SYBSc IT - Sem III NEP(ATKT) March 2026.

Malini Kishor Sanghvi College of Commerce and Economics



S.Y.B. Sc INFORMATION TECHNOLOGY (Semester III)
PRACTICALS EXAMINATION
SECOND HALF 2025
SUBJECT: PYTHON PROGRAMMING AND DATA STRUCTURES

Date: _____ Max Marks: 30

Name: _____ Seat No: _____

1.	Write a python program to demonstrate all types of operators.	13
2.	Write a program to implement Binary search in an array.	12
3.	Journal	5

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S.Y.B. Sc INFORMATION TECHNOLOGY (Semester III)
SECOND HALF 2025
SUBJECT: DATA STRUCTURES

N.B. 1. ALL QUESTIONS ARE COMPULSORY WITH INTERNAL CHOICE
2. EXPLAIN WITH EXAMPLE, PROGRAMS, ALGORITMS ETC. WHEREVER NECESSARY

Time: 1 HOUR **Max Marks: 30**

Q1.	**Answer the following (ATTEMPT a & b OR c & d)**	**15**
	a. What is an Algorithm? What are types of Algorithm Analyses?	**8**
	b. What is an Array? What are various operations performed on Arrays?	**7**
	OR	
	c. What is a Queue? What are its operations and applications?	**8**
	d. What is a Recursive Function? Write a program to input a number and calculate its Factorial.	**7**
Q2.	**Answer the following (ATTEMPT a & b OR c & d)**	**15**
	a. Describe the applications of Tree.	**8**
	b. Construct a Binary tree from given pre order and in order sequence: Pre order: A, B, D, G, K, H, L, M, C, E In order: K, G, D, L, H, M, B, A, E, C	**7**
	OR	
	c. Explain the applications and benefits of Hashing in implementation of directories.	**8**
	d. Explain the Bubble sorting algorithm.	**7**

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S.Y.B. Sc INFORMATION TECHNOLOGY (Semester III)
SECOND HALF 2025
SUBJECT: OPERATING SYSTEM

N.B. 1. ALL QUESTIONS ARE COMPULSORY WITH INTERNAL CHOICE
2. EXPLAIN WITH EXAMPLE, PROGRAMS, ALGORITMS ETC. WHEREVER NECESSARY

Time: 1 HOUR **Max Marks: 30**

Q1.	**Answer the following (ATTEMPT a & b OR c & d)**	**15**
	a. Explain System Booting.	**8**
	b. What are System Calls? Explain their types.	**7**
	OR	
	c. What are Threads? Explain their life cycle.	**8**
	d. What are Semaphores? Describe its types.	**7**
Q2.	**Answer the following (ATTEMPT a & b OR c & d)**	**15**
	a. Describe Continuous Memory Allocation.	**8**
	b. What is Virtual Memory? Explain its advantages.	**7**
	OR	
	c. Explain recovery from Deadlock. Describe various ways to break the deadlock.	**8**
	d. Explain the concept of File. Sate its types and structures.	**7**

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SYBSCIT – Semester 3

INDUSTRY AND SERVICE MANAGEMENT

Time: 2 hours Marks: 60

Note:

- All questions are compulsory.
- Figures to right indicate full marks.
- There is no internal options.
- Each question is of 15 marks

ATTEMPT ANY FOUR OUT OF SIX.

1.A. A company invest Rs 150000 in a project. Cash inflow from the project are as follows – 15 marks

Years	Cash inflow (in Rs)
1	60000
2	120000
3	1800000
4	2400000
5	300000

Calculate the following-

a) Payback Period.
b) NPV @10%.
c) Profitability Index @10%.

2.A. The capital Structure of a company is as follow – 15 marks

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CAPITAL STRUCTURE	AMOUNT (in Rs)
EQUITY SHARE CAPITAL (Rs 100 each)	5000000
8% PREFERENCE SHARE CAPITAL (Rs 100 each)	2000000
6 % DEBENTURES (Rs 100 each)	2000000
RESERVE AND SURPLUS	1000000
TOTAL	10000000

1. Preference shares and debentures are redeemed @10% premium after 5 years.
2. Tax Rate @ 20 %
3. Company pays 10% dividend in equity shares
   Calculate WACC.

3.A. A company issues 8% debenture of Rs 100 each at par. Company bears floatation cost of Rs 2 per share. Debentures are redeemed @10% premium after 5 years. Calculate Cost of Debt. Tax Rate@ 20 %. – 8 marks

3.B. A company issues 9% Preference shares of Rs 100 each at premium of 5%. Preference shares are redeemed @ 10 % premium. Calculate cost of Preference shares if these shares are redeemed after 4 years. – 7 marks

4.A. Explain various sources of capital. – 8 marks

4.B. Elaborate on different type of leverages. – 7 marks

5.A. Explain principle of corporate governance. – 8 marks

5. B. Explain different measures of financial risk. – 7 marks

6.A. Brief on EBIT-EPS analysis. – 8 marks

6. B. Explain the importance of strategic financial management. – 7 marks