Pokhara University

Faculty of Science and Technology

Central Entrance Examination Curriculum

Master of Science in Computer Science, Master of Computer Engineering, Master of Science in
Information System Engineering

Total marks: 150   Qualifying marks: 75 (Paying)/53(Scholarship)

Time: 3 hrs

The questions in the entrance examination are categorized in two sections. These sections include
Foundation of Mathematics and Computational Foundation. The **section A - Foundation of
Mathematics** covers the mathematical theorems, tools and techniques that are required for basis of
master in computer engineering and science. The **section B -Computational foundation** covers
computer science knowledge.

Section	Course	Weightage (%)
A	Fundamental of Mathematics	30
B	Computational Foundation	70
	Total	**100**

Section A: Foundation of Mathematics

1. Fundamental of Differential and Integral Calculus and Vector Calculus

Functions, limit, continuity and differentiability of functions, higher order derivatives,
Asymptotes, Curvature. Integration and its standard techniques, definite integral and its
applications, Ordinary Differential Equations, Double Integral, Vectors and Scalars,
resolution of vectors, scalar and vector product of two and more vectors, Curl, Gradient
and Divergence of Vectors, Line (Green and Stock Theorem) Integral and Surface (Guess
Theorem) Integrals of vectors, Eigen vectors and Eigen value of matrix.

2. Fourier Series, Integral and Transformations

Periodic functions, Fourier series, Even and Odd functions and their Fourier series, half
range expansion of Fourier series, Fourier Integral, Fourier Sine and cosine Integral,
Fourier Transformation, Fourier Complex Transformation, Inverse Fourier
Transformation, Fourier Sine and cosine Transformation and its Applications.

3. Laplace and Z-Transformation

Laplace transform, Integration and derivative of Laplace Transformation, Inverse
Laplace transform and Applications of Laplace transform on ODE. One-sided and two-

sided Z-transform, linear time invariant system, Unit impulse function, properties of Z-transform, region of convergence, inverse Z-transform by residue and partial fraction.

4. Introduction and Descriptive Statistics

Presentation and classification data frequency distribution, histogram, pictorial and diagrammatic method, measures of central tendency and location-mean, median, quartiles and percentiles, measures of dispersion (variability) range, quartile deviation, deviation, standard deviation, Probability, Combination and Permutations.

Section B: Computational Foundation

1. Programming Paradigms

C programming:- Procedural programming, structured programming, Object-oriented programming, control structures, function, arrays, pointers, functions, preprocessor directives, C libraries, Macros, Header files and prototyping.

Object-oriented programming:- Classes and Methods, Message, message passing formalization, message passing syntax in C++, mechanism for creation and initialization (constructor and its types), Issues in creation and initialization: memory map, memory allocation methods and memory recovery, Object Inheritance and Reusability, Template and generic programming- template classes, template functions.

2. Data Structure and Algorithm

Abstract data type, Data Structure Concept, Stack, Stack applications, Queue, Linear and circular queue and their application, Double Ended Queue, Priority queue, Link List, Doubly linked lists and its advantages, Implementation of Doubly Linked List, Linked, Implementation of stacks and Queues, Binary tree, Binary search tree, Binary tree traversals, Balanced trees, AVL balanced trees, Balancing algorithm, The Huffman algorithm, Game tree, B- Tree, Searching, Exchange sort, Bubble and quick sort, Merge and Radix sort, Shell sort, Heap sort, Binary search, Hashing, Hash function and hash tables, Collision resolution technique, Graphs, Graphs traversal and spanning forests, Kruskal 's and Round Robin algorithms, Shortest-path algorithm, Greedy algorithm, Dijkstra's Algorithm, Algorithm analysis, Growth of functions- Asymptotic notations, Big O Notation

3. Computer Architecture and Organization (20X1=20)

CPU organization, register organization, Instruction cycle, Computer Arithmetic, Instruction sets, addressing modes, Control Unit- hardwired control Unit, micro-programmed control unit, Cache memory- catch principle, mapping catch memory, write policy, replacement algorithms, Input-output organization- programmed I/O, interrupt driven I/O, Direct memory access, RISC vs. CISC, RISC pipelining, parallel processing- parallelism in uni-processor system, multiprocessor system and their characteristics, Flynn's classification, Cache coherence, vector processing and array processor, multi-core organization, dual core and quad core processors.

