LITTLE FAIRY PUBLIC SCHOOL

Summer Holidays Homework CLASS-XI (2026-27) COMMERCE

This summer vacation the Holiday Homework is designed with the aim of activity based learning. It includes assignments and activities that will foster curiosity, develop creativity, enhance knowledge and instill the joy of learning and doing it in the right-spirit with enthusiasm will make it a great learning experience.

- Discover a new and better you who is enriched and confident and performs every action with utmost perfection.
- It's the perfect time for strengthening family bond, sharing festivities, joys and sorrows, having a good time together.
- Make sure to take some time to focus on interesting books and read as much as you can about the places and people.
- Take good care of your health and hygiene.In this scorching heat, keep yourself well hydrated and energetic.
- Engage yourselves in morning walks, yoga, exercise, meditation with your parents or grandparents.
- Revise all the work done in the class.
- Make sure that your work is neat, presentable, and original and conforms to the guidelines given homework as directed by the teachers

Holiday homework is an attempt to channelize the creative energy; it keeps you connected with the syllabus.

1. **ENGLISH:**

1. Collect 5 English newspaper articles on topics like education, environment, or youth issues. Paste them in a notebook. For each article, write a summary (100–120 words) and find 5 new vocabulary words with meanings.
2. Attempt the following Writing Skills:
   - Design a POSTER on "Save Environment" or "Say No to Plastic".
3. How would *The Portrait of a Lady* change if the story was set in today's modern world?
4. Do you think memories are more powerful than reality, as shown in *The Photograph*? Explain.
5. Was the narrator morally right in keeping the horse in *The Summer of the Beautiful White Horse*? Justify your answer.
6. Prepare a short speech on: **"Old Values vs Modern Lifestyle"**

"Technology Weakens Family Bonds"

PROJECT WORK : Instructions for Project File:

- The project must be handwritten and should be of 10-15 pages.
- It must include:

1.Cover Page	5. Introduction
2. Certificate	6. Content with headings
3. Acknowledgement	7. Conclusion
4. Index	8. Bibliography

- Use simple English and neat handwriting.
- Add examples, facts, and real-life references.
- Add pictures or newspaper cuttings.
- Work should be original.

TOPICS ARE AS FOLLOWS:

Roll No. 1–7	Topic: Importance of Reading Books
Roll No. 8–14	Topic: Role of Discipline in Student Life
Roll No. 15–21	Topic: Impact of Technology on Education
Roll No. 22–28	Topic: Value of Time Management
Roll No. 29–34	Topic: Importance of Moral Values
Roll No. 35–40	Topic: Clean India Mission (Swachh Bharat Abhiyan)

Roll No. 41onwards Topic: Role of Communication Skills in Student Life.

2.ACCOUNTANCY :

(I) WRITTEN ASSIGNMENT: Explain the following in Accountancy Notebook

Basic Accounting Terms
Accounting Process
Accounting Principles and Concepts
Double entry system and its governing rules.
Concept and usage of Accounting for a Business.
Chapter 1: Memories and understand the difference in Accounting, Accountancy and Book keeping. Merits Limitations of accounting.
Chapter 2: Learn basic Accounting terms covered in class lecture
Chapter 3 : Learn and understand all the accounting principles and accounting assumptions. Meaning of AS, and merits of it.
Chapter 4 : Learn the difference between Accrual base of accounting and Cash basis of accounting.
Chapter 5 : Solve any 10 Problems from (Q No. 12, 14, 15 Page no 5.20 to 5.23) and All problems from Q. 16 to 25 (page no. 5.23 to 5.24).

3.BUSINESS STUDIES :

I) PROJECT WORK (CBSE Requirement)

Choose any one of the following topics (as prescribed in CBSE syllabus):
A. History of Trade and Commerce in India
B. A Visit to an Industry
C. Case Study on a Successful Entrepreneur (Indian or Global)
D. Channels of Distribution – Online vs Offline
E. A Study of a Small Business (Local vendor, startup, or home business)

Instructions: The project must be handwritten (8–10 pages).
Include: Introduction, Objectives, Data Collection, Findings, and Conclusion.
Use pictures, graphs, charts, or surveys (if applicable).
File format: Neatly bound or spiral file.

