



Admas University
Mekanisa Campus
Faculty of Informatics
Department of Computer Science
Model Exit Exam IV CODE MK-004



Name _____
 ID.No. _____

SENE, 2015
 Time allotted: 3:00 hrs

Model Exit Exam Computer Science

S.N	Theme	Course Title	Credit Hrs.	Number of Questions
1	Theme 1. System Development	Web programming	6	9
		Software Engineering	3	6
		Database Systems	6	12
Total		3	15	27
2	Theme 2. Programming and Algorithms	Computer Programming	6	6
		Object Oriented Programming	3	6
		Design and Analysis of Algorithms	3	6
		Data Structure and Algorithms	3	7
Total		4	15	25
3	Theme 3. Computer Networking and Security	Data Communication and Computer Networking	3	6
		Computer Security	3	6
		Network and System Administration	3	6
Total		3	9	18
4	Theme 4. Intelligent Systems	Introduction to Artificial Intelligence	3	6
		1	3	6
5	Theme 5. Computer Architecture and Operating Systems	Operating System	3	6
		Computer organization and architecture	3	6
Total		2	6	12
6	Theme 6. Compiler and Complexity	Formal Language and Complexity Theory	3	6
		Compiler Design	3	6
		2	6	12
Grand total		12	51	100

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Instruction: Read the questions and choose the right answer from the given alternatives and write the letter of your choice on the space provided at the separate answer sheet. (1 point each)

Part 1: System Development

1. Which one of the following is False about static website?
 - A. Its content will be changed unless the actual webpage file is edited.
 - B. It is also referred as flat pages or stationary pages.
 - C. It will be delivered to the users as exactly stored in the files.
 - D. Its content remains the same for all viewers of the website.
2. Which one of the following is a server side scripting language?
 - A. PHP
 - B. ASP
 - C. Python
 - D. All of the above
3. A pop up box used to display information to user in JavaScript is called _____.
 - A. Prompt
 - B. Alert
 - C. Confirm
 - D. All of the above
4. What does these code possibly refers to `<link rel="stylesheet" href="styles.css">` ?
 - A. Defines a new CSS by the name styles
 - B. Calls an internal style sheet called styles
 - C. Calls an external style sheet called styles
 - D. Defines an inline CSS by the name styles
5. What is the preferred way for adding a background color in HTML?
 - A. `<body background="yellow">`
 - B. `<background>yellow</background>`
 - C. `< body style="background-color: yellow">`
 - D. `<background color="yellow">text<background>`
6. What is the method used to get the result from the form data sent with both GET and POST?
 - A. `$_REQUEST`
 - B. `$_POST`
 - C. `$_GET`
 - D. A & B
7. Which of the following is an optional parameter one while using `mysqli_connect()` method?
 - A. Localhost
 - B. Database
 - C. Username
 - D. Password
8. What Tag Is Used For Inserting A Line Break In A Html Page.
 - A. `<break>`
 - B. ``
 - C. `
`
 - D. `<lb>`

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9. Which Javascript Event Handler Pertains To Actions Enabled By Mouse Clicks.
- A. Oninput
 - B. Onchange
 - C. Onclick
 - D. Ondrag
10. Which of the following are Advantages of modularization in software design?
- A. Smaller components are difficult to maintain
 - B. Components with high cohesion can be re-used again
 - C. Program can be divided based on functional aspects
 - D. Desired from security aspect
11. Which of the following is not element of Requirement Engineering Process?
- A. Software Requirement Specification
 - B. Feasibility Study
 - C. Software Requirement Design
 - D. Requirement Gathering
12. Which type of test determine if the system meets the entire requirements (functional and nonfunctional)
- A. Unit Test
 - B. Integration test
 - C. System test
 - D. Acceptance test
13. How is generalization implemented in Object-Oriented software engineering?
- A. Inheritance
 - B. Polymorphism
 - C. Encapsulation
 - D. Abstract Classes
14. All of the following are required to develop an effective test except:
- A. Detailed understanding of the system
 - B. Application and solution domain knowledge
 - C. Knowledge of the testing techniques
 - D. Skill to specific programming language
15. Use case description commonly contains:
- A. Trigger, associations, guarantee.
 - B. Precondition, generalizations, main scenario.
 - C. Precondition, main scenario, alternative scenarios
 - D. None of the above

