

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous Institute U/s UGC Act 1956)

IMSc-IT SEMESTER-I, SEMESTER END EXAMINATION – WINTER 2025

SUBJECT CODE: 2BS103

DATE: 19-12-2025

SUBJECT NAME: FUNDAMENTAL OF COMPUTER

TIME: 11:00 AM to 01:30 PM

TOTAL MARKS: 70

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Write answers of **Section A** and **Section B** in **separate answer books**.
3. Attempt all questions from both **Section A** and **Section B**.
4. Each section carries **35 marks**, with a total of **70 marks** for the examination.
5. The figures to the right of each question indicate full marks, make suitable assumptions with justification.
6. BL - Cognitive Level (As per Revised Bloom's Taxonomy) (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

		Marks	BL	CO
Q.1	(a) Describe the main objectives of an Operating System.	03	R	4
	(b) What is a Distributed Operating System? Explain its architecture.	04	U	4
Q.2	(a) What is a file system?	03	R	5
	(b) Explain low-level and high-level formatting.	04	U	5
	(c) Explain file systems in detail.	07	U	5
OR				
Q.2	(a) What is Disk Defragmentation?	03	R	5
	(b) Explain Disk Partitioning.	04	U	5
	(c) Explain Disk Scheduling in detail.	07	U	5
Q.3	(a) Explain types of shell of Linux.	03	R	6
	(b) Explain the major components of Linux.	04	U	6
	(c) Explain following commands: Cd, cp, cat, mkdir, chmod	07	A	6
OR				
Q.3	(a) Explain basic structure of Linux.	03	R	6

(b)	Explain the main features of the Linux.	04	U	6
(c)	Explain following commands: Ls, ps, cmp, rmdir, pwd	07	A	6

SECTION B

		Marks	BL	CO
Q.4	(a) Explain components of a computer.	03	U	1
	(b) What is software? Explain types of software.	04	U	1
Q.5	(a) What is BIOS?	03	R	2
	(b) Write the difference between RAM, ROM, and cache memory.	04	U	2
	(c) Explain block diagram of computer in detail.	07	U	2

OR

Q.5	(a) What is ALU?	03	R	2
	(b) Explain POST process.	04	U	2
	(c) Explain the motherboard in detail.	07	U	2
Q.6	(a) What is a number system?	03	R	3
	(b) Explain ASCII code in detail.	04	U	3
	(c) Solve the following.	07	A	3
	1. $(1912)_{10} = (?)_2$			
	2. Add binary numbers: $(110010)_2$ and $(101110)_2$			
	3. $(BCD)_{16} = (?)_2$			
	4. Multiply: $(10101)_2$ and $(011)_2$			

OR

Q.6	(a) What is hexadecimal? Give an example.	03	R	3
	(b) What is BCD? Explain it with example.	04	U	3
	(c) Solve the following.	07	A	3
	1. Subtract: $(11011)_2$ from $(11101)_2$			
	2. $(347)_8 = (?)_2$			
	3. $(110010101)_2 = (?)_8$			
	4. $(11110101)_2 = (?)_{16}$			