II). CREATIVE ASSIGNMENT: Collage or Poster Making

Topic: "Startups Changing India" or "Consumer Awareness in Digital Age"
Create a visually appealing A3 size collage or poster.
Include images, headlines, and brief points or slogans.
Focus on creativity, originality, and clarity.

III). BROCHURE DESIGN: Promoting a Product or Startup Idea

Design a 2–fold brochure for a product or startup you would like to launch.
Include: Brand Name, Logo, Features, Price, Unique Selling Point, Contact Information.
Can be made using chart paper, Canva (printout), or by hand.

IV). CURRENT AFFAIRS FILE:

Collect 5 articles related to Business/Finance/Economy from recent newspapers or online portals.
Paste them in a file and write a short summary (4–5 lines) for each.
Example Topics: Budget Highlights, IPO Launches, Start-up Growth, E-commerce Updates.

V).OPTIONAL ACTIVITY (Extra Credit)

Comparative Study Chart: Lakshadweep and Andaman & Nicobar Islands
Prepare a comparative study from a business and trade perspective:
Resources Available
Scope for Tourism, Fisheries, Shipping
Infrastructure for business

4.ECONOMICS

(I) WRITTEN ASSIGNMENT :-

1. Write all the formulas for calculating mean median and mode and practice these questions in your fair separate note book.
2. Practice drawing the bar- diagrams, histograms and pie chart with different colours to make it more attractive.
3. Make the self notes of Micro Economics Unit-1: Introduction , Unit 2: Consumers Equilibrium

(II). CREATIVE ACTIVITY:

1. Make a special hand made decorative file with cotton fabric with own creativity and with own designs.
2. Make a handmade eco friendly articles for home decoration (atleast 5 things)

(III) READING ACTIVITY:-Prepare a current affairs file

1. Write atleast one economics current news in your file.

5. MATHEMATICS

(I) ACTIVITY FILE:

i Make a chart of the formulae, i.e FORMULAE SHEET chapterwise on A4 sheets.
ii Make FLASH CARDS of FUNCTIONS on A4 sheets

(II) CREATIVE WORK: Draw MIND MAPS on A4sheets chapterwise.

(III) PROJECT WORK: Make a maths working model on

Roll No. 1-5 : **"Vedic Maths in Daily life"/"Income Tax Calculation"**
Roll No. 6-10 **"Maths in Sports"/ "Probability and Statistics in Games"**
Roll No. 11-15 **"Maths in Music"/ "Prime Numbers and Encryption"**
Roll No. 16-20 **"Maths in Arts/ Archietecture"/ "Conic Sections in Archietecture"**
Roll No. 21-25 **"Maths in Nature"/ "Fibonacci Sequence in Nature"**
Roll No. 25-onwards **"Geometry Around Us"/ "Stock Market Analysis"**

i The working model must be based on the applications of concepts of Mathematics
ii Model must be working, innovative, problem solving, original and economical.
iii The student should prepare a writeup of their working model
iv Use only eco-friendly material for preparing the working model thermocol is strictly not allowed.

(IV) WRITTEN ASSIGNMENT:

i Do NCERT textbook exercise based questions in MATHS Notebook,
ii Solve EXEMPLAR questions and ASSIGNMENTS Questions in your Practice Notebook.

(V) PRACTICAL WORK: Complete the follwoing Lab Activities in the Practical File.

i To find the number of subsets of a given set and verify that if a set has n number of elements, then the total number of subsets is 2^n .
ii To verify that for two sets A and B, n (A×B) = pq and the total number of relations from A to B is 2^{pq}, where n(A) = p and n(B) = q.
iii To find the values of sine and cosine functions in second, third and fourth quadrants using their given values in first quadrant.
iv To prepare a model to illustrate the values of sine function and cosine function for different angles which are multiples of π and $\pi/2$.
v To plot the graphs of sin x, sin 2x, 2sinx and sin x/2 , using same coordinate axes.

vi To inerpret geometrically the meaning of $i = \sqrt{-1}$ and its integral powers.
vii To obtain formula for the sum of squares of first n-natural numbers.
viii To establish the formula for the sum of the cubes of the first n natural numbers.
ix. To demonstrate that the Arithmetic mean of two different positive numbers is always greater than the Geometric mean

6.INFORMATICS PRACTICES

MAKE A POWERPOINT PRESENTATION TOPIC on anyone of the following topic .