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16. _____ It defines how and where data are organized in physical data storage
- A. Internal Schema
 - B. Conceptual Schema
 - C. External Schema
 - D. External and Conceptual Schema
17. During modeling your data, Entity Relationship is applied at
- A. Applications and security
 - B. Physical refinement
 - C. Conceptual database
 - D. Schema refinement
18. Criteria that should not be considered when evaluating or assessing requirement analysis?
- A. Correctness
 - B. Need assessment
 - C. Consistency
 - D. Speed
19. The SQL command that you use to define the primary key for a existing table called 'Employee' with the primary column to be 'empid'
- A. ADD TABLE Employee ADD PRIMARY KEY (empid)
 - B. ATTACH TABLE Employee ADD PRIMARY KEY (empid)
 - C. ADD TABLE Employee ATTACH PRIMARY KEY (empid)
 - D. DALTER TABLE Employee ADD PRIMARY KEY (empid)
20. While checking normalization process, the problem that doesn't exist on transitive dependency is
- A. Modification Anomaly
 - B. Revoke Anomaly
 - C. Insertion Anomaly
 - D. Deletion Anomaly
21. You need to produce a report for mailing labels for customers. The mailing label must have only the customer name and address. The CUSTOMERS table has these columns, ID ,NAME,ADDRESS,PHONE ,the SELECT statement to accomplishes this task?
- A. SEL000ECT name, address FROM customers;
 - B. SELECT*FROM customers;
 - C. SELECT id, name, address, phone FROM customers;
 - D. SELECT cust_name, cust_address FROM customers;
22. If the maximum cardinality is equal to 1 in both directions of a relationship, then it is
- A. Optional
 - B. Many-to-many
 - C. One-to-one
 - D. One-to-many
23. How do change the PRICE of BOOK whose id =B001 to value of 600
- A. CHANGE BOOK SET PRICE =600 Where ID ='B001';

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- B. UPDATE TO CHANGE BOOK SET PRICE =600 Where ID ='B001';
C. UPDATE BOOK SET PRICE =600 Where ID ='B001';
D. GRANT BOOK SET PRICE =600 Where ID ='B001';
24. The Entity Relationship (E-R) Model
A. Entities are represented by circle
B. Attributes are represented by rectangle
C. It represents conceptual view
D. It corresponds to row
25. Removal of transitivity property should be full filled in
A. First Normal form
B. Fourth Normal form
C. Third Normal form
D. Second Normal form
26. If relation R has 5 tuples and relation S has also 7 tuples, then Cartesian product of R and S will have
A. 5+7 tuples
B. 7-5 tuples
C. 5X7 tuples
D. 5/7 tuples
27. How do you prevent system privileges deletion and updating authority on PRICE and YEAR column of the CATALOGUE table from user Mohammed
A. GRANT DELETE, UPDATE (price,year) ON catalogue From Mohammed
B. ALLOW DELETE, UPDATE (price,year) ON catalogue From Mohammed
C. REVOKE DELETE, UPDATE (price,year) ON catalogue From Mohammed
D. DENY DELETE, UPDATE (price,year) ON catalogue From Mohammed

Part 2-Programming and Algorithms

28. In C++ programming, a variable which stores a reference to another variable is called a ____
A. Pointer
B. Constructor
C. Asterisks
D. Structure
29. A program that translates a high-level language like C++ to a machine language is called a ____
A. Disassembler
B. Coder
C. Compiler
D. Assembler
30. In C++ programming, assume that the value of the variable A is 0 and the value of the variable B is 10.
Which one of the following alternatives is false? *
A. (B == 10) || (x < y)
B. (A > 20) || (B > 5)
C. (A > 10) && (x < y)
D. (A == 0) && (B < 20)
31. Which one of the following format is write about functions in structural Programming?
A. Type name { parameter1, parameter2, ... } (statement)

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- B. Name type (parameter1, parameter2, ...) { statement }
- C. Type name (parameter1, parameter2, ...) {statement }
- D. Name type { parameter1, parameter2, ...} (statement)

32. Which of the following is a valid function call (assuming the function add exists & have two parameters)?

- A. add;
- B. add(a,b);
- C. add a,b;
- D. add(int a, int b);