4. Operating system and concepts

Operating system concepts and functionalities, operating system structure, process states and transition, process control block (PCB), inter-process communication, critical regions and conditions, mutual exclusion, Dekker's and Peterson's algorithm, Dead lock, dead-lock avoidance, detection and prevention, threads, advantage of threads, process scheduling techniques, paging, segmentation, Distributed operating system- network architecture, Asynchronous Transfer Mode, Client-Server model.

5. Object-oriented Software Engineering

Software process and framework, process models, Agile development, Extreme programming, Scrum, Software modeling, quality management and testing, CMMI.

6. Database Management System

Need of DBMS, concept of DDL, DML and DCL, ER Model, UML class diagram, relational algebra, schema and views, SQL, normalization and normal forms, security.

Nepal College of Information Technology

Balkumari, Lalitpur

Entrance Examination

Master of Computer Engineering/Master of Computer Science

Section A : Fundamental of Mathematics   **Full Marks 45**   **1 x 45 = 45**

1. The value of $\displaystyle\int_{0}^{\frac{\pi}{2}} \frac{\cos\theta d\theta}{\sqrt{1-\sin\theta}}$ is equal to

   a) 0   b) 1   c) 2   d) None of the above

2. If the sum of an infinite geometric series is 15 and First term is 3, then the common ratio is :

   a) $\dfrac{3}{15}$ b) $\dfrac{15}{3}$ c) $\dfrac{4}{15}$ d) $\dfrac{4}{5}$ e) $None$

3. The sum of an infinite series $a + ar + ar^2 + ar^3 + \cdots \ldots\ldots..$ for $|r| < 1$, is

   a) 2a   b) $\dfrac{r}{1+r^2}$ c) $\dfrac{a}{1+r^2}$ d) ∞

4. A square matrix is said to be singular if
   a)   it has only one non zero row or column
   b)   its determinant is equals to zero
   c)   its determinant is not equals to zero
   d)   None of them

5. The maximum value of a function f(x) = $x + \dfrac{1}{x}$ is

   a) -2   b) 0   c) 1   d) -1   e) None

6. $\dfrac{d}{dx}\left(\tan^{-1}x\right)$ is

   a) $\dfrac{1}{1+x^2}$ b) $\dfrac{1}{1-x^2}$ c) $-\dfrac{1}{1+x^2}$ d) $\dfrac{1}{\sqrt{1-x^2}}$ e) None

1

7. If A= {1,3,5,7,9} and B={2,3,5,7,11}, then (A-B)∪ (B-A) is equal to

   a){1, 9} b){2,11} c)){1, 9,11} d) {1,2, 9,11}

8. The rank of the matrix $\begin{bmatrix} -7 & 0 & 7 \\ 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$ is

   a) 0 b) 1 c) 2 d) 3 e) None

9. If three consecutive coefficient in the expansion of $(1+x)^m$ are 165, 330, 462 then the value of n is

   a) 8 b) 9 c) 11 d) 10 e) None

10. The vector projection of $\vec{a} = \vec{i} - 2\vec{j} + \vec{k}$ on $\vec{b} = 4\vec{i} - 4\vec{j} + 7\vec{k}$ is equal to

    a) $\dfrac{19}{\sqrt{6}}$ b) $\dfrac{19}{9}$ c) 19 d) $19\sqrt{6}$

11. If A=$\begin{bmatrix} 3 & \tan\theta - 1 \\ 2\tan\theta + 3 & \tan\theta + 2 \end{bmatrix}$ is a symmetric matrix .Then $\tan\theta$ is equal to

    a) 4 b) 3 c) -4 d) -3

12. If a Matrix $A = \begin{bmatrix} a & 2 & a \\ 2 & 1 & 4 \\ 0 & 5 & 3 \end{bmatrix}$ is Singular, then the value of a is:

    a) $\dfrac{7}{12}$ b) $\dfrac{-7}{12}$ c) $-\dfrac{12}{7}$ d) $\dfrac{12}{7}$ e) 1

13. The value of $\int_0^{\frac{\pi}{2}} \dfrac{Sin\ x\ dx}{Sinx + Cosx}$ is :

    a) $\dfrac{\pi}{4}$ b) $\dfrac{\pi}{3}$ c) $\dfrac{\pi}{2}$ d) π e) None

14. The Taylor's expansion of a function

    $f(x) = \dfrac{1}{x}$ at $x = 1$ is :