1. Computer System Components
- Input, Processing, Storage, Output
- Use block diagrams and real-life device images

2. Types of Software
- System Software vs Application Software
- Include examples like Windows, Linux, MS Word, Photoshop

3. Memory Hierarchy in Computers
- Registers → Cache → RAM → HDD/SSD
- Include a pyramid or tier diagram

4. Input and Output Devices
- Categorize: Text, Pointing, Audio/Video Input; Visual, Print, Audio Output
- Use device images

5. Binary Number System
- Binary to Decimal conversion and vice versa
- Include examples with step-by-step conversions

6. Role of Operating System
- Functions like File Management, Memory Management, Task Scheduling
- Use icons and flowcharts

MAKE A CHART ON ANY ONE THE FOLLOWING TOPIC

Chart 1: Block Diagram of a Computer System
- Show flow: Input → CPU → Memory → Output
- Color code each section

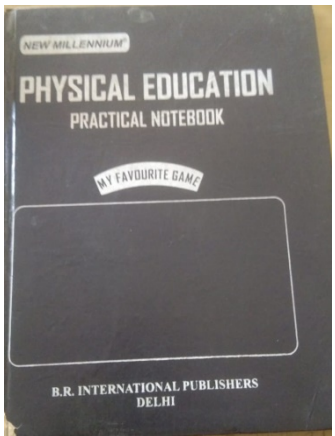
Chart 2: Types of Memory
- RAM, ROM, Cache, Secondary Storage
- Include key properties: speed, volatility, size

Chart 3: Software Types
- Table comparing System and Application software
- 2 columns: Features + Examples

Chart 4: Data Units in Computers
- Bit, Byte, KB, MB, GB, TB
- Show hierarchy in size

Chart 5: Input/Output Devices
- Divide into two halves: Input devices on left, Output devices on right
- Paste printed images or draw neatly

7.PHYSICAL EDUCATION



1. Prepare the Practical File (In the lab manual only)
2. Practical File will consist following three practicals in detail

3. **Practical- 1:** Fitness tests administration. (SAI Khelo-India Test). SAI Khelo-India Fitness Test Battery: (Test name, objective/purpose,

equipment required, procedure, scoring method, standard norms and the picture/diagram)

4. A. For the age category of 5 to 8 years old:
    1. BMI
    2. Flamingo balance test
    3. Plate tapping test
5. B. For the age category of 9 to 18 years old:
    1. BMI
    2. Push-ups & Modified push-ups
    3. Curl-ups & Partial curl-ups
    4. 50mDash
    5. Sit and Reach test
    6. 600m Run/walk
6. **Practical- 2:** Procedure for asanas, benefits & contraindications for any two asanas for each lifestyle diseases: Obesity, Diabetes, Hypertension, Asthma, Arthritis & lower back pain. (Total 10 asanas will be there, picture/diagram is mandatory for all asanas)
7. **Practical- 3:** Anyone IOA recognized Sport/Game of choice. Labelled diagram of Field & Equipment. Mention the history, rules, terminologies, fundamental skills, scoring method, fouls, officials, International & Indian federation, and arjun awardee.
   (Ex:Volleyball/Basketball/Football/Handball/Hockey/Cricket/Kabaddi/Kho-Kho/Archery /Badminton/Boxing/Chess/Swimming)
   NOTE: Brown cover page, picture/diagram and index are mandatory.
    2. Complete the subject copy (till chapter-2).

