotics/कुछ कवक प्रतिजैविक का प्राकृतिक स्रोत है
- (b) The fungal life cycle involves a spore stage /कवकीय जीवन चक्र में बीजाणु अवस्था होती है
- (c) Some fungi form suitable associations with plants/कुछ कवक पादपों के साथ उपयुक्त अन्तर्सम्बन्ध बनाते हैं
- (d) All of the above/उपरोक्त सभी

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (d) : Certain fungi, such as Penicillium, are natural sources of antibiotics. The spore stage is indeed part of the fungal life cycle. Additionally, many fungi form beneficial associations with plants such as mycorrhizae, enhancing nutrient uptake.

21. Which polysaccharide is present in the cell wall of fungi?
कवक की कोशिका भित्ति में कौन-सा पॉलीसैकेराइड होता है?
- (a) Silica/सिलिका (b) Pectin/पेक्टिन
(c) Cellulose/सेलुलोज (d) Chitin/काइटिन

MP-GNTST/PNST-10.06.2018, Shift-I

Ans. (d) : The polysaccharide present in the cell wall of fungi is chitin. Chitin is a long-chain polymer of N-acetylglucosamine, providing structural support and rigidity to fungal cells walls. Unlike plants, which have cellulose in their cell walls, fungi rely on chitin for protection and maintaining cell shape.

22. Thigmotaxis is not shown by which?
स्पर्शानुचलन (Thigmotaxis) किसके द्वारा नहीं दर्शायी जाती है?
- (a) Paramecium/पैरामीशियम
(b) Amoeba/अमीबा
(c) Ascaris/एस्कैरिस
(d) Hydra/हाइड्रा

MP-GNTST/PNST-2020

Ans. (c) : Thigmotaxis refers to an organism's response to touch or physical stimuli. Paramecium and Hydra demonstrate thigmotaxis through their movements in response to contact with surfaces. Amoeba also shows this behavior as it changes shape. However, Ascaris a roundworm, lacks this response, as it primarily moves through muscular contractions.

23. Clamp connection is found in क्लैम्प कनेक्शन पाया जाता है
- (a) In basidiomycetes/बेसिडियोमाइसीट्स में
(b) In zygomycetes/जाइगोमाइसीट्स में
(c) In ascomycetes/एस्कोमाइसीट्स में
(d) In oomycetes/ऊमाइसीट्स में

MP-GNTST/PNST-2020

Ans. (a) : Clamp connection is mainly found in basidiomycetes. It is a special type of structure that arises during the development of fungi at the dikaryon stage. Clamp connection is a special cell structure that coordinates two nuclei during this stage. It is a type of division in which one nucleus approaches the other so that they fuse together to form a new cell.

24. A bacterium divides every 35 minutes it 10 cells/ml culture is grown what will be the concentration of cell in one ml after 175 minutes?
एक जीवाणु प्रत्येक 35 मिनट बाद विभाजित होता है। यदि 10^5 कोशिकाएँ/मिली संवर्धन को उगाया जाता है तो 175 मिनट के बाद एक मिली में कोशिकाओं की सान्द्रता कितनी होगी?
- (a) 175×10^5 (b) 125×10^5
(c) 48×10^5 (d) 32×10^5

MP-GNTST/PNST-2020

Ans. (d) : To solve this, let's determine how many times the bacterium divides in 175 minutes -

- Each bacterium divides every 35 minutes.
 - Total times = 175 minutes
 - Number of divisions = $175 \div 35 = 5$ division.
- ∴ The initial concentration is 10^5 cells per ml. After each division, the number of cells doubles.
Final concentration = $10^5 \times 2^5 = 10^5 \times 32$

25. Virus/वायरस

- (a) Has its own metabolic system/में स्वयं का उपापचयी तन्त्र पाया जाता है
(b) DNA or RNA is found in/में DNA या RNA पाया जाता है
(c) Obligate parasites/विकल्प परजीवी होते हैं
(d) Are killed by antibiotics/प्रतिजैविक द्वारा मारे जाते हैं

MP-GNTST/PNST-2015

Ans. (b) : The genetic material in a virus can be either DNA or RNA. This genetic material allows the virus to enter the host cell and replicates itself, thereby spreading the infection.

26. Lomasomes of fungi are related to- कवक के लोमासोम सम्बन्धित होते हैं

- (a) Cell enlargement/कोशिका विवर्धन में
(b) Cell expansion/कोशिका विस्तृतीकरण में
(c) To increase the surface area for diffusion of substances used in cell membrane formation or breakdown/कोशिका भित्ति निर्माण अथवा खण्डन में प्रयुक्त पदार्थों के विसरण के लिए सतही क्षेत्रफल में वृद्धि के लिए
(d) All of the above/उपरोक्त सभी

MP-GNTST/PNST-2015

Ans. (c) : Lomasomes of fungi are related to the increase in surface area for diffusion of substances used in cell wall formation or breakdown. The cell wall of fungi is composed of chitin, and lomasomes are membrane bound structures which helps in transport of materials required for cell wall process.

27. Mycoplasma do not contain: माइकोप्लाज्मा में नहीं पाया जाता है:

- (a) Cell membrane / कोशिका झिल्ली
(b) Cell wall / कोशिका भित्ति
(c) DNA / डी.एन.ए.
(d) Cytoplasm / कोशिका द्रव्य

MP-GNTST/PNST-2014

Ans. (b) : Mycoplasma lack a cell wall, making them unique among bacteria. This absence allows them to have varied shapes and makes them resistant to antibiotics that target cell wall synthesis, such as Penicillin. They still have a cell membrane, DNA and cytoplasm.

28. The bacteria which lacks flagella and moves by gliding are included in-
ऐसे जीवाणु जिनमें फ्लैजेला अनुपस्थित होते हैं और जो ग्लाइडिंग द्वारा गति करते हैं, को किस समूह में रखते हैं

(a) Spirochaetes /स्पाइरोकीट्स
(b) Rickettsia /रिकेट्सिया
(c) Myxobacteria /मिक्सोबैक्टीरिया
(d) Eubacteria /यूबैक्टीरिया

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (c): Myxobacteria are a group of bacteria that lack flagella and exhibit gliding motility. They are known for their social behavior, forming multicellular structures under certain conditions. This gliding motility allows them to swarm and aggregate, which is distinct from the flagella - driven movement seen in other bacteria.

29. Paracoccus is -
पेराकोक्स होता है -

(a) Aerobic bacteria / ऑक्सी जीवाणु
(b) Anaerobic bacteria / अनॉक्सी जीवाणु
(c) Both of the above / उपरोक्त दोनों
(d) None of the above / उपरोक्त में से कोई नहीं

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (a) : Paracoccus is an aerobic bacteria in the family Rhodobacteraceae. It is typically a rod-shaped bacterium but assumes spherical shapes during the stationary phase. Paracoccus bacteria produce energy using oxygen, are aerobic bacteria.

30. Life span of Crow is:
कौवे का जीवन काल होता है:

(a) 1—2 week/ 1—2 सप्ताह
(b) 100 years/100वर्ष
(c) 15 years/ 15 वर्ष
(d) 60 years/60 वर्ष

AMRU B.Sc NURSING 2023

Ans. (c) : The average lifespan of a crow is approximately 15 years. While some species of crows may live longer, particularly in captivity, they typically survive around this time in the wild, due to natural challenges.

31. Example of Fungi imperfect is:
इनमें से कौन अपूर्ण कवक का उदाहरण है?

(a) Alternaria/अल्टरनेरिया
(b) Saprolegnia/सैप्रोलेग्निया
(c) Rhizopus/राइजोपस
(d) Peziza/पेज़ाइज़ा

BHU B.Sc NURSING 2019

Ans. (a) : *Alternaria* is an imperfect fungus (Deuteromycota) that reproduces asexually through conidia, lacking a known sexual reproduction phase. It is commonly found on decaying organic matter and in plant pathogens.