2

a) $1 + (x - 1) + (x - 1)^2 + \ldots$

b) $-1 - (x - 1) - (x - 1)^3$

c) $1 - (x - 1) + (x - 1)^2 - (x - 1)^3 \ldots$

d) $1 - \dfrac{x - 1}{2} + \dfrac{x - 1^3}{3} +$

e) None

15.   The value of $\int_0^1 \dfrac{1}{1 + x^2} dx$ is

a) $\dfrac{\pi}{4}$ b) $\dfrac{\pi}{2}$ c) 0 d) 1 e) None

16.   Laplace Transform of zero is

a) ∞ b) 0   c) 1   d) None of above.

17. $L^{-1}(\dfrac{s}{s^2 + 1})$ is equal to

a) tant   b) sint   c)   cost   d)cosht

18. Product of even and odd function is

a) odd   b) even   c) neither even nor odd   d) None of above.

19. $\int a^x dx$ is equal to

a) $\dfrac{a^{x+1}}{x+1} + c$ b) a^x c) $\dfrac{a^x}{\log a} + c$ (d)None of above

20. $\int_{-100}^{100} x^{10} \sin x \cos^{24} x dx$ is equal to

a) 10   b)100   c) 1   (d)0

21. If $f(x) = x, for, -\pi \le x \le \pi$, then in Fourier expansion value of a_0 is equal to

a) π b)   1   c)   0   (d)None of above

22. If e is eccentricity   of ellipse then

a) $e > 1$ b) $e < 1$ (c)   e=1   (d)None of above

23. value of $\sin^{-1} x + \cos^{-1} x$ is equal to

a) 1   b) 2   (c)   3   (d)None of above

3

24. If $\vec{a}$ and $\vec{b}$ are two vectors then a normal vector to both the vectors is

    a) $\vec{a} \times \vec{b}$ b) $\vec{a}.\vec{b}$ c) 0   d) None of above

25. $\lim\limits_{x \to \infty} \dfrac{x}{e^x}$ is equal to

    a)   1   b) 2   c)   0   d)None of above

26. If $u = \dfrac{x^2}{y^2} + \dfrac{y^2}{x^2}$. Then $x\dfrac{\partial u}{\partial x} + y\dfrac{\partial u}{\partial y}$ is equal to $x\dfrac{\partial u}{\partial x} + y\dfrac{\partial u}{\partial y}$

    a) 0   b)   1   c)   -1   d)None of above

27. The product of any 'r' consecutive natural numbers is always divisible by

    a) r!   b) r^2 c) r^n d) None of above

28. The number of permutation of 5 different objects taken 3 at a time is

    a)   5!   b)   1   c)   P(5,3)   d) None

29. If 'A' and 'B' are the arithmetic and geometric means between to unequal positive numbers then

    a)   A>B   b)   A<B   c)   A=B   d)None of above

30. Slope of X-axis is

    a)   1   b)   2   c)   0   d)None of above

31. $\int \sin^{-1}(x)dx$ is equal to

    a)   0   b) ∞ c) 1   d)None of above

32. $\lim\limits_{x \to 0}(\dfrac{x}{\sin x})$ is equal to

    a)   1   b) ∞ c)   0   d)   None of above

33. $\int e^x dx$ is equal t

    a) $e^x + c$ b) $e^{\frac{x^2}{2}}$ c) $e^{\frac{x+1}{x+1}}$ d) None of the above

34. $\int \dfrac{2xdx}{x^2+1}$ is equal to

4

a) $2\log(x^2+1)+c$ b) $\log(x^2+1)+c$ c) $\log(2x+1)+c$ d) None of the above

35. Laplace Transform of t is

a) $\dfrac{1}{s}$ b) $\dfrac{1}{s^2}$ c) $\dfrac{2}{s^3}$ d) None of the above

36. Inverse laplace transform of $\dfrac{1}{s}$ is

a) 0   b) 1   c) t   d) None of above.

37. Laplace Transform of zero is

a) ∞   b) 0   c) 1   d) None of above.

38. $L^{-1}(\dfrac{s}{s^2+1})$ is equal to

a) tant   b)   sint   c)   cost   d)cosht

39. Product of even and odd function is

a) odd   b)   even   c) neither even nor odd   d) None of above.