33. A function is said to be recursive function_____?*

- A. If the function calls another function2 & Function3
- B. If the main function calls many functions
- C. If the main function calls another one function
- D. If the function calls itself

34. Which of the following is not an OOPS concept?

- A. Encapsulation
- B. Polymorphism
- C. Exception
- D. Abstraction

35. Which feature of OOPS derives the class from another class?

- A. Inheritance
- B. Data hiding
- C. Encapsulation
- D. Polymorphism

36. Which two features of object-oriented programming are the same?

- A. Abstraction and Polymorphism features are the same
- B. Inheritance and Encapsulation features are the same
- C. Encapsulation and Polymorphism features are the same
- D. Encapsulation and Abstraction

37. Which of the following statement of a program is not right?

- A. class teacher{ }; teacher s[5];
- B. class teacher{ }s;
- C. class teacher{ }s[];
- D. class teacher{ }; teacher s;

38. Using the concept of encapsulation security of the data is _____

- A. Ensured to some extent
- B. Purely ensured
- C. Not ensured
- D. Very low
- E. Consider the following Java program and select the right option from the given options.

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```

class marksofstudent
{
    int subjectmarks;
    public : int* fun()
    {
        return &subjectmarks;
    }
};

main()
{
    marksofstudent s;
    int *ptr = c.fun() ;
    return 0;
}

```

- A. The above program may result in undesirable conditions
- B. The above program violates the feature of encapsulation
- C. The above program will generate an error
- D. The above program is good to go

39. Which one of the following statements are true?*

- A. Structure is collection of homogenous members
- B. Individual values of the Structure are called members
- C. It is possible to initialize the Structure up on its defining
- D. All are correct

40. An ____ is defined as a set of well-defined instructions used to accomplish a particular task.

- A. Algorithm
- B. Function
- C. Program
- D. Procedure

41. The measure of the longest amount of time possibly taken to complete an algorithm is expressed as ____.

- A. Little-O
- B. Little-Omega
- C. Big-Omega
- D. Big-O

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42. A ____ is a compact, informal, and environment-independent description of a computer programming algorithm.

- A. Stack
- B. Queue
- C. Psuedocode
- D. Non-linear data structure

43. ____ of an algorithm is the amount of time required for it to execute.

- A. Time complexity
- B. Space complexity
- C. Compiling time
- D. Best case

44. Potential function method is the technique that performs an amortized analysis based on ____.

- A. Financial model
- B. Computational model
- C. Algorithm analysis
- D. Energy model