ASSIGNMENT SUBJECT – MATHEMATICS, CH– 1: SETS

Choose the correct option:

1. For any set A, $(A')'$, is equal to: (a) A' (b) A (c) $\varnothing$ (d) none of these
2. Let S ={x;x is a positive multiple of 3 less than 100 }, P={x:x is a prime number less than 20}. Then n(S)+n(P) is: (a) 34 (b) 31 (c) 33 (d) 41
3. Given two finite sets such that n(A) =115; n(B) = 326; n(A−B) =47; n(A∪B) is
   (a) 373 (b) 165 (c) 370 (d) None of these.
4. Given two finite sets such that n(A) =3, n(B) =6. Then minimum numbers of elements in A∪B is:
   (a) 3 (b) 6 (c) 9 (d) 18
5. If a set A containing 6 elements, then number of non-empty subsets of A is:
   (a) 36 (b) 30 (c) 64 (d) 63
6. Let A= {(x, y): y = e^{2x}, $x \in R$} and B = {(x, y): y = e^{-2x}, $x \in R$ }then $A \cap B$ *is*:
   (a) Not a set (b) Singleton set (c) Empty Set (d) None of these
7. If $A = \{x : x = 4n + 1, \forall\ 2 \leq n \leq 6\}$, then the number of subsets of A are:
   (a) 2^2 (b) 2^3 (c) 2^5 (d) 2^6
8. Two finite sets have m and n elements respectively. The total number of subsets of first set is 56 more than the total number of subsets of the second set. The values of m and n respectively are :
   (a)7, 6 (b) 5, 1 (c) 6, 3 (d) 8, 7
9. Let$A = \{x : x \in R, |x| < 2\}, B = \{x : x \in R, |x - 2| \geq 2\}$ *and* $A \cup B = R - C$ *then set C equals*:
   (a) $\{x: -2 < x \leq 2\}$ (b) $\{x: -2 < x \leq 4\}$ (c) $\{x: 2 < x \leq 4\}$ (d) None of these

Short Answer Type questions:

10. Write the following sets in the roaster form.
    A = {x| x is a positive integer less than 10 and $\mathbf{2^x - 1}$ is an odd number}.
11. Write the following in set builder form. A = {3, 9, 27, 81}
12. If the universal set U = {1,3,5,7,9,11,13,15,17} , B= 1,3,7,13,15then find B'.
13. Let A, B, and C be the sets such that A∪B = A∪C Then show that B=C.

14. For any sets A and B, Show that: P(A ∩B) =P(A) ∩ P(B).

Long Answer Type -Questions:

16. In a survey of 400 students in a school, 100 were listed as taking apple juice. 150 as taking orange juice and 75 were listed as taking both appleas well as orange juice. Find how many students were taking neither apple juice nor orange juice.
17. There are 200 individuals with a skin disorder, 120 had been exposed to chemical C1, 50 to chemical C2, and 30 to both chemicals C1 and C2. Find the number of individuals exposed to:
    (i)Chemical C1, but not chemical C2, (ii) Chemical C2 but not chemical C1,
    (iii) Chemical C1 or chemical C2.
18. A college awarded 38 medals in football, 15 in basketball and 20 in cricket. If these medals went to a total of 58 men and only three men got medals in all the three sports, how many received medals in exactly two of the three sports?
20. In a survey of 60 people, it was found that 25 people read newspaper H, 26 read newspaper T, 26 read newspaper I, 9 read both H & I, 11 read both H and T. 8 read both T & I, 3 read all three newspapers. Find: (i) The number of people who read at least one of the newspapers. (ii) The number of people who read exactly one newspaper.
21. From 50 students taking examinations in Mathematics, Physics and Chemistry, each of the student has passed in at least one of the subject, 37 passed Mathematics, 24 Physics and 43 Chemistry. At most 19 passed Mathematics and Physics, at most 29 Mathematics and Chemistry and at most 20 Physics and Chemistry. What is the largest possible number that could have passed all three examinations?
22. In a survey it was found that 21 people liked product A, 26 liked product B and 29 liked product C. If 14 people liked products A & B, 12 people liked products C & A, 14 people liked products B & C and 8 liked all the three products. Find how many liked product C only.
23. In a survey of 25 students, it was found that 15 had taken mathematics, 12 had taken physics and 11 had taken chemistry, 5 had taken mathematics and chemistry, 9 had taken mathematics and physics, 4 had taken physics and chemistry and 3 had taken all the 3 subjects. Find the number of students that had (i) only chemistry,(ii) physics and chemistry, but not mathematics, (iii) only one of the subjects, (iv) at least one of the three subjects, (v) none of the subjects.
24. In a town of 840 persons, 450 persons read Hindi, 300 readEnglish and 200 read both. Then find the number of persons who read neither Hindi nor English.
25. In a group of 65 peoples, 40 like cricket, 10 like both cricket and tennis. How many like tennis only but not cricket? How many like tennis?

