



DELHI INTERNATIONAL SCHOOL, DWARKA

ASSIGNMENTS

CLASS – XII

BIOLOGY

General Instruction:

1. *Read the questions carefully before answering.*
2. *Attempt all the questions.*

Q-1 Represent taxonomic categories showing hierarchical arrangement in descending order.

Q-2 What do you mean by “Systematics”?

Q-4 What is a lead?

Q-5 What are vernacular names? Mention vernacular name of any two species.

Q-6 Why reproduction cannot be called as defining property of living organisms?

Q-7 Who gave the earliest attempt of classification, What was it based upon?

Q-8 How are Archaeobacteria different from Eubacteria?

Q-9 Write a short note on Mycoplasma.

Q-10 Explain the structure of diatoms.

Q-11 What are the four major groups of protozoans? Mention their characteristics.

Q-12 Mention the speciality of Neurospora.

Q-13 Write a short note on Lichens.

Q-14 Differentiate between three types of algae.

Q-15 What are gymnasperms?

Q-16 Why are bryophytes called as the amphibians of Plant Kingdom?

Q-17 Mention the economic importance of Bryophytes.

Q-18 What is Mycorrhiza?

Q-19 Draw the lifecycle of Gymnosperms.

Q-20 Explain double fertilization in Angiosperms.

PROJECTS:

- To analyze various components of soya bean milk and compare it with buffalo milk and pasteurized standard milk.
- Study the rate of fermentation of juices.
- Effect of home preservatives on bacterial growth.
- To compare various household preservatives to control microbial growth.
- To compare the effect of bacteriostatic and bactericidal antibiotics on microbial growth.
- Effect of antibiotics on lactobacillus bacteria using methylene blue.
- To isolate amylase producing bacteria from soil / batter.
- To isolate catalase from batter.
- To analyze various components of green tea.
- To determine the effect of antacids to neutralize acidity.
- To compare antioxidative effects of green tea and antioxidative drug.

MATHEMATICS

Q1 . If $A = \{1, 2, 3, 4, 5\}$, $B = \{4, 5, 6, 7, 8\}$, $C = \{7, 8, 9, 10, 11\}$ and $D = \{10, 11, 12, 13, 14\}$. Find (i) $A \cup B$ (ii) $B \cup C$ (iii) $A \cap C$ (iv) $A \cap D$ (v) $A \cap B$ Verify the following (i) $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$ (ii) $A \cap (B \cup C) = (A \cap B) \cup (A \cap C)$ (iii) $A \cap (B - C) = (A \cap B) - (A \cap C)$

Q2 . Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$. $A = \{2, 4, 6, 8\}$ and $B = \{2, 3, 5, 7, 8\}$. Find (i) A' (ii) $(A')'$ (iii) $(A \cup B)'$ (iv) $(A \cap B)'$ Verify the following (i) $(A \cup B)' = A' \cap B'$ (ii) $(A \cap B)' = A' \cup B'$ (iii) $B - A = B \cap A'$

Q3. Let A and B be two sets such that $n(A) = 24$, $n(A \cup B) = 46$ and $n(A \cap B) = 8$. Find (i) $n(B)$ (ii) $n(A - B)$ (iii) $n(B - A)$

Q4. What is the number of subsets and proper sub sets of a set containing n-elements.

Q5. In a survey of 800 students in a school 200 were listed as taking apple juice, 250 taking orange juice and 125 were taking both apple as well as orange juice. Find how many students were taking neither apple juice nor orange juice.

Q6. There 40 students in a chemistry class and 60 students in physics class. Find the number of students which are either in Physics class or Chemistry class in the cases. (i) the two classes meet at the same hour. (ii) the two classes meet at different hours and 20 students are enrolled in both the subjects.

Q7. In a class of 35 students, 17 have taken mathematics 10 have taken mathematics but not economics. Find the number of students who have taken both mathematics and economics and the number of students who have taken economics but not mathematics, if it is given that each student has taken either mathematics or economics or both.

Q8. If $A = \{x : x = 2n + 1, n \leq 4, n \in \mathbb{N}\}$ and $B = \{y : 2 < y < 7, y \in \mathbb{N}\}$, find (i) $A \cap B$ (ii) $A \cup B$ Q9. Using laws of algebra of sets, show that (i) $(A \cup B) \cap (A \cup B') = A$ (ii) $A \cup (B - A) = A \cup B$

Q10. Of the members of three athletic teams in a certain school, 21 are in the basket ball team, 26 in hockey team and 29 in the football team. 14 play hockey and basket ball, 15 play hockey and football, 12 play football and basket ball and 8 play all the three games. How many members are there in all?

Q11. If $A = \{a, b, c\}$. write subsets of set A. Also mention the proper subsets of A.

Q12. Describe the following sets in set builder form :- (i) $\{1, 1, 1, 1, 1\}$ (ii) $\{3, 6, 9, \dots\}$ Q13. Write the following intervals in set-builder form :- (i) $(-6, 0)$ (ii) $(2, 5]$ (iii) $[-20, 3)$ (iv) $[5, 10]$

Q14. Draw venn diagram of (i) $(A \cup B)' \cap C$ (ii) $(A - B)' \cap (B - A)'$ (iii) $A - (A \cup B)$

Q15. How many element has $P(A)$, if $A = \{\}$

Q16. If A is a subset of $\{\}$. Prove that $A = \{\}$.

Q17. Find the smallest set A such that $A \cup \{3, 5\} = \{1, 2, 3, 5, 4\}$

INFORMATICS PRACTICES

CLASS -XI

General Instructions:

Do the assignment in classwork Registers

1. What is the difference between hardware, software and firmware?
2. Differentiate between
 - a) Compiler and Interpreter
 - b) Analog and Digital Computers
 - c) Multiprogram OS and Multitasking OS
3. What is OCR? When is it mostly used ? State its major disadvantage as a general purpose input medium?
4. What do you understand by Customised application software?
5. What is defragmentation ? How does it affect the computer performance?
6. What are denial-of-services and sweeper attacks?
7. What is Phishing ? What damages can it cause to your computer?
8. What are Input devices for PDA's, Smart Phones and Tablet PC's ?
9. What are various Biometric Devices ?
10. What are the major strength and weaknesses of a computer ?
11. Why is binary language often termed as machine language ? Why is machine language needed?
12. What is MICR? W
13. What is the difference between OCR and OMR ?
14. What are the two categories of printers ? Which type of printer is more speedy
15. What is the difference between RAM and ROM ?
16. What does a Bus mean ?

SUBJECT- COMPUTER SCIENCE

CLASS -XI

General Instructions:

Do the assignment in classwork Registers

Q1. Briefly explain the basic architecture of a computer.

Q2. What role does memory play in the functioning of computer system?

Q3. What is the meaning of the term volatile primary memory? What can be done to overcome the problems of volatility?

Q4. What are the differences between hardware, software and firmware?

Q5. How is the microcomputer different from the other computers?

Q6. How are digital, analog and hybrid computers different from one another?

Q7. How is an interpreter different from compiler?

Q8. Discuss different software types.

Q9. What are device drivers?

Q10. Discuss the importance of backup tool.

Q11. What type of services are provided by an operating system?

Q12. Define freeware and shareware with examples.

Q13. Compare and contrast

- Free software and open source software.
- Proprietary software and free software.
- Freeware and shareware.
- Freeware and free software.

Q14. Explain briefly the functions performed by an operating system as processor manager.

Q15. Define and specify the factors required as minimum and maximum for increased CPU efficiency.

- CPU utilization
- Turnaround time
- Waiting time
- Response time
- Throughput