45. ____ is the maximum amount of time an algorithm takes to execute a specific set of inputs.

- A. Running time
- B. Average case time complexity
- C. Worst case time complexity
- D. Best case time complexity

46. Which of the following is non-linear data structure?

- A. **A** Trees
- B. **B** Stacks
- C. **C** Strings
- D. **D** All of the above

47. The number of comparisons done by sequential search is

- A. **A** $(N/2)+1$
- B. **B** $(N+1)/2$
- C. **C** $(N-1)/2$
- D. **D** $(N-2)/2$

48. is not the operation that can be performed on queue.

- A. **A** Traversal
- B. **B** Insertion
- C. **C** Deletion
- D. **D** Retrieval

49. Which is/are the application(s) of stack

- A. **A** Function calls
- B. **B** Large number Arithmetic
- C. **C** Evaluation of arithmetic expressions

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D. **D** All of the above

50. Which of the following data structures are indexed structures?

- A. **A** Stack
- B. **B** Linked lists
- C. **C** Linear arrays
- D. **D** None of the above

51. Which of the following data structure store the homogeneous data elements?

- A. **A** Lists
- B. **B** Pointers
- C. **C** Records
- D. **D** Arrays

52. Linear arrays are also called.....

- A. **A** One-dimensional array
- B. **B** Vertical array
- C. **C** Horizontal array
- D. **D** All of the above

Part 3-Computer Networking and Security

53. Which one of the following is not component of data communication?

- A. Message
- B. Medium
- C. Sender
- D. Protocol

54. There are two types of network topologies from these topologies which one of the following defines how hosts access the media to send data.*

- A. Logical Topology
- B. Bus Topology
- C. Physical Topology
- D. Star Topology

55. Segmentation of a data stream happens at which layer of the OSI model?

- A. Physical
- B. Data Link
- C. Network
- D. Transport

56. When data is encapsulated, which is the correct order?*

- A. Data, frame, packet, segment, bit
- B. Data, segment, packet, frame, bit
- C. Segment, data, packet, frame, bit
- D. Data, segment, frame, packet, bit

57. You want to implement a network medium that is not susceptible to EMI. Which type of cabling should you use?

- A. Coaxial

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- B. Category 6 UTP
 - C. Microwave
 - D. Fiber-optic
58. From the following lists which one is not the responsibility (service) of data link layer
- A. Hardware Addressing
 - B. C. media access control
 - C. Network Addressing
 - A. logical link control
59. Which class of IP address provides a maximum of only 254 host addresses per network ID?
- A. Class A
 - B. Class D
 - C. Class B
 - D. Class C
60. Which one of the following list is not component of an analogue signals?
- A. Amplitude
 - B. Wavelength
 - C. phase
 - D. Discrete pulse