32. Edible mushroom is:
खाने योग्य मशरूम कौन-सा है?

(a) Pleurotus/प्लुरोटस
(b) Polyporus/पॉलीपोरस
(c) Chlorella/क्लोरेला
(d) Spirulina/स्पाइरुलिना

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Ans. (a) : Pleurotus (oyster mushrooms) are edible, nutritious and commonly used in cooking. They are rich in protein, vitamins and minerals, making them a popular choice for healthy meals and culinary dishes.

33. Volatile oil is isolated from:
वोलाटाइल तेल किससे निकलता है?

(a) Vetiver/वेटीवेरा
(b) Dendrocalamus/डेन्ड्रोकैलेमस
(c) Asparagus/ऐस्पैरैगस
(d) Smilax/स्माइलेक्स

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Ans. (a) : Volatile oil is extracted from the roots of *Vetivera* (*vetiver*), a plant known for its aromatic properties. The oil is used in perfumes and aromatherapy due to its soothing and earthy fragrance.

34. Ascocarp found in :
ऐस्कोकार्प किसमें मिलता है?

(a) Bacteria/जीवाणु (बैक्टीरिया) में
(b) Actinomycetes/एक्टिनोमाइसीटीज में
(c) Fungi/कवक में
(d) Bryophytes/ब्रायोफाइट्स में

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Ans. (c) : Ascocarp is structure in ascomycete fungi where sexual reproduction occurs. It contains asci, sac-like structures that produce ascospores. This is characteristic of the Ascomycota group of fungi.

35. Heterocyst helps in:
हेटेरोसिस्ट किसमें सहायक है?

(a) Nitrogen fixation/नाइट्रोजन स्थिरीकरण में
(b) Photosynthesis/प्रकाश संश्लेषण में
(c) Protein synthesis/प्रोटीन निर्माण में
(d) Nucleic acid synthesis/न्यूक्लिक अम्ल निर्माण में

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Ans. (a) : Heterocysts are specialized cells in cyanobacteria that provide an anaerobic environment for nitrogen fixation. They convert atmospheric nitrogen into ammonia, a form usable by the organism for growth and metabolism.

36. Which one is obligate parasite?
इनमें से कौन अविकल्पी परजीवी (आब्लीगेट पैरासाइट) है?

(a) Volvox/वालवाक्स
(b) Rhizopus/राइजोपस
(c) Funaria/फ्यूनेरिया
(d) Puccinia/पक्सीनिया

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Ans. (d) : *Puccinia* is an obligate parasite, relying entirely on its host for survival and reproduction. It infects plants, causing diseases like wheat rust and cannot grow or reproduce without a host.

37. Which one of the following found both in plant and animal?

निम्नलिखित में से कौन-सा पौधे और पशु दोनों में पाया जाता है?

- (a) Mitochondria/माइटोकॉन्ड्रिया
- (b) Tonoplast/टोनोप्लास्ट
- (c) Centriole/सेंट्रीओल
- (d) Chlorophyll/क्लोरोफिल

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Ans. (a) : Mitochondria are present in both plant and animal cells, producing ATP through cellular respiration. They supply energy for cellular activities, unlike tonoplast, chlorophyll or centrioles, which are specific to certain cell types.

38. Viruses replicates on:

वायरस प्रतिकृति बनाता है:

- (a) Agar gel/अगारजेल
- (b) Dead tissue/मृत ऊतक
- (c) Living tissue/जीवित ऊतक
- (d) Only in culture media/केवल कल्चर मीडिया में

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Ans. (c) : Viruses are obligate parasites that lack cellular machinery for replication. They rely on infecting living cells, using the host's resources to reproduce, as they cannot replicate independently on non-living surfaces.

39. Characteristics of animal and plant are observed in:

जानवरों और पौधों की विशेषताएं देखी जाती है:

- (a) Amoeba/अमीबा में
- (b) Euglena/यूग्लीना में
- (c) Opalina/ओपलिना में
- (d) Paramecium/पैरामैशियम में

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Ans. (b) : Euglena is a unique organism that demonstrates characteristics of both plants and animals. It performs photosynthesis like plants due to chloroplasts and moves and ingests food like animals using flagella.

40. "Comma" shaped bacteria are known as :
'कॉमा' के आकार के बैक्टीरिया को किस नाम से जाना जाता है?

- (a) Coccus/कोकस
- (b) Spiral/स्पाइरल
- (c) Spirillum/स्पाइरिलम
- (d) Vibrio/विब्रियो

AMRU B.Sc NURSING 2021

Ans. (d) : *Vibrio* bacteria are characterized by their curved comma-like shape. They are a type of Gram-negative bacteria, often found in aquatic environments.

41. Which of the branch of botany deals with the study of fossilized plants of different geological periods?

वनस्पति विज्ञान की कौन-सी शाखा विभिन्न भूवैज्ञानिक काल के जीवाश्म पौधों के अध्ययन से संबंधित है?

- (a) Fossiology/जीवाश्म विज्ञान
- (b) Anatomy/शरीर रचना विज्ञान
- (c) Palaeobotany/पुरावनस्पति विज्ञान
- (d) Physiology/शरीर क्रिया विज्ञान

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Ans. (c) : The branch of botany that deals with the study of fossilized plants from different geological periods is palaeobotany.

- It involves studying ancient plant life to understand plant evolution and how past environmental conditions shaped plant species.

42. Which of the following is a component of bacterial flagellum?

निम्नलिखित में से कौन-सा जीवाण्विक कशाभिक का एक घटक है?

- (a) Filament/तंतु
- (b) Hook/अंकुश
- (c) Basal body/आधारी निकाय
- (d) All the above/उक्त सभी

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Ans. (d) : A bacterial flagellum is made up of three components : the filament (long, whip-like structure for movement), the hook (connects filament to the basal body) and the basal body (anchors the flagellum to the cell membrane).

43. Trichoderma helps in:

ट्राइकोडर्मा किसमें सहायता करता है?

- (a) Nitrogen fixation/नाइट्रोजन स्थिरीकरण में
- (b) Disease control/रोग नियंत्रण में
- (c) Pollination/परागण में
- (d) Gene transfer/जीन स्थानान्तरण में

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Ans. (b) : *Trichoderma* is a beneficial fungus used in agriculture for disease control. It suppresses plant pathogen by producing enzymes, antibiotics and outcompeting harmful microorganisms, promoting plant health and growth.

44. Amoeba reproduces by _____.
अमीबा का जनन किस प्रक्रिया से होता है?

- (a) Binary fission / द्विखंडन
- (b) Fragmentation / खंडन
- (c) Regeneration / पुनर्जनन
- (d) Vegetative propagation / कायिक प्रवर्धन

MP PNST 09.07.2023 SHIFT-II

Ans. (a) : Amoeba reproduces by binary fission, where the nucleus and cytoplasm divide, resulting in two identical daughter cells.

45. **Uptake of DNA from environment by a bacterial cell occurs during:**
जीवाणु द्वारा बाहरी वातावरण से डी.एन.ए. किस दौरान लिया जाता है?
- Conjugation / संयुग्मन
 - Transduction / पारक्रमण
 - Transfection / ट्रान्स्फेक्शन
 - Transformation / रूपान्तरण

BHU NURSING 2017

Ans. (d) : The uptake of DNA from the environment by a bacterial cell occurs during a process called transformation. During transformation, bacteria take up free DNA fragments or plasmids from their surroundings and incorporate them into their own genome. This process can be natural or induced in the laboratory for genetic manipulation.

46. **Which of the following kinds of asexual reproduction takes place in amoeba?**
अमीबा में निम्न में से किस प्रकार का अलैंगिक जनन होता है?
- Binary fission / द्विविभाजन
 - Budding / मुकुलन
 - Spore formation / बीजाणु गठन
 - Vegetative propagation / कायिक जनन

MP PNST 09.07.2023 SHIFT-II

Ans. (a) : Amoeba reproduces by binary fission, a type of asexual reproduction where the nucleus divides, followed by cytoplasmic division, producing two identical daughter cells capable of growing independently.