40. $\int a^x dx$ is equal to

a) $\dfrac{a^{x+1}}{x+1}+c$ b) a^x c) $\dfrac{a^x}{\log a}+c$ d)None of above

41. $\int_{-100}^{100} x^{10}\sin x\cos^{24} xdx$ is equal to

a) 10   b)100   c) 1   d)0

42. If $f(x)=x, for, -\pi \le x \le \pi$, then in fourier expansion value of a_0 is equal to

a) π b)   1   c)   0   d)None of above

43.   If e is ecentricity   of ellipse then

a) $e>1$ b) $e<1$ c)   e=1   d)None of above

44. Value of $\sin^{-1} x+\cos^{-1} x$ is equal to

a) 1   b) 2   c) 3   d)None of above

45. If $\vec{a}$ and $\vec{b}$ are two vectors then a normal vector to both the vectors is

a) $\vec{a}\times\vec{b}$ b) $\vec{a}.\vec{b}$ c) 0   d)None of above

5

Section B: Computation Foundation Full Marks 105 1 x 105 = 150

46. Operator overloading is which type of Polymorphism?

  A. Operator   B. Walk time

  C. Compile time   D. None of these

47. In a memory-mapped I/O system, which of the following will not be there?

  A. LDA   B. IN   C. ADD   D. OUT

48. Which subnet does host 172.29.139.81 255.255.254.0 belong to?

  A. 172 .29 .38 . 0   B. 172 .29 .139 . 0

  C. 172 .29 .138 . 0   D. 172 .129 .38 . 0

49. In which operating system the timely notion is very crucial?

  A. Network Operating System B. General Purpose Operating System

  C. Real Time Operating System D. None of the these

50. A frame buffer is used in

  A. Raster Graphics System B. Vector Graphics System

  C. Both a and b   D. none of the these

51. In Immediate mode

  A. The operand supplied is an offset , which is the actual address

  B. The operand specified is not an address it is the actual data to be used

  C. The operand is not specified explicitly by the instruction

  D. None of the these

52. The part of machine level instruction, which tells the central processor what has to be done is

  A. operation code   B. address

  C. locator   D. flip-flop E. None of the above

53. Which one is not a valid ICMP message type

A.   Destination unreachable   B.   Time exceeded

C.   Parameter problem   D.   None of these

54.   The model that assumes that effort and development time are functions of product

size alone is

A. Basic COCOMO model   B. Intermediate COCOMO model

C. Detailed COCOMO model   D. All the three COCOMO models

55.   A relation is in _____, if it is in BCNF and has no multi-valued dependencies.

A.   second normal form   B.   third normal form

C.   fourth normal form   D.   domain/key normal form

56. Conversion of octal number $(1275.04)_8$ into Hexadecimal results in

A. $(5BD)_{16}$ B. $(3DB)_{16}$

C. $(2DA.0625)_{16}$ D.   None of the These

57.   In Reverse Polish notation, expression A*B+C*D is written as

A.   *AB*+CD   B.   A*BCD*+

C.   AB*CD+*   D.   None of the above

58. Which is an example of interpreter

A.   QBASIC   B.   PERL

C.   GWBASIC   D.   All of the these

59. In case Horizontal fragmentation in a Relational Database System, the relation r is

reconstructed by

A.   taking projection of r over subsets R_i

B.   taking intersection of its fragments $r = r_1 \cap r_2 \cap r_3$

C.   taking difference of its fragments $r = r_1 - r_2 - r_3$

D.   taking union of its fragments $r = r_1 \cup r_2 \cup r_3$

E.   None

60. What will be the output of the following code?

```
#include <stdio.h>

void main(){

        printf("%c","weird"[4]);

}
```

A. 4   B. r

C. d   D. the program will not run   E. none of the above

61.   The process of combining data and functions into a single class is called:

A.   encapsulation   B.   polymorphism

C.   Combination   D.   Data structure

62.   While modeling data, modality is

A.   zero (0) for an optional object relationship   B.   one (1) for a mandatory relationship

C.   both a and b   D.   None of the above

63.   unsigned int arr[3][3] = {2,4,6,9,1,10,16,64,5};