61. Communication between a radio station and its listeners involves _____ transmission.
- A. full-duplex
 - B. Half-duplex
 - C. Simplex
 - D. Automatic
62. Which of the following does not describe router functions
- A. Broadcast forwarding
 - B. nternetwork communication
 - C. Packet filtering
 - D. Packet switching
63. Acknowledgments, sequencing, and flow control are characteristics of which OSI layer?
- A. Layer 2
 - B. Layer 4
 - C. Layer 3
 - D. Layer 7
64. The technique of allowing multiple signals to be transmitted at the same time over the same cable is called _____ -
- A. Broadcast
 - B. Multicast
 - C. Multiplexing
 - D. demultiplexing
65. Passwords enable users to

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- A. get into the system quickly
- B. make efficient use of time
- C. retain confidentiality of files
- D. simplify file structures

66. Which will not harm computer resources?

- A. firewall
- B. Virus
- C. Trojan horse
- D. None of the above

67. A program designed to destroy data on your computer which can travel to “infect” other computers is called a _

- A. Disease
- B. Torpedo
- C. Hurricane
- D. virus

68. Trojan-Horse programs

- A. are legitimate programs that allow unauthorized access
- B. are hacker programs that do not show up on the system
- C. really do not usually work
- D. are usually immediately discovered

69. Technology, no longer protected by copyright, and is available to everyone, is considered to be:

- A. proprietary
- B. open
- C. experimental
- D. in the public domain.

70. All of the following are examples of real security and privacy risks. EXCEPT:

- A. Hackers
- B. Spam
- C. Viruses
- D. Identity theft

Part 4. Intelligent Systems

71. Which of the following is not a type of Artificial Intelligence agent?

- A. Learning AI agent
- B. Goal-based AI agent
- C. Simple reflex AI agent
- D. Unity-based AI agent

72. Which of the following is not the commonly used programming language for Artificial Intelligence?

- A. Perl
- B. Java
- C. PROLOG
- D. LISP

73. What is the name of the Artificial Intelligence system developed by Daniel Bobrow?

- A. program known as BACON
- B. system known as STUDENT

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- C. program known as SHRDLU
- D. system known as SIMD

74. A process that is repeated, evaluated, and refined is called _____

- A. diagnostic
- B. descriptive
- C. interpretive
- D. iterative

75. An AI agent perceives and acts upon the environment using ____.

- A. Perceiver
- B. Sensors
- C. Actuators
- D. Both a and c

76. Which rule is applied for the Simple reflex agent?

- A. Simple-action rule
- B. Simple & Condition-action rule
- C. Condition-action rule
- D. None of the above

Part 5-Computer Architecture and Operating Systems

77. When does page fault occur?

- A. The deadlock occurs.
- B. The buffering occurs