ASSIGNMENT MATHEMATICS, CH – 2: RELATIONS AND FUNCTIONS

1. If A = {1, 2, 4}, B = {2, 4, 5}, C = {2, 5} then (A – B) × (B – C)

   (a) {(1, 2), (1, 5), (2, 5)} (b) {1, 4} (c) {1, 4} (d) None of these.

2. If R is a relation on set A = {1, 2, 3, 4, 5, 6, 7, 8} given by xRy y = 3x, then R = ?
   (a) {(3, 1), (6, 2), (8, 2), (9, 3)} (b) {(3, 1), (6, 2), (9, 3)}
   (c) {(3, 1), (2, 6), (3, 9)} (d) None of these.

3. Let A = {1, 2, 3}, B = {4, 6, 9} if relation R from A to B defined byx is greater then y. the range of R is -
   (a) {1, 4, 6, 9} (b) {4, 6, 9} (c) {1} (d) None of these.

5. If 2f(x) – 3 f(1/x) =x2 (x ≠ 0), then f(2) is equal to -
   (a)-7/4 (b) 5/2 (c) –1 (d) None of these.

6. Range of the function f(x) = cos[x] , where [x] is G.I.Function for– $\pi/2 < x < \pi/2$ is -

   (a) {–1, 1, 0} (b) {cos1, cos2, 1} (c) {cos1, –cos1, 1} (d) (-1,1)

7. If f(x) =log (1+x)/(1-x)and g(x) =3x+x3 /1+3x2 then f{g(x)} is equal to -

(a) f(3x) (b) {f(x)}3 (c) 3f(x) (d) –(f(x).

8. If f(x) = cos(logx) then value of f(x).f(y) – ½ {f(x/y)+f(xy)} is -

(a) 1 (b) –1 (c) 0 (d) ±1.

9. Doman of f(x) = $\sqrt{4x - x^2}$ is -

(a) R – [0, 4] (b) R – (0, 4) (c) (0, 4) (d) [0, 4].

10. If A and B are finite sets such that n(A) = 5 and n(B) = 7, then find the number of functions from A to B.

11. If f(x) = $x^2 - 3x + 1$ find $x \in R$ such that f (2x) = f (x)

12 Let f and g be two real valued functions, defined by, f(x) = x, g(x) = |x|. Find:

(a) f +g(x) (b). f – g(x) (c). fg(x) (d) (f/g) (x)

Q.13 Find the domain of the function: $f(x) = \frac{x^2+3x+5}{x^2-5x+4}$

Q.14 Let A={9,10,11,12,13} and f : A → N be defined by f (x) = The highest prime factor of n. Find the range of f.

Q.15 Draw the graph of the function: f (x) = 1| − x | + 1| + x |, − 2 ≤ x ≤ 2.

Q 16. If f is a real function defined by $f(x) = \frac{x-1}{x+1}$ then prove that $f(2x) = \frac{3f(x)+1}{f(x)+3}$.

Q 17 If A = {4,9,16,25}, B = {1,2,3,4} and R is the relation "is square of" from A to B. Write down the set corresponding to R. Also find the domain and range of R.

Q.18 If R is a relation "is divisor of" from the set A = {1,2,3} to B = {4,10,15}, write down the set of ordered pairs corresponding to R.

Q.19 Let A = {1,2} and B = {3,4}. Find the number of relations from A to B.

Q.20 Let N → N be defines by f (x) = 3x . Show that f is not an onto function.

ASSIGNMENT MATHEMATICS, CH – 3: TRIGONOMETRIC FUNCTIONS

Q1. If in two circles, arcs of the same length subtend angles of 60 and 75 at the centre, find the ratio of their radii.

Q2. Find the angle between the minute hand and the hour hand of a clock when the time is 5:20.

Q3. Prove that: $\tan 70^0 = \tan 20^0 + 2\tan 50^0$.