47. **Which form trans-membrane pores in bacterial cell?**
कौन-सा जीवाणु कोशिका में झिल्ली के आर-पार छेद करता है?
- NK cell/NK कोशिका
 - Complementary system/काम्पलीमेन्टरी तंत्र
 - B-lymphocyte/B- लिम्फोसाइट
 - NK cell and Complementary system both/NK कोशिका एवं काम्पलीमेन्टरी तंत्र दोनों

MP PNST 09.07.2023 SHIFT I

Ans. (d) : Both the complement system and NK cells can form trans-membrane pores in bacterial cells. The complement system creates pores through its components like C5b-9 and NK cells release cytotoxins that can induce pore formation in target cells leading to cell lysis.

48. **Viroids have**
वायरॉइड्स में-
- Single stranded RNA not enclosed by protein coat/ प्रोटीन कोट से घिरा हुआ नहीं होने वाला एकल स्ट्रैंडेड आर. एन. ए.
 - Single stranded DNA not enclosed by protein coat/प्रोटीन कोट से घिरा हुआ नहीं होने वाला एकल स्ट्रैंडेड डी. एन. ए.

- Double stranded DNA enclosed by protein coat/प्रोटीन कोट से घिरा हुआ डबल स्ट्रैंडेड डी.एन.ए.
- Double stranded RNA enclosed by protein coat/प्रोटीन कोट से घिरा हुआ डबल स्ट्रैंडेड आर.एन.ए.

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Ans. (a) : Viroids are the smallest known infectious agents, consisting solely of a short strand of circular, single-stranded RNA. They lack a protein coat, which differentiates them from viruses. Viroids primarily infect plants, causing various diseases, and replicate autonomously within the host cells.

49. **It is a saprophytic fungus, commonly known as "common pin mould" grows on animal dung, wet shoes, rotten fruit, decaying matter. Identify the fungal type?**
यह एक मृतोपजीवी कवक है जिसे आमतौर पर "कॉमन पिनमोल्ड" के रूप में जाना जाता है जो जानवरों के गोबर, गीले जूते, सड़े हुए फल, सड़ते हुए पदार्थ पर उगता है। कवक के प्रकार के प्रकार की पहचान करें?
- Albugo/एल्बुगो
 - Mucor/म्यूकर
 - Phytophthora/फाइटोफ्थोरा
 - Saprolegnia/सैप्रोलेग्निया

J&K NURSING 2021

Ans. (b) : Mucor is a saprophytic fungus that thrives on decaying organic matter like animal dung, rotten fruit and wet shoes. It is commonly referred to as "common pin mould" due to its appearance.

50. **Viruses of genus Nucleopolyhedrovirus are employed as:**
न्यूक्लियोपोलीहेड्रोवायरस वंश के विषाणुओं को किस रूप में नियोजित किया जाता है?
- Gobar gas producers/गोबर गैस उत्पादक
 - Biological control agents/जैविक नियंत्रण एजेंट
 - Atmospheric nitrogen fixers/वायु मण्डलीय नाइट्रोजन स्थिरीकरणकर्ता
 - Antibiotics/एंटीबायोटिक्स

HNBUMU B.Sc NURSING 15-6-2024

Ans. (b) : *Nucleopolyhedrovirus* are used as biological control agents to target and kill specific insect pests. These viruses infect insects reducing pest populations in agriculture without harming plants or the environment.

51. **Cell walls is absent in:**
कोशिकाभित्ति अनुपस्थित होती है-
- Nostoc/नॉस्टाक
 - Aspergillus/एस्पेरजिलस
 - Funaria/फ्यूनेरिया
 - Mycoplasma/माइकोप्लाज्मा

HBNU B.Sc NURSING 2017

Ans. (d) : Mycoplasma lacks a cell wall, which is unique among bacteria. This absence allows it to be flexible and resistant to antibiotics targeting cell wall synthesis. In contrast, Nostoc, Aspergillus and Funaria have cell walls.

52. Which of the following statements is incorrect? निम्नलिखित में से कौन सा कथन गलत है?

- (a) Viroids lack a protein coat/वाइरॉइड में प्रोटीन आवरण का अभाव होता है
- (b) Viruses are obligate parasites/विषाणु अनिवार्य रूप से परजीवी होते हैं
- (c) Infective constituent in viruses is the protein coat/विषाणुओं में संक्रामक संगठन प्रोटीन आवरण होता है
- (d) Prions consist of abnormally folded proteins/प्रियोन्स में अनियमित मुड़ी हुई प्रोटीन होती हैं

HBNU B.Sc NURSING 2020

Ans. (c) : The infective component of a virus is not the protein coat, but rather the nucleic acid (either DNA or RNA) enclosed within the protein coat. The protein coat, known as the capsid, protects the nucleic acid but is not the main infective agent itself.

53. Teichoic acid is present in टीकोइक अम्ल किसमें पाया जाता है।

- (a) Viroid / वाइरॉइड
- (b) Virus / विषाणु
- (c) Gram negative bacterium / ग्राम नेगेटिव जीवाणु
- (d) Gram positive bacterium / ग्राम पॉजिटिव जीवाणु

BHU NURSING 2016

Ans. (d) : Teichoic acids are found in the cell walls of Gram-positive bacteria, where they provide structural support and contribute to the bacterial cell's rigidity, helping in maintaining cell wall integrity.

54. Fungi without sexual or perfect stages are classified as: बिना लैंगिक या पूर्णवस्था वाले कवक किसमें वर्गीकृत किए गए हैं:

- (a) Phycomycetes / फाइकोमाइसिटीज
- (b) Dermatomyces / डर्मेटोमाइसिटीज
- (c) Deuteromycetes / ड्यूटेरोमाइसिटीज
- (d) Ascomycetes / ऐस्कोमाइसिटीज

BHU NURSING 2015

Ans. (c) : Fungi without sexual or perfect stages are classified as Deuteromycetes (Imperfect fungi). These fungi reproduce only asexually through conidia or other asexual spores as their sexual reproduction phase has not been observed or identified.

55. Select the incorrect statements regarding the characteristics of certain organism: कुछ विशिष्ट जीवों के संदर्भ में निम्नलिखित वक्तव्यों में से कौन-सा असत्य है:

- (a) Methanogens are archaebacteria which produces methane in marshy areas / मिथेनोजन, आद्यबैक्टीरिया है जो कच्चे क्षेत्र/दलदली भूमि में मिथेन उत्पन्न करता है
- (b) Nostoc is a filamentous blue green algae which fixes atmospheric nitrogen / नॉस्टोक एक नील हरित शैवाल है जो वायुमण्डीय नाइट्रोजन का स्थिरीकरण करती है

(c) Chemosynthetic autotrophic bacteria synthesize cellulose from glucose / रसायन संश्लेषी स्वपोषी बैक्टीरिया ग्लूकोज से सेल्यूलोस का संश्लेषण करती हैं

(d) Mycoplasma lack a cell wall and can survive without oxygen / माइकोप्लाज्मा में कोशिका भिती नहीं पाई जाती तथा आक्सीजन के बिना जीवित रह सकती है

BHU NURSING 2014

Ans. (c) : Chemosynthetic autotrophic bacteria do not synthesize cellulose from glucose. Instead, they use inorganic compounds (like hydrogen sulfide or ammonia) to produce organic compounds (such as glucose) through chemosynthesis. Cellulose is typically synthesized by plants and some bacteria, but chemosynthetic bacteria do not primarily produce it.

56. Viroids are: वायरॉइड होते हैं:

- (a) Infectious RNA / रोगजनक आर.एन.ए.
- (b) Virus / विषाणु
- (c) Proteins / प्रोटीन
- (d) Bacteria / जीवाणु

BHU NURSING 2014

Ans. (a) : Viroids are small, circular RNA molecules capable of causing diseases in plants. Unlike viruses, viroids do not have a protein coat and consist only of RNA. Therefore, they are considered infectious RNA rather than viruses or proteins.