- C. The page is present in memory.
- D. The page does not present in memory.

78. Which of the following is a condition that causes deadlock?

- A. Mutual exclusion
- B. Hold and wait
- C. Circular wait
- D. No preemption
- E. All of these

79. What is an operating system?

- A. System service provider to the application programs
- B. Collection of programs that manages hardware resources
- C. Interface between the hardware and application programs
- D. All of above

80. Which one of the following Scheduling algorithm allocates the CPU first to the process that requests the CPU first?

- A. Priority scheduling
- B. Shortest job scheduling
- C. First-come, first-served scheduling
- D. None of above

81. What is the ready state of a process?

- A. When process is unable to run until some task has been completed

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- B. When process is scheduled to run after some execution
- C. When process is using the CPU
- D. None of the mentioned

82. A set of processes is deadlock if _____

- A. Each process is terminated
- B. All processes are trying to kill each other
- C. Each process is blocked and will remain so forever
- D. None of the mentioned

83. In Operating Systems, which of the following is/are CPU scheduling algorithms?

- A. Priority
- B. Round Robin
- C. Shortest Job First
- D. All of the mentioned

84. In which of the storage placement strategies a program is placed in the largest available hole in the main memory?

- A. Best fit
- B. First fit
- C. Worst fit
- D. Buddy

85. Which of the following is a type of computer architecture?

- A. Microarchitecture
- B. Harvard Architecture
- C. Von-Neumann Architecture
- D. All of the mentioned

86. Which one is not a combinational circuit?

- A. Encoder
- B. Decoder
- C. Multiplexer
- D. De-multiplexer
- E. Register

87. In a _____ cache organization, cache permits data to be stored in any cache block.

- A. Direct Mapped
- B. Set Associativity
- C. Fully Associative
- D. All

Part 6-Compiler and Complexity

88. If a grammar produces more than one leftmost derivation for a sentence, it is called as: _____

- A. Ambiguous grammar
- B. Perfect grammar
- C. Associative grammar
- D. Precedence

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89. The intersection of a context-free language and a regular language is _____
- A. neither context-free nor regular.
 - B. context-free
 - C. regular but not context-free
 - D. both regular and context-free.
90. Which one of the following is not part of Turing machine?
- A. Finite control
 - B. Head
 - C. Tape
 - D. Input
91. The output of lexical analyzer is
- A. Syntax tree
 - B. Strings of characters
 - C. A set of tokens
 - D. set of regular expressions
92. Which of the following is NOT the primary role of code generator in compiler design? *