Q4. If $\cot\theta = -12/5$ and 'θ' lies in the second quadrant, find the values of other five functions.

Q5. Find the principal solutions of the following: (a) tan x = 3 (b) 2 sec x = (c) cosec x = -6.

Q6. Prove that : $\tan 9^0 - \tan 27^0 - \tan 63^0 + \tan 81^0 = 4$.

Q7. Show that : $\sqrt{2 + \sqrt{2 + \sqrt{2 + 2\cos 8\theta}}} = 2\cos\theta$.

Q8. Prove that: $\sin^2\frac{\pi}{6} + \cos^2\frac{\pi}{3} - \tan^2\frac{\pi}{4} = \frac{-1}{2}$.

Q9. Prove that: $3\cos^2\frac{\pi}{4} + \sec\frac{2\pi}{3} + 5\tan^2\frac{\pi}{3} = \frac{29}{2}$.

Q 10. $\sec^4 A - \sec^2 A = \tan^4 A + \tan^2 A$

Q11. $\tan^2 A - \sin^2 A = \tan^2 A.\sin^2 A$

Q12. $\frac{\text{cosec } A}{\text{cosec } A-1} + \frac{\text{cosec } A}{\text{cosec } A+1} = 2\sec^2 A$

Class 11- Informatics Practices: Ch-Computer System Worksheet-1

Section A: Multiple Choice Questions

1. **Which component acts as the brain of the computer system?**
   A) RAM B) CPU C) Hard Disk D) ROM
2. **What type of memory is volatile and loses data when power is turned off?**
   A) ROM B) SSD C) RAM D) Flash Drive
3. **Which of the following is an example of system software?**
   A) MS Word B) Operating System C) Google Chrome D) VLC Player
4. **What is the smallest unit of digital memory?**
   A) Byte B) Bit C) Kilobyte D) Nibble
5. **Which CPU register holds the address of the next instruction to be fetched and executed?**
   A) Memory Address Register (MAR) B) Program Counter (PC)
   C) Accumulator (AC) D) Instruction Register (IR)
6. **A system uses 32-bit memory addresses. What is the maximum theoretical RAM capacity it can address directly without extensions?**
   A) 2 GB B) 4 GB C) 8 GB D) 16 GB
7. **Which software type acts as an intermediary layer, allowing different application programs to communicate and share data with each other?**
   A) Device Driver B) Middleware C) Utility Software D) Firmware
8. **If a computer system uses a 64-bit word size, what does this primarily indicate?**
   A) The data bus can transfer 64 bytes at a time.
   B) The CPU can process 64 bits of data in a single cycle.
   C) The storage disk reads data in 64-bit blocks.
   D) The RAM has 64 memory channels.
9. **Which of the following best describes the function of the Control Unit (CU) during the machine cycle?**
   A) It performs logical and relational operations on data.
   B) It fetches, decodes, and manages the execution of instructions.
   C) It permanently saves the state of applications.
   D) It allocates logical memory addresses to physical storage blocks.
10. **In a modern computer memory hierarchy, which memory level offers the fastest access time?**
    A) Level 3 (L3) Cache B) Primary RAM C) CPU Registers D) Solid State Drive (SSD)
11. **If an operating system uses a "GUI" layout, what software layer translates your mouse clicks into machine code?**
    A) Language Processor B) Device Driver C) Application Interface D) Operating System Kernel
12. **How many Kilobytes (KB) are there in exactly 1 Gigabyte (GB) when using binary memory calculation standards?**
    A) 1,000,000 KB B) 1,024 KB C) 1,048,576 KB D) 1,073,741,824 KB

Section B: Short Answer Questions

1. Define the primary functions of the Control Unit (CU) and the Arithmetic Logic Unit (ALU).
2. Differentiate between proprietary software and free and open-source software (FOSS).
3. Convert the following memory units: 4 GB into Megabytes (MB).
4. Explain the purpose of cache memory in a computer system.
5. Distinguish between the functions of **RAM** and **ROM** in terms of who writes the data to them and when it happens.
6. A smartphone specifications sheet lists a "System on a Chip (SoC)". How does an SoC differ from a traditional computer motherboard architecture?