**arr <*(*arr+2) gives the output

A. 1   B. 0   C. 18   D. 2

64.   Operating system is that portion of software that runs in

A.   kernel mode   B.   supervisor mode

C.   user mode   D.   a and b   E.   b and c

65.   Composition relationships are used in the _____ diagrams

A.   ER   B.   DFD   C.   CFD   D.   UML

66.   Programs after being converted into machine language is called

A.   object Program   B.   source program

C.   Machine Program   D.   All of these

67. _____ means that a foreign key value cannot be entered in one table unless it matches an existing primary key in another table

 A. referential integrity   B. Data Security

 C. Secondary Key   D. Normalization

68. CORBA is used in developing

 A. AI related applications   B. Centralized applications

 C. 3D graphics applications D. Distributed applications

69. The SQL statement SELECT * from Employee where (MOD (emp_id,2)=1);

 A. extracts employees with even employee id

 B. extracts employees with odd employee id

 C. assigns 1 to employee id which is currently 2

 D. lists employees with id 1

70. Rapid Application Development paradigm is more applicable for developing

 A. Information Systems B. system software

 C. both a and b   D. no of them

71. _____ is a programming language that supports object oriented paradigm

 A. C++   B. B++

 C. C   D. D++   E. E++

72. The function show is a member of the class A and obj is an object of A and ptr is a pointer to A. which of the following is the valid access statement?

 A. abj->enter();   B. ptr.enter();

 C. ptr*enter();   D. None of the above

73. The Key Process Areas (KPA) specified in the CMM Level 4 are

 A. Process Definition and Training

 B. Quantitative Process Metrics and Software Quality Management

 C. Software Planning and Software Configuration Management

D. Defect Prevention

E. None of these

74. Which of the following result is obtained by simplification of the Boolean expression ((A . B')' . (A'. B)')' ?

A. A+B B. $A \oplus B$

C. A.B'+A.B D. None of the above

75. The size of an organic software is estimated to be 32,000 LOC. If the average salary of software engineering is Rs. 15000/- per month. What will be the estimated effort for the completion of the project using Basic COCOMO Model?

A. Effort = 2.4 * $(32)^{1.05}$ PM B. Effort = 2.04 * $(32)^{1.05}$ PM

C. Effort = 3.0 * $(32)^{1.05}$ PM D. Effort = 3.0 * $(32)^{1.12}$ PM

76. Coded instructions that are stored permanently in read-only memory is called

A. Software B. Macros
C. ROMware D. None of the these

77. A Raster system can produce a total number of 256 different levels of intensities from a single pixel composed of red, green and blue phosphor dots. If the total resolution of the screen is 640 x 480, what will be the required size of frame buffer for the display purpose?
A. 2457600 B. 300

C. 78643200 D. none of the these

78. In case of EDCDIC, the last four bits represent

A. Zone bits B. Digit values

C. Numeric value D. Coded Value E. None

79. Which one is not a valid ICMP message type

A. Destination unreachable B. Time exceeded

C. Parameter problem D. Transmission error

80. Which is an example of interpreter

    A.   QBASIC   B.   PERL

    C.   GWBASIC   D.   All of the these

81. A component diagram is a part of the _____

    A.   Class diagram   B.   ER diagram

    C.   Timing diagram   D.   UML

82. Which one of the following is not a CPU register?

    A.   RAM   B.   Program counter

    C.   Accumulator   D.   Memory address register

83. In _____the value of the operand is explicitly mentioned in the

    instruction

    A.   Register addressing mode   B.   Index addressing mode

    C.   Relative addressing mode   D.   Immediate addressing mode

84. _____ is an example of a secondary memory

    A.   Hard disk   B.   Register

    C.   ROM   D.   RAM

85. In C++, an instance of a class is called _____

    A.   polymorphism   B.   inheritance

    C.   encapsulation   D.   object

86. An array is an example of _____ type of memory allocation

    A.   Formal   B.   Static

C.   Fixed size   D.   Dynamic

87.   Using _____ a CPU can process other tasks while data transfer is being

       performed

       A.   DMA   B.   RNA

       C.   DDA   D.   DNA

88.   Data is stored in _____ in case of DRAM

       A.   capacitors   B.   transistors

       C.   hard drive   D.   pen drive

89.   During requirements analysis phase a systems analyst _____

       A.   conducts tests

       B.   performs architectural design

       C.   conducts customer interview

       D.   performs maintenance work

90.   Helping the Product Owner order the Product Backlog is not the main responsibility of
       a_____

       A.   Software Tester

       B.   Programmer

       C.   Scrum Master

       D.   Finance department

91.   The number of _____ per second is also known as clock speed

       A.   clock ticks   B.   clock cycles

       C.   clock beats   D.   None of these

92.   What will be the output of the following code?

```c
#include <stdio.h>

int main(){

  unsigned int arr[] = {6,21,15,111,52,32};

        printf("%d",(*arr+5) –(*arr-3) );

        return 0;

}
```

