

Holiday homework
Class XI-A2
Sub-Computer Science

Students will prepare the PPT with their group members and after vacations they will present in the class.

Group	Name	Name	Name	Topics assigned
1	SIDHARTH	KANAV	ALOK	Digital Footprint, Digital Society Basic computer organisation: Introduction to Computer System, hardware, software
2	DEEPANSHI	KHWAISH	LAKSHIKA	Data Protection: Intellectual property rights (copyright, patent, trademark)
3	AADYA	HITESH	BHAVYA	Cyber Crime: definition, hacking, eavesdropping, phishing and fraud emails
4	PRABEER	DHAIRYA	HARSHIT	violation of IPR (plagiarism, copyright infringement, trademark infringement)
5	AYUSH SINHA	AAYUSH	NISHANT	Cyber safety: safely browsing the web, identity protection, confidentiality
6	Tiana	vaishnavi	Ishita	Malware: viruses, trojans, adware
7	Kushagra	Tanishq	Aryan	E-waste management: proper disposal of used electronic gadgets. input device, output device, CPU, memory (primary, cache and secondary), units of memory (bit, byte, KB, MB, GB, TB, PB)
8	Vikram	Satyam	Kartikey	Information Technology Act (IT Act) and few Cyber crime cases case study
9	Manjeet	Bhavya Yadav	Arnav	Technology and society: Gender and disability issues while teaching and using computers
10	Ayush Rana	Chhayank	Alankrit	open source software and licensing (Creative Commons, GPL and Apache)
11	Yash	Riyansh	Shushank	Ransomware, cyber trolls, cyber bullying
12	Apoorv	Anshu	Lakish	Netizen: net etiquettes, communication etiquettes, social media etiquette. • Types of software: System software (Operating systems, system utilities, device drivers),
13	Himanshu			programming tools and language translators (assembler, compiler, and interpreter), application software
14				

SUB: COMPUTER SCIENCE
CLASS – XI

ASSIGNMENT – 1
Data Representation and Computer System

Data Representation

1.. (Q1 to Q10) There are four options against each question. Choose the option which you consider the most appropriate as your answer.

- 1 The Binary of $(13)_{10}$ is _____.
a) 1101 b) 1111 c) 1000 d) 1100
- 2 The hexadecimal of $(423)_{10}$ is
a) 1A7 b) 1A8 c) 2A8 d) 2AA
- 3 The binary system, $1+1=$
a) 2 (b) 0 (c) 1 (d) 0 carry 1
- 4 $(110)_2 + (110)_2 = (\text{.....})_{10}$
a) 6 (b) 8 (c) 10 (d) none of these
- 5 The digital system usually operated onsystem.
a) binary (b) decimal (c)octal (d) hexadecimal
- 6 The binary system use powers of.....for positional values.
a) 2 (b)10 (c) 8 (d)16
- 7 After counting 0, 1, 10, 11, the next binary number is
a) 12 (b) 100 (c)101 (d) 110
8. The 1's complement of $(1000)_2$ is
(a) 0111 (b) 0101 (c) 1000 (d) 0001
9. $(11010011)_2 = (?)_{16}$
(a) D316 (b) A316 (c) B316 (d) D216
- 10 $(A)_{16} = (\text{_____})_2$
a) 1010 b) 1100 c) 11000 d) 10101

2. Do as directed :

- a) Convert the Decimal number 781 to its Binary equivalent.
- b) Convert Binary number 101101.001 to its decimal equivalent.
- c) Convert Octal number 321.7 into its Binary equivalent.

3. Do as directed :

- i. Convert the Hexadecimal number 3BC into its Binary equivalent
- ii. Convert the Binary number 10011010.010101 to its Hexadecimal equivalent.
- iii. Convert the Decimal number 345 into Octal number.

4. Do as directed

- i. Convert the Decimal number 736 into Hexadecimal number.
- ii. Convert the Octal number 246.45 into Hexadecimal number.
- iii. Convert the Hexadecimal number ABF.C into Octal number.
- iv. Convert the Octal number 576 to Decimal.
- v. Convert the Hexadecimal number A5C1 to Decimal.

Class XI Computer Science

Case Study Questions

Chapter: Computer Systems and Organisation

Case Study 1: School Computer Lab Upgrade

A school plans to upgrade its computer lab. They want systems that boot fast, support multitasking, and store large amounts of data efficiently.

Questions:

1. Identify the type of memory that helps in fast booting. Explain its role.
2. Suggest which storage device (HDD/SSD) would be better and why.
3. What role does RAM play in multitasking?
4. Differentiate between primary and secondary memory with examples.
5. Why is cache memory important in improving system performance?

Case Study 2: Online Examination System

A school conducts online exams where students log in and receive instant results.

Questions:

1. Which type of software is used to run this system?
2. Explain the role of operating system in this process.
3. What kind of memory is used to temporarily store answers before submission?
4. Differentiate between system software and application software.
5. What are the advantages of such systems?

Case Study 3: Data Storage in Banks

A bank stores customer data such as account details and transactions.

Questions:

1. Which storage device is most suitable for such large-scale data storage?
2. Explain the concept of secondary storage.
3. Why is data backup important for banks?
4. What is the difference between volatile and non-volatile memory?
5. Name any two types of secondary storage devices.