7. Convert **8,388,608 Bits** into **Megabytes (MB)**. Show the step-by-step division process.
8. Explain how **Defragmentation utilities** improve the read/write performance of a mechanical Hard Disk Drive (HDD).

Section C: Long Answer Questions

1. Draw a neat block diagram of a functional computer system. Explain the role of the input, output, CPU, and storage units.
2. What is an operating system? Discuss its major functions regarding resource management and user interface.

Section D: High-Order Thinking Short Answer Questions

1. Contrast the operational differences between a **Compiler** and an **Interpreter** regarding execution speed and error debugging.
2. A user installs a brand new external graphics card, but the operating system fails to utilize its hardware acceleration features. Identify the missing system software component and explain its role.
3. Mathematically prove how many Terabytes (TB) are exactly equivalent to \(2^{40}\) Bytes.
4. Explain the concept of **von Neumann architecture** bottlenecks and how modern cache hierarchies mitigate this issue.

Section E: Complex Analytical Questions

1. Analyze the boot process (Bootstrapping) of a computer system. Detail the chronological role of ROM, BIOS, POST, and the Storage Drive in loading the Operating System into RAM.
2. Discuss the concept of **Cloud Computing**. Differentiate between its three major service delivery models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Give one practical example of each.
3. Analyze the role of **Language Processors** in computing. Compare and contrast an **Assembler**, a **Compiler**, and an **Interpreter** based on their input format, target output, and speed.
4. Differentiate between **System Utilities** and **Application Software**. Classify the following into their exact software categories with a brief justification for each:
   Disk Defragmenter Device Driver for a Printer Python IDLE
   Backup Software

Class 11- Informatics Practices Chapter - Introduction to Python Worksheet-2

Section A: Multiple Choice Questions

1. **Which of the following is an invalid identifier in Python?**
   A) my_var B) _init_ C) 2nd_value D) DataValue
2. **What will be the output of the Python expression print(13 // 4, 13 % 4)?**
   A) 3.25, 1 B) 3, 1 C) 3, 3 D) 3.0, 1.0
3. **Python is an interpreted language. What does this mean?**
   A) The code is compiled into an .exe file before execution.
   B) The source code is executed line-by-line.
   C) The code runs directly on hardware without any translation.
   D) It does not require any memory allocation.
4. **Which of the following statements best describes how Python allocates memory to variables?**
   A) It reserves a fixed memory space based on the variable's explicit type declaration.
   B) It creates a data object in memory first, then tags it with the variable name as a reference.
   C) It allocates memory blocks alphabetically based on the variable identifier's name.
   D) It maps all variables directly to physical CPU registers to speed up script processing.
5. **What is the fundamental purpose of a namespace in a Python environment?**

A) To ensure that code runs faster by sorting variable names by size.
B) To act as a dictionary containing mapping structures that prevent naming conflicts.
C) To compress raw source code files into smaller binary files before execution.
D) To define which external libraries can be legally imported by the user.

6. **Why are Python keywords restricted from being used as variable identifiers?**
   A) Keywords require more storage bytes than user-defined names.
   B) Keywords are reserved by the interpreter to understand the structure and syntax of the program.
   C) Keywords can only contain uppercase characters, violating variable naming design patterns.
   D) Keywords are encrypted internally to prevent source code tampering
7. **What is the value of the Python expression -11 // 3?**
   A) -3 B) -3.66 C) -4 D) -4.0
8. **Which operator in Python has the highest precedence order during evaluation?**
   A) * B) + C) // D) **
9. **What will be the exact data type and value returned by the expression 16 // 4.0?**
   A) 4 (int) B) 4.0 (float) C) 4.0 (int) D) 4 (float)
10. **What is the output of the expression print(14 % -3)?**
    A) 2 B) -1 C) -2 D) 1

Section B: Short Answer Questions

1. Differentiate between interactive mode and script mode in Python.
2. What are tokens in Python? Name any three types of tokens with an example for each.
3. Explain the structural concept of **Operator Precedence** and **Associativity** in Python when evaluating complex expressions without parentheses.
4. State the features of Python.
5. What are the limitations of Python.