A.   2   B.   31   C.   1   D.   None of these

93.   A/an _____ has the same name as the name of the class.

       A.   Member function   B.   Object

       C.   Program   D.   Constructor

94.   COMMIT is a _____ statement, in Database Systems

       A.   DDL   B.   DML   C.   DCL   D.   TCL

95.   The kernel is the part of an Operating System whose role is to facilitate interaction
       between _____ components

       A.   input and output   B.   hardware and software

       C.   process and thread   D.   User program and GUI

96.   _____ is data structure that stores elements of the same type

       A.   an array

       B.   a pointer

       C.   an integer

       D.   a character

97.   _____ model is not suitable for accommodating change requests

       A.   MAD   B.   Waterfall

       C.   SAD   D.   EAD

98.   CMMI stands for _____

A.   Comparison Maturity Model Integration

B.   Comparison Matured Model Integrity

C.   Capability Matured Model Instructions

D.   None of these

99.   The software process model in which Sprint Review Meetings take place is _____

A.   SCRUM   B.   JAD

C.   FTRs   D.   LAR

100.   Which of the following is not a phase of CMMI?

A.   Initial   B. Defined

C.   Managed   D. Processed

101.   _____ is the pseudo instruction used to load an address into the register

A.   ADR   B.   LOAD   C.   PSLOAD   D.   ASSIGN

102.   An abstract class must contain at least one _____

A.   pure virtual function   B.   friend function

C.   virtual function   D.   inline function

103.   CISC processors have_____ length instruction format

A.   longest   B.   fixed

C.   minimum   D.   variable   E.   None of these

104.   In C programming language, the & operator is used to get the _____of a variable

A.   property   B.   value   C. content   D.   address

105.   Which one of the following is a page replacement algorithm?

A.   Earliest Deadline First   B.   First In First Out

C.   Earliest Deadline Last   D.   Earliest Due date First

106.   By default the data members of a class in C++ have _____ scope.

A.	Inherited	B.	public		
C.	protected	D.	shared	E.	Polymorphic

107. Complete the given query by selecting the valid keyword from the given list.

INSERT INTO STUDENT _____ (201, "RAM", "KATHMANDU");

A.	PLACE	B.	FACT
C.	VALUES	D.	INFO

108. Member functions of a class are defined outside a class using the_____

A.	:: operator	B.	: operator
C.	& operator	D.	-> operator

109. The activity diagram in the UML depicts the _____ aspect of a system

A.	static	B.	dynamic	C.	crucial	D.	important

110. Member functions of a class in C++ can have _____ scope

A.	Public	B.	Private	C.	Protected	D.	All of these

111. Compile time polymorphism can be achieved thru _____

A.	Function Overloading	B.	Operator overloading
C.	both A and B	D.	None of these

112. A Game tree is a _____ search function

A.	sequential	B.	RR
C.	recursive	D.	None of these

113. Swapping is done to make _____ used by a process available to other processes

A.	CPU	B.	Mouse
C.	Memory	D.	Screen

114. In Round Robin Scheduling time slices are assigned to processes in _____

A.	different portions	B.	equal portions
C.	different time intervals	D.	None of these

115. Shell sort algorithm is based on _____ algorithm

A.	Merge sort	B.	Insertion sort
C.	Expansion sort	D.	None of these

116. In C programming language a pointer can be initialized with _____

A.	a Null value	B.	address of an object of the same type
C.	a zero	D.	All of these

117. External fragmentation occurs when there is enough memory to fit a process in memory, but the space is _____

A.	contiguous	B.	not contiguous
C.	abundant	D.	full

118. SQL is used for querying a _____

A.	Flat file	B.	Text file
C.	Database	D.	Log

119. Triggers are special stored procedures that are run when some special events or actions occur in a _____

A.	Database	B.	Log file
C.	Pointers	D.	Copy

120. In C++, virtual functions are used for achieving _____

A.	Late Binding	B.	Encapsulation
C.	Both A and B	D.	None of these

121. Which one is not a valid example of RISC processors?

A.	ARM	B.	AMD
C.	MIPS	D.	AVR

122. A callback subroutine in an operating system whose execution is triggered by the reception of an interrupt is called _____

