

BRA BIHAR UNIVERSITY, MUZAFFARPUR

DIRECTORATE OF DISTANCE EDUCATION

PROFESSIONAL COURSE: MODEL QUESTIONS

MSCIT/3RD/MIT12-C++

- Q. 1. What is OOP? Describe the important features of object oriented programming.
- Q. 2. Write a C++ program to display a Fibonacci series of numbers.
- Q. 3. Write a C++ program to add three integers using functions.
- Q. 4. Define looping. Also explain one of the looping statements with example.
- Q. 5. Write a C++ program to perform multiplication of two matrices.
- Q. 6. Write and explain operators used in C++ language.
- Q. 7. Describe a class. Also explain static data member and static member functions.
- Q. 8. Write a class representing a Customer and implement its data members and member methods to store and display member data.
- Q. 9. What are friend functions and when are they used?
- Q.10. What do you understand by operator overloading? Give an example.
- Q.11. What do you understand by polymorphism? Also explain abstract class.
- Q.12. Define exception class. Write a suitable exception class to handle invalid number exception.
- Q.13. What do you mean by constructor and destructor. Give suitable example.
- Q.14. What do you understand by class inheritance? Describe the different types of inheritance.
- Q.15. Write short note on any two of the following:
a) Encapsulation b) Polymorphism c) Templates.

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PROFESSIONAL COURSE: MODEL QUESTIONS
MSCIT/3RD/MIT13-DISCRETE MATHEMATICS

- Q. 1. Define an equivalence relation with suitable example?
- Q. 2. Find the domain and range of the function $f(x) = \frac{x}{1+x^2}$
- Q. 3. Prove by mathematical induction that the sum of the first n natural numbers is $\frac{n(n+1)}{2}$
- Q. 4. Define Sequences. Give an example of a suitable finite sequence.
- Q. 5. Define progression. Find the nth term of the series $1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots$
- Q. 6. What do you mean by Least Common Multiple? If a and b are two positive integers then $\text{GCD}(a, b) \cdot \text{LCM}(a, b) = ab$.
- Q. 7. Define applications of recurrences with suitable example.
- Q. 8. Define tautology. Also proof $(p \wedge q) \Rightarrow p$ is a tautology.
- Q. 9. Define Relational Matrices. Give suitable example.
- Q.10. How many distinguishable permutations of the letter BANANA are there?
- Q.11. Define Group. If G is a Group, then every elements in G has unique inverse in G.
- Q.12. Discuss and explain Symmetric, Asymmetric, and Antisymmetric relations.
- Q.13. Consider the Boolean polynomial $P(x_1, x_2, x_3) = (x_1 \wedge x_2) \vee (x_1 \vee (x_2' \wedge x_3))$. Construct the truth table for the Boolean function $f: B_3 \rightarrow B$ determined by this Boolean polynomial.
- Q.14. Define spanning tree. Discuss about PRISM'S ALGORITHM.
- Q.15. Write short note on any two of the following:
a) Euler Paths and Circuits b) Tautology c) Isomorphism.

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PROFESSIONAL COURSE: MODEL QUESTIONS
MSCIT/3RD/MIT14-IT LAW & PRACTICE

- Q. 1. What do you mean by computers and the law today?
- Q. 2. Discuss and explain the development of the Internet.
- Q. 3. Define e-commerce. Also explain e-commerce an online approach.
- Q. 4. Differentiate and explain B2B, B2C, C2B, and C2C commerce.
- Q. 5. What are the challenges for wider acceptance of online payment system?
- Q. 6. Write and explain the Indian Evidence Act, 1872.
- Q. 7. Briefly explain the Reserve Bank of India Act, 1934.
- Q. 8. Discuss the provisions of Evidence Act as to admissibility of electronic records.
- Q. 9. Write about the Information Technology Act, 2000.
- Q. 10. Define cyber law. Also explain its historical perspective.
- Q. 11. Write and explain about Digital Signature Certificates.
- Q. 12. What do you mean by the Cyber Regulations Appellate Tribunal?
- Q. 13. Define Cyber Crime. Also discuss different categories of cyber crimes.
- Q. 14. What do you mean by United Nations Resolution?
- Q. 15. Write short notes on any two:
 - a.) Cyber laws
 - b.) Electronic records
 - c.) E-commerce.