57. What are disease-causing organisms called? रोग उत्पन्न करने वाले जीवों को क्या कहते हैं?

- (a) Host/मेजबान
- (b) Parasites/परजीवी
- (c) Pathogens/रोगजनक
- (d) Protists/प्रोटिस्ट

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Ans. (c) : Pathogens are organisms, such as bacteria, viruses, fungi are cause disease in their host organisms. These microorganisms can infect the body and disrupt normal physiological functions, leading to various diseases.

58. How do many single-celled organisms, such as Amoeba and Paramecium, reproduce? अमीबा और पैरामीशियम जैसे एककोशिकीय जीव कैसे प्रजनन करते हैं?

- (a) Sexual reproduction/लैंगिक प्रजनन
- (b) Budding/कालिकायन
- (c) Sporulation/स्पोरुलेशन
- (d) Binary fission/द्वि-विखंडन

JHARKHAND B.Sc NURSING 2023

Ans. (d) : Many single-celled organisms reproduce by binary fission, where a cell divides into two halves and each rapidly grows into an adult for example- Amoeba and paramecium.

5.

Morphology of Flowering Plants

1. **Stilt root is found in which of the following plants?**

स्टिल्ट जड़ निम्नलिखित में से किस पौधे में पाई जाती है?

- (a) *Mangifera indica*/मैंगीफेरा इंडिका
- (b) *Oryza sativa*/ओरिजा सैटिवा
- (c) *Ficus benghalensis*/फाइकस बेंगालेंसिस
- (d) *Pandanus tectorius*/पैंडनस टेक्टोरियस

WB-JENPAS-2024

Ans. (d) : Stilt roots, primarily found in *Pandanus tectorius*, provide structural support and stability in coastal environments. These aerial roots grow down from the trunk and branches into the ground, helping the plant withstand strong winds and flooding, making them survival in their native habitats.

2. **Spermology is the study of-**
स्पर्मोलॉजी अध्ययन है-

- (a) Fruits/फलों का
- (b) Leaves/पत्तियों का
- (c) Seed/बीजों का
- (d) Pollen grains/परागकों के का

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (c) : Spermology is the scientific study of seeds, focusing on their formation, structure and classification. It is a branch of botany that focuses on understanding the biological and ecological aspects of seed.

3. **The part of cauliflower that we eat is-**
फूलगोभी का वह भाग जो हम खाते हैं-

- (a) Leaf/पत्ती
- (b) Flower/फूल
- (c) Stem/तना
- (d) Inflorescence/पुष्पक्रम

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (d) : The edible part of cauliflower is the inflorescence, which is the cluster of immature flower buds. These buds form a dense white head called the curd, which we consume before the flowers fully develop. Unlike typical flowers, the buds remain compact and do not bloom, making the inflorescence the primary edible portion.

4. **The function of velamen is-**
वेलामेन का कार्य है-

- (a) Absorption of water from soil/मृदा से पानी का अवशोषण
- (b) Absorption of water from air/वायु से पानी का अवशोषण
- (c) Loss of water in the form of vapours/पानी का वाष्पीकरण होता है
- (d) Absorption of minerals from atmosphere/वातावरण से खनिजों का अवशोषण

MP-GNTST/PNST-08.07.2023, Shift-I

Ans. (b) : Velamen is a layer of spongy tissue found in the aerial roots of epiphytic plants, such as orchids. It functions primarily to absorb moisture from the air, allowing these plants to thrive in humid environments.

5. **A horizontal underground stem is a-**
क्षैतिज भूमिगत तना है-

- (a) Bulbils/प्रकलिका
- (b) Rhizome/प्रकंद
- (c) Offsets/भूस्तरिका
- (d) Root hairs/मूलरोम

MP-GNTST/PNST-08.07.2023, Shift-II

Ans. (b) : A rhizome is a horizontal underground stem capable of producing the shoot and root system of a new plant. It allows plants to spread laterally, producing new growth away from the parent plant. Examples include ginger and turmeric.

6. **Hypodermis of dicot stem is composed of-**
द्विबीजपत्री की अधिदर्म संघटित होती है

- (a) Bast fibres/बास्ट रेशे की
- (b) Parenchyma/मृदु ऊतक की
- (c) Sclerenchyma/दृढ़ोतक की
- (d) Collenchyma/स्थूलकोण ऊतक की

MP-GNTST/PNST-08.07.2023, Shift-II

Ans. (d) : In dicot stems, the hypodermis is typically composed of a layer of collenchyma cells. Collenchyma provides mechanical support and flexibility, helping the stem resist bending and stretching.

7. **Duramen is found in-**
ड्यूरामेन उपस्थित होता है-

- (a) Region of pericycle/परिरंभ के क्षेत्र में
- (b) Outer region of secondary wood/द्वितीयक काष्ठ के बाहरी क्षेत्र में
- (c) Part of sap wood/रसदारू के भाग में
- (d) Inner region of secondary wood/द्वितीयक काष्ठ के आंतरिक क्षेत्र में

MP-GNTST/PNST-08.07.2023, Shift-II

Ans. (d) : Duramen or heartwood is the central, older part of secondary xylem (wood) that is no longer actively involved in the conduction of water. It is typically darker in color and found in the inner region of secondary wood, surrounded by the younger, lighter coloured sapwood.

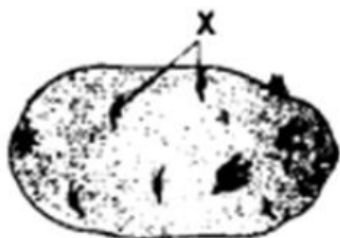
8. **Coralloid roots are-**
प्रवाल मूल होते हैं-

- (a) Apogeotropic/भूअपवर्ती
- (b) Positive geotropic/धनात्मक भूअभिवर्त
- (c) Phototropic/प्रकाशानुवर्ती
- (d) Aerial/वायवीय

MP-PNMP-GNTST/PNST-08.07.2023, Shift-II

Ans. (a) : Coralloid roots are modified roots that grow away from the gravitational pull of the earth, making them apogeotropic. These roots are typically found in Cycas plants. Instead of growing downward, they grow upward or sideways, away from the ground, which is opposite to the normal geotropic response (positive geotropism) seen in most roots.

9. Refer to the given figure and identify X in it.
दी गई आकृति का संदर्भ लें और उसमें X की पहचान करें।



- (a) Offset/ओफ़सेट (b) Eyes/आँखें
(c) Runner/हरकारा (d) Bulb/बल्ब

MP-PNMP-GNTST/PNST-08.07.2023, Shift-II

Ans. (b) : The eyes of a potato are the small sprouting buds on the surface of the potato. These eyes can grow into new potato plants and are crucial for the processes of vegetative reproduction in potatoes. When you see these eyes beginning to sprout, it indicates that the potato is ready to grow into a new plant under suitable conditions.

10. Which is odd one?
निम्न में से कौन-सा विषम है?

- (a) China rose / चायना रोज
(b) Maize / मक्का
(c) Mango / आम
(d) Sunflower / सूर्यमुखी

MP-GNTST/PNST-19.06.2016, Shift-I

Ans. (b): Maize is odd one because it is monocotyledonous plant, whereas China rose, mango and sunflower are dicotyledonous plants.

11. Which of the following is a monocarpic plant?
निम्नलिखित में से मोनोकार्पिक पौधा कौन-सा है?

- (a) Grape /अंगूर (b) Banana/केला
(c) Mango/आम (d) Pomegranate /अनार

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (b): Banana plants are monocarpic because they typically flower and bear fruit only once before dying. The main plant produces a single bunch of bananas and after fruiting, that particular plant dies off.

12. Heterostyly is shown by-
विषम वर्तिकात्व (हेटरोस्टाइली) किसके द्वारा प्रदर्शित होता है-

- (a) Primula /प्रिमुला
(b) Mirabilis /मिराबिलिस
(c) Helianthus /हेलियन्थस
(d) China rose /चायना रोज

MP-GNTST/PNST-19.06.2016, Shift-II

Ans. (a): Heterostyly is a phenomenon exhibited by plants like Primula, where different individuals within the species have flowers with different arrangement of stigma and anthers. This promotes cross-pollination and enhances genetic diversity.

