

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: 1BS103

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 - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

	Marks	BL	CO
Q.1 Multiple-Choice Questions	[05]		
(a) The term “Computer” is derived from the word	1	A	1
<div style="display: flex; justify-content: space-between;"> (i) Compute (ii) Compare </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> (iii) Compress (iv) Compile </div>			
(b) Which of the following is found inside system unit?	1	U	2
<div style="display: flex; justify-content: space-between;"> (i) RAM (ii) HD </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> (iii) Motherboard (iv) All of these </div>			
(c) The speed of CPU is measured in	1	R	2
<div style="display: flex; justify-content: space-between;"> (i) RPM (ii) MBPS </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> (iii) DPI (iv) GHz </div>			
(d) Shell is	1	U	5
<div style="display: flex; justify-content: space-between;"> (i) Antivirus (ii) Compiler </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> (iii) Hardware (iv) Software interface to run commands </div>			

- (e) wc is used to count 1 R 5
- (i) Words (ii) Characters
- (iii) Lines (iv) All of these

- Q.2 Attempt Any Two** [10]
- (a) Explain characteristics of a computer in detail. 5 R 1
- (b) Differentiate between system software and application software. 5 U 1
- (c) Explain input, output, storage, and processing devices with examples. 5 U 1
- Q.3 Attempt Any Two** [10]
- (a) Explain BIOS and POST in detail. 5 R 2
- (b) Explain the structure and components of motherboard. 5 U 2
- (c) Explain different types of memory. 5 U 2
- Q.4 Attempt Any Two** [10]
- (a) Explain Linux architecture. 5 U 5
- (b) Explain given Linux directory commands: mkdir, rmdir, cd, pwd. 5 A 5
- (d) Explain given Linux commands: who, date, ls, ps. 5 A 5

SECTION B

	Marks	BL	CO
Q.5 Multiple-Choice Questions	[05]		
(a) What is the binary equivalent of the decimal number 10?	1	A	3
(i) 1010			
(ii) 10			
(iii) 1100			
(iv) 0011			
(b) Which operating system supports only one user at a time?	1	U	4
(i) Multi-user OS			
(ii) Real-time OS			
(iii) Single-user OS			
(iv) Time-sharing OS			
(c) Which digits are used in the binary number system?	1	R	3
(i) 0–9			
(ii) 0–7			
(iii) 0–1			
(iv) 0–F			
(d) What is disk partitioning?	1	U	4
(i) Increasing internet speed			
(ii) Copying all data to USB			
(iii) Changing screen resolution			
(iv) Dividing a disk into separate sections for data storage			
(e) NTFS stands for:	1	R	4
(i) Network Time File System			
(ii) New Technology File System			
(iii) National Transfer File System			
(iv) Next Tech Format System			
Q.6 Attempt Any Two	[10]		
(a) Write a short note on ASCII.	5	U	3
(b) Write a short note on binary number system.	5	U	3
(c) Convert:	5	A	3
1. $(987)_{10} = (?)_2$			
2. $(01111001)_2 = (?)_8$			
Q.7 Attempt Any Two	[10]		
(a) Differentiate between Single user and Multiuser operating system.	5	R	4
(b) What is operating system? Explain objectives of operating system.	5	U	4

(c) What is file system? Explain its types. **5 R 4**

Q.8 Attempt Any Two [10]

(a) Solve the following. **5 A 3**

1. Subtract binary numbers: $(111101)_2$ from $(1100011)_2$

2. Add binary numbers: $(110110)_2$ and $(101010)_2$

(b) What is BCD? Explain it in detail with truth table and example. **5 U 3**

(c) What is the process of booting? Explain Dual Booting in details. **5 R 3**