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PROFESSIONAL COURSE: MODEL QUESTIONS

MSCIT/3RD/MIT15-JAVA

- Q. 1. What do you mean by Java Virtual Machine?
- Q. 2. Write a Java program to find out smallest number in an array of integers.
- Q. 3. Discuss and explain control flow statements used in Java in detail.
- Q. 4. Write a Java program for copy one array to another and print the values of both the arrays.
- Q. 5. Define class and object. What is necessity of command line arguments?
- Q. 6. What is difference between overloading and overriding?
- Q. 7. How inheritance is achieved in Java? Show with one example.
- Q. 8. Write a program to copy one file to another file.
- Q. 9. What is importance of using package in Java?
- Q. 10. Define Interface. Differentiate between Interface and Class.
- Q. 11. Discuss exceptions. What are User defined Exceptions?
- Q. 12. What is multitasking? How it differs from multithreading?
- Q. 13. What are the restrictions on an Applet? What is the life cycle of an applet class?
- Q. 14. Why are streams used in Java? Give suitable example.
- Q. 15. Write short notes on any two:
- a.) Applet Tag b.) JTextField c.) Use of super keyword.

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PROFESSIONAL COURSE: MODEL QUESTIONS

MSCIT/3RD/MIT16-ORACLE 9 i

- Q. 1. What is difference between a database schema and a database state?
- Q. 2. Discuss the different types of user-friendly interfaces and the types of users who typically use each.
- Q. 3. What is a relationship type? Explain the differences among a relationship instance, a relationship type, and a relationship set.
- Q. 4. What is meant by recursive relationship type? Give some examples of recursive relationship types.
- Q. 5. What is the difference between a key and a super key?
- Q. 6. Discuss the entity integrity and referential integrity. Why each is considered important.
- Q. 7. Discuss the characteristics of relations that make them different from ordinary tables and files.
- Q. 8. Discuss the options for mapping EER model constructs to relations.
- Q. 9. Discuss the different types of failures. What is meant by catastrophic failure?
- Q. 10. Draw a state diagram, and discuss the typical states that a transaction goes through during execution.
- Q. 11. Discuss the atomicity, durability, isolation, and consistency preservation properties of a database transaction.
- Q. 12. Discuss the actions taken by read_item and write_item operations on a database.
- Q. 13. What are the components of a disk block address?
- Q. 14. What is the difference between static and dynamic files?
- Q. 15. Write short notes on any two:
 - a.) File headers
 - b.) Hashing
 - c.) DBMS Interfaces.

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PROFESSIONAL COURSE: MODEL QUESTIONS

MSCIT/3RD/MIT17-ADVANCE SOFTWARE ENGINEERING

- Q. 1. What is the principal aim of the software engineering discipline? What does the discipline of software engineering discuss?
- Q. 2. Name the basic techniques used by the software engineering techniques to handle complexity in a problem.
- Q. 3. What do you mean by software process? What is the difference between a methodology and a process? Explain using suitable example.
- Q. 4. Write and explain waterfall model.
- Q. 5. What are the major advantages of first constructing a working prototype before developing the actual product?
- Q. 6. Discuss and explain spiral life cycle model.
- Q. 7. What are the different categories of software development projects according to the COCOMO estimation model?
- Q. 8. What are the relative advantages of using either the LOC or the function point metric to measure the size of a software product?
- Q. 9. List the important items that a Software Project Management Plan (SPMP) document should discuss.
- Q. 10. What is software testing? Explain testing objectives and testing principles.
- Q. 11. What is Black Box Testing? Explain.
- Q. 12. Write and explain the strategic approach to software testing.
- Q. 13. Discuss and explain Alpha and Beta testing.
- Q. 14. What do you mean by Code Reading? Also explain about code inspection.
- Q. 15. Write short notes on any two:
- a.) Integration Testing b.) Black Box Testing c.) DFD (Data Flow Diagram)