13. Calyptra is a structure

केलिप्ट्रा ऐसी संरचना होती है जिसका निर्माण होता है -

- (a) Formed by the venter of the archegonia / आर्कीगोनिया की वेण्टर से
(b) Formed at the base of the antheridia / एन्थेरिडिया के आधार भाग से
(c) Formed in the centre of the capsule / कैप्सूल के मध्य भाग से
(d) Formed at the base of the leaves / पत्तियों के आधार भाग से

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (a) : Calyptra is a structure formed by the venter of the archegonia. The calyptra is generally found in the bryophytes and is an enlarged structure that protects the capsule which contains the embryonic sporophytes.

14. Bark and leaves of which of the following plants are used to store the clothes-

कपड़ों का भण्डारण करने के लिये किसकी छाल व पत्तियों का प्रयोग किया जाता है -

- (a) Euphorbia hirta / यूफोर्बिया हिरटा
(b) Euphorbia thymifolia / यूफोर्बिया थाइमीफोलिया
(c) Eclipta alba / इकलिप्टा एल्बा
(d) Azadirachta indica / एजाडिराक्टा इन्डिका

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (d) : The bark and leaves of *Azadirachta indica* (Neem) are traditionally used to store clothes. Neem leaves and bark have insecticidal and antimicrobial properties, helping to protect fabrics from pests like moths and silverfish.

15. Flower and lateral branches arise from the -
पुष्प और शाखायें उत्पन्न होती हैं -

- (a) Lateral buds / लेटरल बड से
(b) Lenticels / लेन्टिसेल से
(c) Stomata / स्टोमेटा से
(d) Cuticle / क्यूटिकल से

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (a) : Flowers and lateral branches arise from the lateral buds. These buds are located in the axis of the leaves and develop exogenously. They are different from lenticels, stomata and cuticle, which serve different functions.

16. Palm-like fleshy adventitious roots are the feature of -

पाम के समान मांसल अपस्थानिक जड़ें किस पौधे का लक्षण है-

- (a) Dahlia / डहेलिया
(b) Asparagus / एस्पैरैगस (सतावर)
(c) Curcuma / करकुमा
(d) Orchis / आर्किस

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (d) : Palm-like fleshy adventitious roots are the characteristics of Orchis. The swollen adventitious root develop finger-like outgrowths resembling the palm of human hand. For example, Orchis is a flowering plant that belongs to the Orchid family.

17. Middle lamella is a :/मिडिल लैमेला में होता है:

- (a) Chitin / काइटिन (b) Lignin / लिग्निन
(c) Pectin / पेक्टिन (d) Cellulose / सेल्यूलोज

MP-GNTST/PNST-19.06.2016, Shift-III

Ans. (c) : The middle lamella is a pectin-rich layer that binds the cell walls of adjacent plant cells. It is the outermost layer, forming the interface between plant cells and glues them together.

18. Ginger is/अदरक होता है-

- (a) Flower/ पुष्प
(b) Buds/ कलियाँ
(c) Modified root/रूपान्तरित जड़
(d) None of these/ इनमें से कोई नहीं

MP-GNTST/PNST-04.06.2017, Shift-I

Ans. (d) : Ginger is a type of modified stem known as a rhizome. A rhizome is a horizontal, underground stem that can produce roots and shoot. In ginger, this modified stem stores nutrients and helps the plant survive in adverse conditions.

19. Pneumatophores (aerial roots) are found in-न्यूमेटोफोर (वायवीय जड़े) पाई जाती है-

- (a) Tinospora/टीनोस्पोरा में
(b) Pinus/पाइनस में
(c) Mangrove trees/मैन्ग्रोव वृक्षों में
(d) None of these/उपरोक्त में से कोई नहीं

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (c): Pneumatophores (aerial roots) are found in mangrove trees. These specialized roots grow upward (perpendicular to the soil surface) to absorb oxygen as mangrove trees typically grow in waterlogged, oxygen-poor environments such as salt marshes.

20. Which of the following fruits is geocarpic (grows underground)?

निम्न में कौन-सा फल जियोकार्पिक (जमीन के अन्दर लगने वाला) है?

- (a) Potato/आलू (b) Peanuts/मूँगफली
(c) Onion/प्याज (d) Garlic/लहसुन

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (b): Peanut is geocarpic (underground) fruits, because pods develop inside the ground. Geocarpic is a rare method of plant reproduction where the plant produces diaspores inside soil.

21. Which of the following is an example of modified stem?

निम्न में से कौन रूपान्तरित तने का उदाहरण है?

- (a) Sugarcane/गन्ना (ईख) (b) Potato/आलू
(c) Onion/प्याज (d) All of these/ये सभी

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (d) : Sugarcane, potato, and onion are modified stems: sugarcane has a thick stem for storage, potatoes are tubers (swollen underground stems), and onions are bulbs (underground storage organs).

22. Clove is which part of the plant? लौंग पादप का कौन-सा भाग होता है?

- (a) Flower bud /पुष्पकली
(b) Thalamus of flower/पुष्प का आधार
(c) Anterior part/अग्रस्थ भाग
(d) Seeds/बीज

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (a) : Cloves are dried flower buds of the clove tree (*Syzygium aromaticum*). They are harvested before blooming and used as a spice, known for their strong flavor and aroma.

23. Plants produce seeds, but some also reproduce vegetatively

पादप बीज उत्पन्न करते हैं, परन्तु कुछ कायिक रूप से भी प्रजनन करते हैं

- (a) Potato/आलू (b) Neem/नीम
(c) Mango/आम (d) Sevanti/सेवन्ती

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (a) : Potatoes reproduce vegetatively using tubers, which are underground storage organs that can sprout and grow into new plants. In contrast, neem, mango, and sevanti primarily reproduce through seeds, which involve sexual reproduction and genetic variation.

24. What is the edible modified part to potato? आलू का खाने योग्य रूपान्तरित भाग क्या है?

- (a) Stem/तना (b) Bulb/बल्ब
(c) Stolon/स्टोलन (d) Root/जड़

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (a) : The edible part of the potato is the stem, specifically the tuber, which serves as an organ for storing nutrients and energy for the plant allowing it to survive adverse conditions. This adaptation helps the potato plant propagate and grow, making the tuber a key food source.

25. What is the upper surface of epiphyte roots called?

एपिफाइट जड़ों की ऊपरी सतह क्या कहलाती है?

- (a) Osmophore/ओस्मोफोर
(b) Rhizophore/राइजोफोर
(c) Velamen/वेलामेन
(d) Nematophore/निमेटोफोर

MP-GNTST/PNST-04.06.2017, Shift-III

Ans. (c) : The velamen is a specialized layer of spongy, waterproof tissue found in the aerial roots of epiphytes, such as orchids. It aids in water absorption and protection against desiccation, allowing these plants to thrive in humid environments by efficiently capturing moisture from the air.

26. On the leaves of which plant the stomata are present in almost equal numbers on the upper and lower surface?

किस पादप की पत्तियों पर रन्ध्र ऊपरी व निचली सतह पर लगभग समान संख्या में उपस्थित होते हैं?

- (a) Water lily/जल लिलि में
(b) Potamogeton/पोटोमोजीटोन में
(c) In wheat/गेहूँ में
(d) In potatoes/आलू में

MP-GNTST/PNST-2015

Ans. (c) : Wheat leaves have almost equal number of stomata on both upper and lower surfaces, which help in gas exchange.

27. In cactus, leaves are modified into?
नागफनी में पत्तियाँ रूपान्तरित होती है?

- (a) Spines/काँटे (b) Root/जड़
(c) Leaves/पत्तियाँ (d) Buds/कलियाँ

MP-GNTST/PNST-04.06.2017, Shift-II

Ans. (a) : In cactus, the leaves are transformed into spines to reduce water loss. The green stem of the cactus contains chlorophyll to perform photosynthesis. Cactus is a xerophytic plant that grows in dry areas.