- A. instruction selection
 - B. Declaration of variables
 - C. instruction ordering
 - D. Register allocation
93. Which one of the following is different from the others?
- A. quadruples
 - B. triples
 - C. tree
 - D. indirect triples
94. When is the type checking usually done? *
- A. During lexical analysis
 - B. During syntax directed translation
 - C. During syntax analysis
 - D. During code optimization
95. Which of the following can NOT represent a target Code?
- A. Three address code
 - B. Assembly language
 - C. Absolute machine code
 - D. Byte Code
96. Which of the following is NOT an important property of intermediate code representation?
- A. Ease of generation
 - B. Register allocation
 - C. Level of abstraction
 - D. Ease of manipulation
97. Handle pruning is the technique used to obtain
- (A) Canonical reduction sequence
 - (B) Canonical derivation sequence

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(C) Both (a) and (b)

(D) None of these

98. Which of the following is/are the phases of compiler?

(A) Code generation

(B) Syntax analyser

(C) Lexical analyser

(D) All of these

99. Compiler translates the source code to

(A) Machine code

(B) Executable code

(C) Binary code

(D) Both A and C

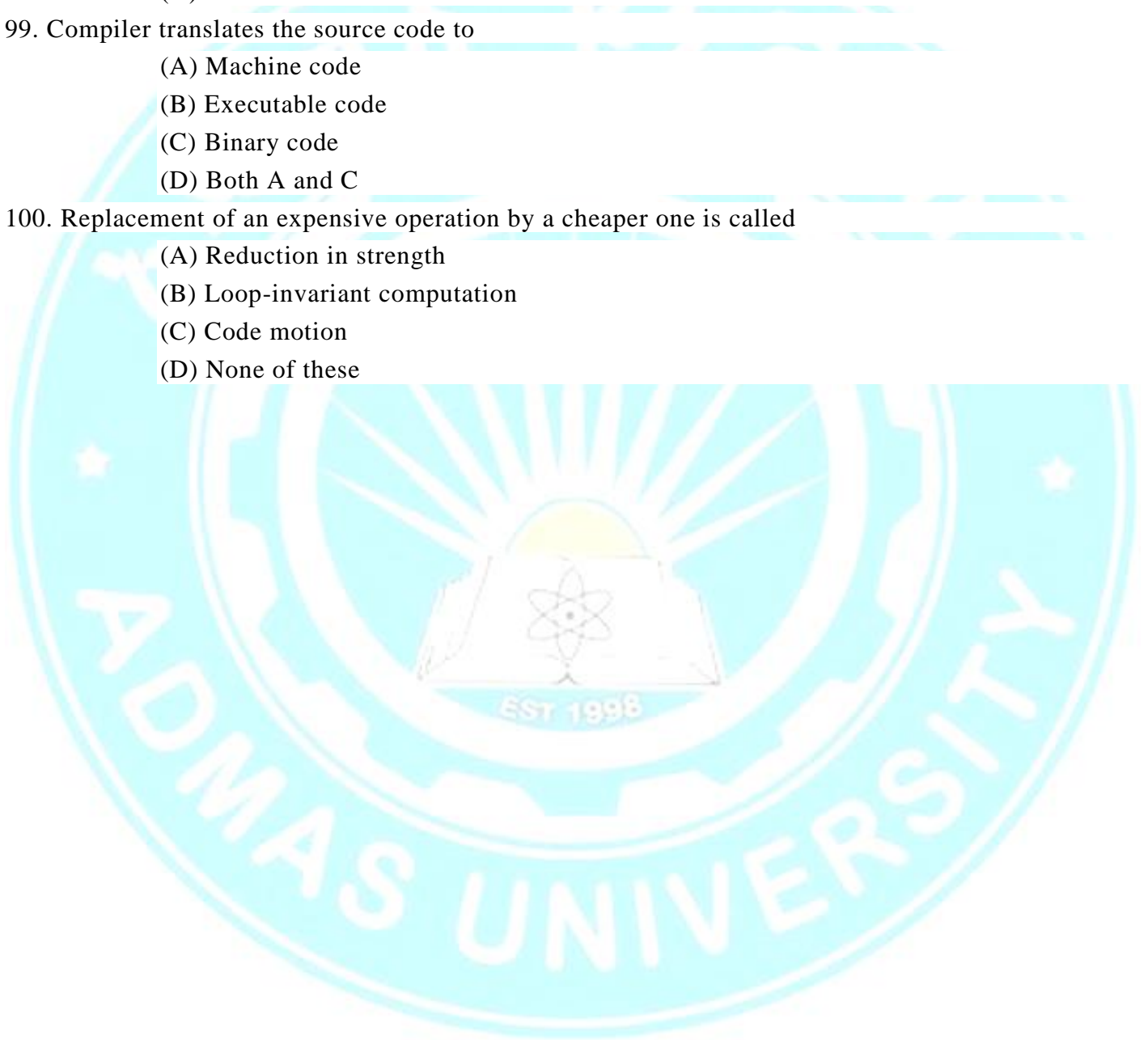
100. Replacement of an expensive operation by a cheaper one is called

(A) Reduction in strength

(B) Loop-invariant computation

(C) Code motion

(D) None of these



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Admas University
Faculty of Informatics
Department of Computer Science
Model Exit Exam
Answer Sheet



Name _____
ID.No. _____
Section _____

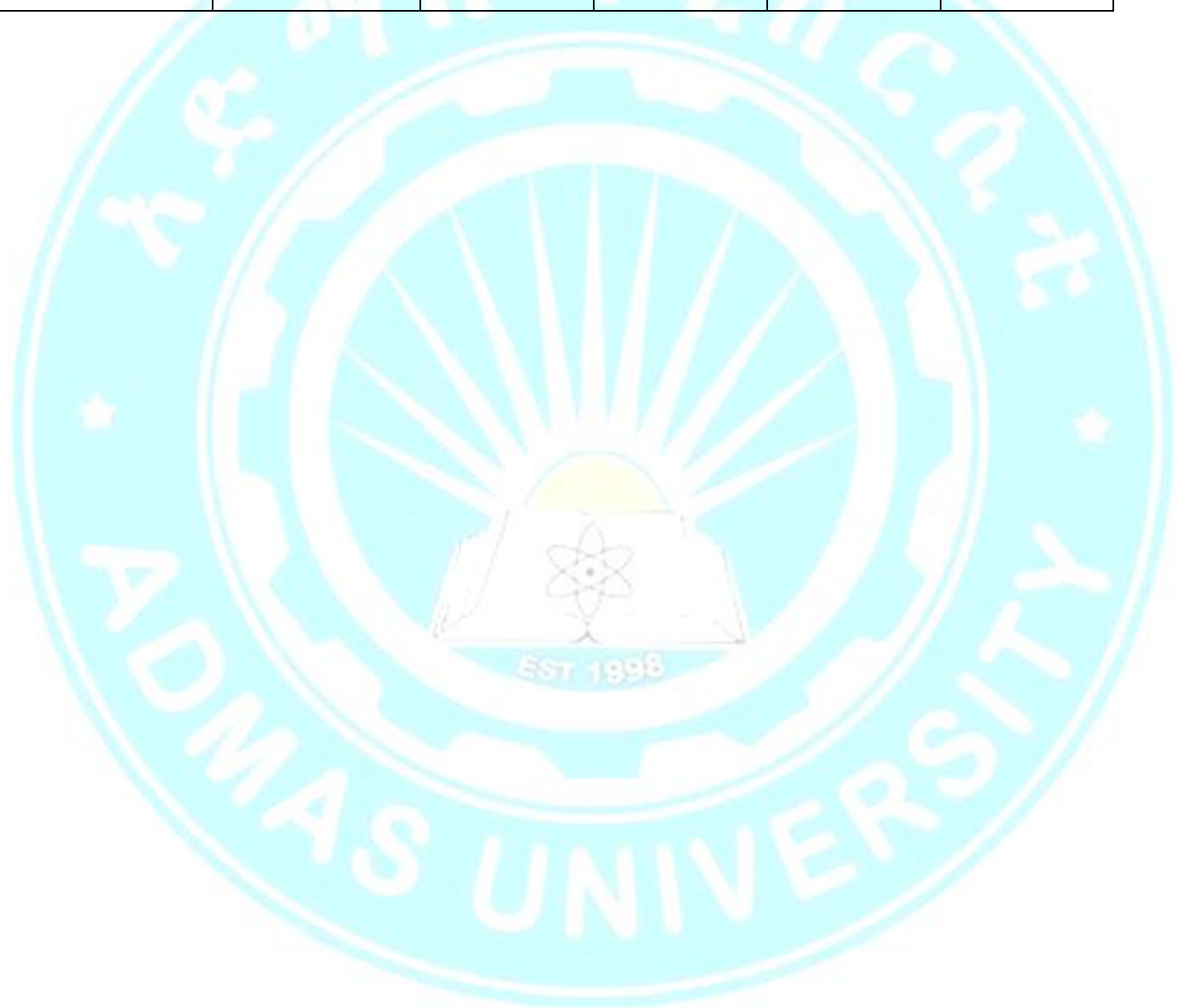
Sene, 2015
Time allotted: 3:00 hrs

Answer Sheet

<i>Web Programming</i>					
1. A	2. D	3. D	4. C	5. C	6. D
7. D	8. C	9. C			
<i>Fundamentals of Software Engineering</i>					
1.B	2.C	3.C	4.B	5.B	6.B
<i>4.Database Systems</i>					
1.A	2. C	3.D	4. A	5. C	6. A
7. C	8. C	9.D	10. C	11. A	12. C
<i>Computer Programming</i>					
1.A	2.C	3.D	4.C	5.B	6.B
<i>Object Oriented Programming</i>					
1.C	2.A	3.D	4.C	5.A	6.B
<i>Design and Analysis of Algorithms</i>					
1.A	2.D	3.C	4.A	5.D	6.C
<i>Data Structure and Algorithms</i>					
1.A	2.B	3.A	4.D	5.C	6.C
7.A					
<i>Data Communication and Computer Networking</i>					
1.A	2.D	3.B	4.D	5.C	6.D
<i>Computer Security</i>					
1.B	2.B	3.A	4.B	5.C	6.C
<i>Network and System Administration</i>					
1.C	2.A	3.D	4.A	5.A	6.D

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Introduction to Artificial Intelligence					
1.D	2.A	3.B	4.D	5.D	6.C
Operating System					
1.A	2.E	3.D	4.C	5.B	6.B
Computer organization and architecture					
1.D	2.C	3.D	4.C	5.B	6.D
Formal Language and Complexity Theory					
1.C	2.A	3.C	4.B	5.A	6.D
Compiler Design					
1.B	2.B	3.C	4.C	5.B	6.D



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