

BRA BIHAR UNIVERSITY, MUZAFFARPUR
DIRECTORATE OF DISTANCE EDUCATION
PROFESSIONAL COURSE: MODEL QUESTIONS

BSCIT/2ND/BIT07-COMPUTER ORGANIZATION & ARCHITECTURE

- Q. 1. Explain the difference between structure and behavior property of digital system.
- Q. 2. What do you understand by design levels in the design of computer system?
- Q. 3. Define main memory and cache memory. Explain briefly.
- Q. 4. What do you mean by Bus? Give the advantages and disadvantages of physical and functional buses.
- Q. 5. Give the internal structure of a CPU.
- Q. 6. Explain the calculation of effective address in case of Displacement addressing and relative addressing modes.
- Q. 7. Design a PLA circuit for the BCD-to-excess-3 code converter.
- Q. 8. Explain the need of pipelining.
- Q. 9. Compare RISC and CISC processors.
- Q.10. What is the different instruction formats used in the computer architecture?
- Q.11. Explain the various functions of assembler directives.
- Q.12. Write and explain Booth's Algorithm.
- Q.13. What is Micro-operation? Explain with the help of example.
- Q.14. Draw the functional block diagram of microprocessor 8085 and explain it in brief.
- Q.15. Write short note on any two of the following:
- a) DMA(Direct Memory Access) b) Paging c) Assembler.

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PROFESSIONAL COURSE: MODEL QUESTIONS

BSCIT/2ND/BIT08-MATHEMATICS

- Q.N. (1) Define matrices. Solve if $A = \begin{bmatrix} 7 & 4 \\ 2 & -7 \end{bmatrix}$, $B = \begin{bmatrix} 9 & 5 \\ 4 & 3 \end{bmatrix}$,
 Find $4A - 7B$.
- Q.N. (2) Explain rank of matrix. Find the rank of matrix $\begin{bmatrix} 1 & 2 & 3 \\ 9 & 7 & 1 \\ 2 & 4 & 0 \end{bmatrix}$.
- Q.N. (3) Find inverse of the function $e^x = y + \sqrt{1+y^2}$.
- Q.N. (4) Evaluate $\lim_{x \rightarrow 0} \frac{x^2}{6^x - 3^x - 2^x + 1}$
- Q.N. (5) Find $\frac{dy}{dx}$ (a) $y = x + \frac{1}{x}$ (b) $y = a^{x \log x}$.
- Q.N. (6) Differentiate w.r.to x $y = \log \sqrt{\frac{1-\sin x}{1+\sin x}}$.
- Q.N. (7) Evaluate $\int \frac{dx}{1+\cos x}$
- Q.N. (8) Integrate w.r.to x $\int x^n \log x \, dx$.
- Q.N. (9) What do you mean by Sets. Also explain Intersection of sets using Venn diagram.
- Q.N. (10) It is known that out of 600 students in a school, 150 students drink Coca Cola, 225 drink Pepsi, 100 drink both Coca Cola and Pepsi. Find how many students were drinking neither Coca Cola nor Pepsi.
- Q.N. (11) Find the value of x if $\log_{16} x + \log_4 x + \log_2 x = 14$.
- Q.N. (12) Find the vector which is perpendicular to $3i - j + 2k$ and $2i + j - k$.
- Q.N. (13) Write and explain Arithmetic Mean. Also explain its merit & demerit.
- Q.N. (14) Compute the mean age from the data given below:
- | | | | | | | |
|----------------|-------|-------|-------|-------|-------|-------|
| Age (years) | 20-25 | 25-30 | 30-35 | 35-40 | 40-45 | 45-50 |
| No. of persons | 170 | 110 | 80 | 45 | 40 | 35 |
- Q.N. (15) Write short notes on any two:
 (a) Cramer's rule (b) Algebra of sets (c) Regression.

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PROFESSIONAL COURSE: MODEL QUESTIONS
BSCIT/2ND/BIT09-OPERATING SYSTEM

- Q. 1. What are the functions of operating system?
- Q. 2. What do you mean by process? Also explain different states of process.
- Q. 3. Write and explain about mutual exclusion.
- Q. 4. Define scheduling. Also explain one of the scheduling techniques.
- Q. 5. What is multilevel queue scheduling?
- Q. 6. What are the necessary conditions for a deadlock to occur?
- Q. 7. What is external fragmentation? Explain.
- Q. 8. How swapping is useful in memory management?
- Q. 9. What relationship exists between the choice of a system file structure and the system's virtual memory?
- Q. 10. Explain the directory structure used in the file system implementation.
- Q. 11. Define Semaphores. Also explain about the process synchronization with semaphores.
- Q. 12. Write and explain Dekker's Algorithm for mutual exclusion primitives.
- Q. 13. What do you mean by distributed systems?
- Q. 14. Define Inter-process Communication. Also explain Direct and Indirect communications.
- Q. 15. Write short notes on any two:
- a.) Operating System b.) Thrasing c.) Swapping.

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PROFESSIONAL COURSE: MODEL QUESTIONS
BSCIT/2ND/BIT10-TECHNICAL COMMUNICATIONS

- Q. 1. What is the significance of Effective speaking?
- Q. 2. What consideration should be kept in mind while writing letter? Briefly discuss.
- Q. 3. Define communication. Discuss the nature of communication.
- Q. 4. Differentiate between oral and written communication.
- Q. 5. What factors would you keep in mind for effective business communication?
- Q. 6. What is a good business letter? Explain the essential characteristics of a good business letter.
- Q. 7. Explain the nature and importance of non-verbal communication?
- Q. 8. Define letter writing? Also write a letter for settlement of claim by the insurance company.
- Q. 9. What do you mean by writing skills? Mention the basic ingredients of clear writing.
- Q. 10. What consideration should be kept in mind while writing letters? Briefly discuss.
- Q. 11. "Written communication is always better than oral communication." Justify.
- Q. 12. Write a letter to a director informing him to attend a board meeting?
- Q. 13. Write and explain the essentials of a good commercial letter.
- Q. 14. What is body Language? How does body Language supplement verbal communication? Explain.
- Q. 15. Write short notes on any two:
- (a) a.) Agenda b.) Listening skills c.) Effective Writing

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PROFESSIONAL COURSE: MODEL QUESTIONS
BSCIT/2ND/BIT11-COMPUTER NETWORK

- Q. 1. What is meant by network topology?
- Q. 2. Differentiate between physical and logical topology for networks.
- Q. 3. Write and explain different types of communication channels.
- Q. 4. Discuss and explain various layers in the ISO-OSI model.
- Q. 5. What do you understand by distributed data processing?
- Q. 6. Explain the teletext and videotext networks.
- Q. 7. Write about TCP/IP protocol suite.
- Q. 8. Discuss the design issues for Data Link Layer.
- Q. 9. What do you mean by Sliding Window Protocol?
- Q. 10. What are the hardware and software requirements for establishing an Internet?
- Q. 11. What is ISDN? Discuss its relevance.
- Q. 12. Explain the various multimedia authoring tools with example.
- Q. 13. Discuss about the various MIDI software's.
- Q. 14. What is WWW? Discuss its importance.
- Q. 15. Write short notes on any two:
- a.) RPC (Remote Procedure Calls) b.) LAN c.) Routers.