28. Which of the following is **WRONGLY** paired?
निम्नलिखित में से कौन-सा गलत युग्मित है?

- (a) Water of coconut : free nuclear endosperm/
नारियल का पानी: मुक्त नाभिकीय भ्रूणपोष
(b) Kernel of coconut : cellular endosperm/नारियल
की गिरी: कोशिकीय भ्रूणपोष
(c) Scutellum : embryo of coconut/प्रशल्क: नारियल
का भ्रूण
(d) Shell of coconut : fused pericarp and testa/
नारियल का खोल: संगलीत फलभिन्ति (फ्यूस्ड पेरीकार्प)
और बीजचोल (टेस्टा)

MP-GNTST/PNST-07.07.2019, Shift-II

Ans. (c) : The wrongly paired option is Scutellum: embryo of coconut. The scutellum is actually a specialized type of cotyledon found in the seeds of grasses, such as maize and wheat, it is not a part of the coconut. The embryo of the coconut is found within the cellular endosperm (the kernel) of the coconut, not associated with the scutellum.

29. Name the family to which "Gossypium" belongs.
गॉसीपियम कौन-से कुल का सदस्य है।

- (a) Solanaceae/ सोलेनेसी
(b) Poaceae/पोएसी
(c) Malvaceae/मालवेसी
(d) Euphorbiaceae/ यूफोर्बियेसी

RUHS NURSING 2021

Ans. (c) : "Gossypium" or cotton, belongs to the Malvaceae family, which includes several economically important plants. This family is characterized by its flowering plants, including hibiscus and okra, alongside cotton.

30. Which of the following is/are used as green manures?

निम्नलिखित में से कौन सा हरी खाद के रूप में उपयोग किया जाता है?

- (a) *Crotolaria juncea*/क्रोटोलेरिया जुन्सिया
(b) *Melilotus parviflora*/मेलिलोटस परविफ्लोरा
(c) *Trifolium*/ट्राइफोलियम
(d) All of the above/ऊपर के सभी

RUHS NURSING 2019

Ans. (d) : *Crotolaria juncea*, *Melilotus parviflora* and *Trifolium* species are all commonly used as green manures. Green manuring involves growing specific plants to improve soil fertility, enhance soil structure and suppress weeds, when they are incorporated back into the soil.

31. Natural insecticide obtained from plants:
पौधों से प्राप्त प्राकृतिक कीटनाशक है:

- (a) *Azadirachta*/एजाडिरेक्टा
(b) Rotenone/रोटेनोन
(c) Pyrethrum and cinerin/पाइरेथ्रम और सिनेरिन
(d) All of the above/उपरोक्त सभी

RUHS NURSING 2019

Ans. (d) : *Azadirachta* : The Neem tree produces azadirachtins, a natural insecticide effective against many pests.

Rotenone: A compound obtained from the roots of certain plants, used to control insects.

Pyrethrum and Cinerin: Extracted from the flowers of *Chrysanthemum cinerariifolium*, and are widely used for their insecticidal properties.

32. The example of bulb is:
बल्ब का उदाहरण है:

- (a) Ginger/अदरक (b) Doob grass/दूब घास
(c) Onion/प्याज (d) Potato/आलू

MP PNST 09.07.2023 SHIFT-II

Ans. (c) : Onion is a bulb, consisting of layers that store food. It grows into a new plant through vegetative propagation.

33. Zigzag development of inflorescence axis is an example of -

पुष्पक्रमअक्ष का वक्र विकास उदाहरण है-

- (a) Scorpioid cyme / कुटिलससीमाक्ष
(b) Cyathium / साइथियम
(c) Corymb / समशिख
(d) Catkin / नतकणिश

MP PNST 09.07.2023 SHIFT-II

Ans. (a) : A scorpioid cyme has a zigzag inflorescence axis, created by alternating lateral flower growth. This pattern results in a curved, coiled structure, commonly seen in some flowering plant species.

34. **Pneumatophore roots are found in-
वातपुट्टीधर मूल पायी जाती है-**

- (a) Mangroves / मैन्ग्रूव में
- (b) Hydrophytes / मरूद्भिदों में
- (c) Xerophytes / जलीय पादपों में
- (d) Halophytes / लवण मरूद्भिदों में

MP PNST 09.07.2023 SHIFT-II

Ans. (a) : Pneumatophore roots are specialized aerial roots found in mangroves, aiding in oxygen absorption in waterlogged, anaerobic soil conditions.

35. **Fleshy buds produced in the axil of leaves, which grow to form new plants when and fall on ground, are called _____.**

पत्तियों की धुरी में उत्पन्न होने वाली मांसल कलियाँ, जो गिरने और जमीन पर गिरने पर नए पौधे बनाने के लिए विकसित होती हैं, कहलाती हैं-

- (a) bulbs/बल्ब (b) bulbils/बलबिल्स
- (c) tubers/ट्यूबर (d) offsets/ऑफसेट

MP PNST 09.07.2023 SHIFT I

Ans. (b) : Bulbils are fleshy buds that develops in the axil of leaves. They detach & fall to the ground where they grow into new plants this forms of asexual reproduction is seen in plants like Lilies and garlic.

36. **What is the structure of the leaves of the Neem tree?**

नीम की पत्तियों का आकार क्या है?

- (a) Pinnate / पिच्छाकार (b) Palmate / हस्ताकार
- (c) Opposite / सम्मुख (d) Whorled / चक्करदार

BHU NURSING 2017

Ans. (a) : Neem leaves are compound, with several leaflets arranged along a central axis, which is characteristic of a pinnate leaf structure.

37. **The first cell of male gametophyte in angiosperms is**

आवृतबीजी की पहली नर युग्मकोद्भिद् कोशिका है।

- (a) Microspore mother cell/लघुबीजाणु जनक कोशिका
- (b) Pollen grain/परागकण
- (c) Egg / अंडा
- (d) Archegonial cell / प्रपसू कोशिका

BHU NURSING 2017

Ans. (b) : The first cell of the male gametophyte in angiosperms is pollen grain. The microspore originates from the microspore mother cell through meiosis. After meiosis, the microspore undergoes mitosis to develop into the pollen grain, which contains the male gametophyte.

38. **Which of the following family has Racemose Inflorescence?**

निम्नलिखित में से किस परिवार में रेसिमोस पुष्पक्रम है?

- (a) Fabaceae/फैबेसी (b) Liliaceae/लिलियेसी
- (c) Solanaceae/सोलेनेसी (d) All of these/ये सभी

J&K NURSING 2023

Ans. (a) : In the fabaceae family, the inflorescence is typically racemose, meaning the flowers are arranged along a central axis in an acropetal manner, with new flowers forming at the tip. Racemose inflorescence is not characteristics of the solanaceae and liliaceae families.

39. **Which of the following options is INCORRECT about Orchidaceae family?**

ऑर्किडेसी परिवार के बारे में निम्नलिखित में से कौन सा विकल्प गलत है?

- (a) The androecium is represented by one or two sterile anthers/एंड्रोसियम को एक या दो बन्ध परागकोषों द्वारा दर्शाया जाता है
- (b) The gynoecium is monocarpellary syncarpous with axile placentation/गाइनोसियम अक्षीय प्लेसेंटेशन के साथ मोनोकार्पिलरी सिंकार्पस है
- (c) The pollen grains are either granular or agglutinated into waxy pollinia/परागकण या तो दानेदार होते हैं या परागकोष एक साथ जुड़े रहते हैं
- (d) The presence of 2 to 8 pollinia per anther and they are free or more or less loosely united/प्रति परागकोष 2 से 8 परागकोषों की उपस्थिति और वे स्वतंत्र या शिथिल रूप से एकजुट होते हैं

J&K NURSING 2021

Ans. (b) : In Orchidaceae, the gynoecium is monocarpellary and syncarpous, but the placentation is parietal, not axile. Axile placentation is characteristic of different plant families.