A.   Interrupt Service Routine   B.   Cursor

C.   Stored Procedure   D.   Interrupt Vector

123. In database terminology, DDL stands for _____

A.   Data Definition Language   B.   Data Driven Language

C.   Data Description Language   D.   Dictionary Definition Language

124. A process comprises of _____

A.   critical sections   B.   threads

C.   mutual exclusions   D.   kernels

125. A Process control block (PCB) does not contain_____

A.   Program Counter   B.   Registers

C.   RAM   D.   Process Number

126. Multiple threads can exist in a single _____

A.   Process   B.   register

C.   abstraction   D.   virtual base class

127. _____ are not used in a UML Class diagram

A.   Attributes   B.   Entities

C.   Methods   D.   Relationships

128. _____ are member functions that belong to the class

A.   Data structures   B.   Methods

C.   Pointers   D.   Attributes

129. A/An _____ in the UML describes a semantic relationship between classes

A.   Attribute   B.   Polymorphism

C.   Association   D.   All of these

130. UML is used by software and system developers for _____ software artifacts.

    A.   specifying   B.   preserving

    C.   testing   D.   All of these

131. In case of Database Normalization, the _____ is also known as Project-join normal form

    A.   Second Normal form   B.   Fifth Normal form

    C.   Third Normal form   D.   First Normal form

132. A database _____ is a skeleton structure that represents the logical view of a database.

    A.   stored procedure   B.   schema

    C.   trigger   D.   cursor

133. The _____ SQL command is used to back permissions from users.

    A.   INSERT   B.   CREATE

    C.   REMOVE   D.   REVOKE

134. White box testing is also known as _____

    A.   Clear Box Testing   B.   Red Box Testing

    C.   Blue Box Testing   D.   Behavioral Testing

135. A mechanism that can be used to prevent simultaneous access to a shared resource is called_____

    A.   mutual exclusion   B.   Reservation

    C.   Data type   D.   Selection

136. Two important fields of an instruction are _____

    A.   Opcode   B.   Operand   C.   A and B   D.   Oval

137. The member function that gets automatically invoked when objects are destroyed is called a_____

    A.   Constructor   B.   abstract function

C.   Destructor   D.   Friend function

138. The instruction cycle of a computer/machine includes _____

    A.   Fetch   B.   Execute

    C.   Decode   D.   All of these

139. A data type in C programming that allows storage of different data types in the same memory location is called a _____

    A.   Array   B.   Pointer

    C.   Union   D.   Structure

140. The complete set of op-codes for a particular microprocessor defines the_____ set for that processor

    A.   Instruction   B.   Module

    C.   Code   D.   Function

141. Formal Technical Review is a _____ activity performed by software engineers

    A.   software quality control   B.   Sprint

    C.   JAM   D.   None of these

142. In C++, a _____ is implicitly declared by compiler if not provided by programmer

    A.   parameterized constructor   B.   copy constructor

    C.   duplicate constructor   D.   Default constructor

143. _____ signifies whether a certain data object (in a Data base) must participate in the relationship or not.

    A.   Inheritance   B.   Cardinality

    C.   Polymorphism   D.   Modality

144. A weak entity set does not have sufficient attributes to form a _____key.

    A.   secondary   B.   foreign

C. candidate   D. None of these

145. The use case diagram in the UML is used for capturing the _____ aspect of a system

    A. static   B. dynamic

    C. crucial   D. important

146. calloc and malloc are a pair of language constructs for performing _____ memory allocation in C

    A. fixed   B. static   C. dynamic   D. free

147. Extreme Programming (XP) is a/an _____

    A. linear sequential development framework   B. function call

    C. agile development framework   D. None of these

148. In the Prototype model a _____ is built, tested and reworked.

    A. Sample   B. Data model

    C. Prototype   D. Repository

149. In an ER diagram, entities are shown using _____

    A. Triangle   B. Oval   C. Diamond   D. Prism

150. A technique that computer uses for storing and retrieving data from secondary storage for use in_____ is called paging

    A. hard disc   B. main memory

    C. ROM   D. EEPROM