40. **When the perianth and androecium are inserted around the base of the gynoecium and in some flowers the stamens may be adnate to the base of the petals, such flowers are usually जब पेरिअंथ और एंड्रोसियम को गाइनोसियम के आधार के चारों ओर मिलाया जाता है और कुछ फूलों में पुंकेसर पंखुड़ियों के आधार से सटे हो सकते हैं, ऐसे फूल आमतौर पर होते हैं-**

- (a) Hypogynous/हाइपोगाइनस
- (b) Perigynous/पेरिगाइनस
- (c) Epigynous/एपिगाइनस
- (d) Gamosepalous/गैमोसेपलस

J&K NURSING 2021

Ans. (a) : In hypogynous flowers, the perianth and stamens are inserted below the gynoecium, with the ovary superior. In some, stamens may be adnate to the petals, as seen in this floral arrangement

41. **The roots which arise from petiole or veins of leaf due to some injury is**

किसी चोट के कारण पत्ती के डंठल या शिराओं से निकलने वाली जड़े हैं

- (a) Napiform roots/नेपीफॉर्म जड़ें
- (b) Fusiform roots/फ्यूजीफॉर्म जड़ें
- (c) Fibrous roots/रेशेदार जड़ें
- (d) Foliar roots/पर्णाय जड़ें

J&K NURSING 2021

Ans. (d) : Foliar roots arise from the leaves, typically in response to injury or stress and are a type of adventitious root.

42. How many carpels are found in Hibiscus?

गुड़हल में कितने कार्पेल पाये जाते हैं?

- (a) Three carpels/तीन कार्पेल
- (b) One carpel/एक कार्पेल
- (c) Five carpels/पाँच कार्पेल
- (d) Two carpels/दो कार्पेल

J&K NURSING 2021

Ans. (c) : Hibiscus flowers typically have five carpels that are fused to form a single pistil. Each carpel contains ovules and the number of carpel is reflected in the ovary's sectioned structure.

43. Found in those syncarpous ovaries, where the carpels are fused laterally and ovary becomes one-chambered. The placentae develop on the ovary wall and the number of placentae is equal to the number of carpels. Identify the type of placentation?

उन सिंकार्पस अंडाशयों में पाया जाता है, जहाँ कार्पेल पार्श्व में जुड़े होते हैं और अंडाशय एक-कक्षीय हो जाता है प्लेसेंटा अंडाशय की दीवार पर विकसित होते हैं और प्लेसेंटा की संख्या कार्पेल की संख्या के बराबर होती है। प्लेसेंटेशन के प्रकार की पहचान करें?

- (a) Basal/बेसल
- (b) Axile/एक्साइल
- (c) Superficial/सतही
- (d) Parietal/पेरिएटल

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Ans. (d) : In parietal placentation, the carpels fuse laterally, forming a one-chambered ovary. The placentae develop on the ovary wall, with the number of placentae matching the number of carpels.

44. Mimoseae is a sub-family of Leguminosae which is the second biggest family of dicotyledons. Identify the characteristic way in which it distinguishes from other sub-families of Leguminosae?

मिमोसी लेग्युमिनोसी का एक उप-परिवार है जो द्विबीजपत्री का दूसरा सबसे बड़ा परिवार है। पहचानिए कि यह लेग्युमिनोसी के अन्य उप-परिवारों से किस विशिष्ट तरीके से अलग है?

- (a) Flowers are papilionaceous and racemose inflorescence/फूल पैपिलियोनेसियस और रेसिमोस पुष्पक्रम हैं
- (b) Flowers are zygomorphic and racemose inflorescence/फूल जाइगोमोर्फिक और रेसिमोस पुष्पक्रम हैं
- (c) Flowers are regular, small and spherical head inflorescence/फूल नियमित, छोटे और गोलाकार शीर्ष पुष्पक्रम हैं
- (d) Flowers are regular, small and racemose inflorescence/फूल नियमित, छोटे और रेसिमोस पुष्पक्रम हैं

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Ans. (c) : Mimoseae, a sub-family of Leguminosae, is characterized by small, regular flowers in spherical heads, unlike other sub-families like Papilionoideae and Caesalpinioideae, which have varied flower shapes and arrangements.

45. The stems of maize and sugarcane have supporting roots coming out of the lower nodes of the stem. These are called

मक्का और गन्ने के तने के निचले नोड्स से निकलने वाली सहायक जड़े होती हैं। इन्हें कहा जाता है-

- (a) Climbing roots/चढ़ाई वाली जड़े
- (b) Prop roots/सहारा देने वाली जड़े
- (c) Stilt roots/स्टिल्ट जड़े
- (d) Parasitic roots/परजीवी जड़े

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Ans. (c) : In maize and sugarcane, stilt roots grow from the lower stem nodes, extending into the soil to stabilize the plant. These roots provide structural support, helping the plant stay upright in strong winds or heavy rain.

46. Which of the following type of tap root system modification is found in radish?

मूली में निम्नलिखित में से किस प्रकार का मूसला मूल तंत्र संशोधन पाया जाता है?

- (a) Tuberous/कंदीय
- (b) Conical/शंकवाकार
- (c) Fusiform/फ्यूसीफॉर्म
- (d) Napiform/नेपीफॉर्म

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Ans. (c) : Radish has a fusiform taproot, which is swollen in the middle and tapers at both ends. This modification helps in storing nutrients, typical of plants like radish.

47. Flowers having two long and two short stamens are known as

दो लम्बे और दो छोटे पुंकेसर वाले फूलों को कहा जाता है

- (a) Diadelphous/डायडेलफस
- (b) Didynamous/डाइडायनेमस
- (c) Monadelphous/मोनाडेलफस
- (d) Synandrous/सिनैन्ड्रस

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Ans. (b) : Didynamous flowers have a specific stamen arrangement with two long and two short stamens. This feature is typical of plants in the Lamiaceae family, such as those in the mint family.

48. In a single flower with many stamens, when development of stamen maturation starts at the outside and then gradually towards the center, what is the term used to describe for such an androecium?

कई पुंकेसर वाले एक ही फूल में, जब पुंकेसर परिपक्वता का विकास बाहर से शुरू होता है फिर धीरे-धीरे केंद्र की ओर बढ़ता है, तो ऐसे पुंकेसर का वर्णन करने के लिए किस शब्द का उपयोग किया जाता है?

- (a) Basifixed/बेसिफिक्स्ड
- (b) Centrifugal/सेंट्रीफ्यूगल
- (c) Centripetal/सेंट्रिपेटल
- (d) Connective/संयोजी

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Ans. (c) : In a centripetal androecium, the stamen maturation starts at the outermost position and progresses inward toward the centre, contrasting with centrifugal, where maturation begins at the center and moves outward.

49. In the ovary of Solanaceae two carpels are placed:

सोलेनेसी के अण्डाशय में दोनों अंडप व्यवस्थित होते हैं।

- (a) Posterior /पश्चीय
- (b) Lateral/पार्श्विक
- (c) Superimposed/अध्यारोपित
- (d) Oblique/तिर्यक

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Ans. (d) : In the Solanaceae family, the two carpels are arranged obliquely within the ovary, meaning they are not aligned symmetrically but are tilted or positioned at an angle to each other.

50. In xerophytic plants phyllode is a modification of मरुदभिद पादपों में पर्णाभ किसका रुपान्तरण होता है।

- (a) Stem/तना
- (b) Leaf/पर्ण
- (c) Root/मूल
- (d) Bud/कलिका

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Ans. (b) : In xerophytic plants, phyllodes are modified leaf petioles that become flattened and take over photosynthesis. This adaptation reduces water loss by minimizing the typical leaf surface area in arid conditions.

51. Axile placentation is present in स्तंभीय बीजाण्ड व्यास किसमें होता है?

- (a) Argemone/आर्जिमोन
- (b) Dianthus /ड्राइन्थस
- (c) Lemon/नींबू
- (d) Pea/मटर

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Ans. (c) : Axile placentation occurs when ovules are attached to the central column or axis of the ovary, as seen in lemon. This type of placentation is characteristics of plants with multiple carpels fused together, like citrus species.

52. Winged pollen grains are present in: पंखीय परागकण किसमें होते हैं?

- (a) Mango/आम
- (b) Cycas/साइकस
- (c) Mustard/सरसों
- (d) Pinus/पाइनस

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Ans. (d) : Pinus, a type of conifer, produces pollen grains with wings that help in their dispersal by wind. This is typical of many gymnosperms.

53. Caryopsis is the characteristic fruit of the family-

कैरियोप्सिस किस कुल का एक विशेष फल है-

- (a) Liliaceae/लिलिएसी
- (b) Poaceae/पोएसी
- (c) Solanaceae/सोलेनेसी
- (d) Asteraceae/एस्टेरेसी

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Ans. (b) : Caryopsis is the characteristic fruit of the Poaceae family, commonly known as the grass family. In a caryopsis, the seed coat is fused with the fruit wall, making it a one-seeded, dry and indehiscent fruit. This type of fruit is typical in cereals like wheat, rice and maize which are members of the Poaceae family.

54. Best material for the study of mitosis in laboratory is-

प्रयोगशाला में समसूत्री विभाजन के अध्ययन हेतु सर्वश्रेष्ठ सामग्री है-

- (a) Anther/पराग-कोश
- (b) Root tip/मूलाग्र
- (c) Leaf tip/पत्ती का अग्र भाग
- (d) Ovary/अंडाशय

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Ans. (b) : Root tips are ideal for observing mitosis because they have rapidly dividing cells, especially in the meristematic region, which makes it easier to view the stages of cell division.

55. Velamen is present in : वेलामेन किसमें मिलता है?

- (a) Cuscuta/कसकुटा में
- (b) Rhizophora/राइजोफोरा में
- (c) Vanda/वान्डा में
- (d) Bryophyllum/ब्रायोफिल्लम में

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Ans. (c) : Velamen is a specialized, multi-layered tissue found in the roots of epiphytic plants like Vanda orchids. It helps absorb water from the air, prevent dehydration and protects the root tissues.

56. Leaves become fleshy to store food in: भोजन को संग्रहित करने के लिए पत्तियाँ मांसल हो जाती हैं।

- (a) Calotropis, Guava/मदार, अमरूद
- (b) Onion, Garlic/प्याज, लहसुन
- (c) Turnip, Carrot/शलजम, गाजर
- (d) Colocasia, Zaminkand/कोलोकेसिया, जमीकंद

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Ans. (b) : In onion and garlic, the leaves are, modified to become fleshy and swollen, allowing them to store food. This adaptation helps the plants survive adverse conditions by utilizing the stored nutrients when needed.

57. Heartwood differs from sapwood in :

अन्तः काष्ठ से रस काष्ठ किस बात में भिन्न है?

- (a) Presence of rays and fibers/किरणों तथा रेशों का पाया जाना
- (b) Absence of vessels and parenchyma/वाहिकाओं तथा मृदुतक की अनुपस्थिति
- (c) Having dead and non-conducting elements/मृत एवं गैर वहनीय तत्वों का होना
- (d) Being susceptible to pests and pathogens/पीड़कों तथा रोगजनकों के लिए सुग्राह्य होना

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Ans. (c) : Heartwood is the central, darker part of the tree trunk, consisting of dead cells that no longer conduct water. It provides structural strength and support. In contrast, sapwood, located outside the heartwood, contains living cells responsible for water and nutrient conduction.

**58. Sweet potato is a modification of :
शकरकंद किसका रूपांतरण है?**

- (a) Stem/तना
- (b) Adventitious root/अपस्थानिक जड़
- (c) Hypocotyl/हाइपोकोटाइल
- (d) Flowering axis/पुष्पन अक्ष

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Ans. (b) : Sweet potato is a modified adventitious root that develops from the lateral roots of the plant. It serves as storage organ for starch, enabling the plant to survive adverse conditions. This modification is an example of root modification.

**59. Parallel venation can be found in:
समानांतर वेनेशन किसमें पाया जा सकता है:**

- (a) Most dicots / अधिकांश डाइकोट्स (द्विवीजपत्री) में
- (b) Most monocots / अधिकांश मोनोकोट्स (एकबीजपत्री) में
- (c) Banana and guava only / केवल केला और अमरूद में
- (d) Both monocots and dicots / द्विवीजपत्री और एकबीजपत्री दोनों में

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Ans. (b) : Parallel venation is characteristic of monocots, where veins run parallel. This pattern is seen in plants like grasses, lilies and bananas, while most dicots exhibit reticulate or net-like venation.

**60. Opposite type of phyllotaxy (leaf arrangement) can be found in
विपरीत प्रकार का पत्रविन्यास (पत्र व्यवस्था) किसमें पाया जा सकता है**

- (a) Guava / अमरूद
- (b) China rose / चीनी गुलाब (गुड़हल)
- (c) Potato / आलू
- (d) Soyabean / सोयाबीन

BHU NURSING 2016

Ans. (a) : Opposite phyllotaxy is found in guava, where two leaves grow directly opposite each other at each node. This leaf arrangement is characteristic of certain plants, like guava.

**61. Phyllode is a modification of
पर्णभ किसका आशोधन है।**

- (a) Stem / तना
- (b) Petiole / पर्णवृत्त
- (c) Lamina / स्तरिका
- (d) Bract / सहपत्र

BHU NURSING 2016

Ans. (b) : A phyllode is a flattened, leaf-like structure that results from the modification of the petiole. It functions similarly to a leaf, carrying out photosynthesis, as seen in some leguminous plants.

**62. Lodicules represent the reduced perianth in :
लॉडीक्यूल किसमें अविकसित परितंत्र को निरूपित करता है :**

- (a) Sedges / प्रतृणों में
- (b) Grasses / घासों में
- (c) Rushes / जलबेंतों में
- (d) Compositae / कम्पोजीटीज में

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Ans. (b) : Lodicules represent the reduced perianth in grass family (poaceae). They are small, sac like structures that replace the petals and sepals in the flowers of grasses, playing a role in the opening of the flower during pollination.

**63. Coir is obtained from
नारियल का रेशा प्राप्त होता है:**

- (a) endocarp/एंडोकार्पिह से
- (b) mesocarp/मेसोकार्पिह से
- (c) epicarp/एपिकार्पिह से
- (d) endosperm/एंडोस्पर्मिह

BHU NURSING 2015

Ans. (b) : Coir is the natural fiber obtained from the mesocarp of coconut fruit. This is the fibrous middle layer of the coconut fruit, which is processed to make ropes, mats, brushes and other products.

**64. Inflorescence of sun flower is a :
सूरजमुखी का पुष्पक्रम है:**

- (a) Spike/स्पाइक
- (b) Spadix / स्पैडिक्स
- (c) Corymb/कॉरिम्ब
- (d) Capitulum/कैपिटुलम

BHU NURSING 2015

Ans. (d) : The sunflower (*Helianthus*) has a head and capitulum inflorescence where multiple florets are arranged in a dense compact structure that appears to be a single flower. This type of inflorescence is characteristic of the Asteraceae family.

**65. The fruit of Paddy is a :
धान का फल है:**

- (a) Cypsella / सिप्सेला
- (b) Caryopsis / कैरियाप्सिस
- (c) Achene/एकीन
- (d) Nut/नट

BHU NURSING 2015

Ans. (b) : The fruit of paddy (*Oryza sativa*) is a caryopsis, a type of dry one-seeded fruit fused with the fruit wall making it distinguishable.

**66. Inflorescence of Ocimum is:
तुलसी का पुष्पक्रम है:**

- (a) Cyathium / कटोरिया
- (b) Verticillaster / कूटचक्र
- (c) Spadix / स्थूलमंजरी
- (d) Hypanthodium / हाइपेन्थोडियम

BHU NURSING 2014

Ans. (b) : *Ocimum* (Tulsi) has a verticillaster type of inflorescence. In this type, the flowers are arranged in opposite pairs in a whorl, with each whorl arising from the same point on the stem, forming a characteristic spiral pattern. This is typical of many members of the mint family (Lamiaceae) to which *Ocimum* belongs.