ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED [illegible] SHEET
BY CROSSING THE CORRESPONDING LETTER

English M.C.Q's

No. of Questions: 37 (from 1 to 37) [illegible]inutes
Questions on Page Nos: 1 To 6 Negativ[illegible]es

For questions **1-20**, decide which answer **(A, B, C** or **D)** best fits each blank.

1. It's better _____ I thought.

A. as
B. then
C. than
D. like

2. It was _____ expensive restaurant I've ever been to.

A. more
B. the more
C. most
D. the most

3. "I _____ biology all my life," said the renowned biologist.

A. study
B. studied
C. have studied
D. am studying

4. _____ Salma _____ to bed early yesterday?

A. Was; going
B. Had; been going
C. Had; gone
D. Did; go

5. These are the pupils _____ parents have volunteered to take the class out on field trip.

A. which
B. whose
C. whom
D. who

6. Mohsin's writing is so illegible that I cannot _____ what he has written.

A. make up
B. make over
C. make out
D. make off

7. Neither the boys nor Sidra _____ the answer to the difficult question.

A. know
B. knows
C. has known
D. have known

8. Ali prefers watching musicals _____ watching movies.

A. to
B. than
C. over
D. against

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9. We arrived at the airport just _____ time to send our best friend off.

A. by
B. on
C. at
D. in

10. We _____ the language test in October. Let's work hard together and strive for good results.

A. have been taking
B. have taken
C. will have taken
D. will be taking

11. Fahad always criticizes his younger brother, Daniyal. In fact, he dislikes Daniyal _____.

A. intensely
B. intently
C. intentionally
D. intermittently

12. The rescuers felt that there was _____ danger of a second volcanic eruption.

A. devastating
B. eminent
C. imminent
D. catastrophic

13. Doctors all over the world are working hard to _____ a cure for bird flu.

A. invent
B. discover
C. construct
D. experiment

14. The travellers finally _____ the town after a long and tedious journey.

A. joined
B. landed
C. arrived
D. reached

15. Marium is not _____ of learning Japanese in six months.

A. keen
B. capable
C. inclined
D. interested

16. The police were called in to _____ order after a riot broke out on the busy street.

A. restore
B. ensure
C. create
D. impose

17. After the fire, the residents accused the night watchman of _____ because he had been sound asleep when the fire broke out.

A. disregard
B. negligence
C. sluggishness
D. forgetfulness

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ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED ANSWER
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18. I can never get work done with others around; I need _____.

A. solitude
B. isolation
C. seclusion
D. loneliness

19. The little girl spilled the hot soup and _____ her hand.

A. scalded
B. burnt
C. bruised
D. grazed

20. When you "scoff" at your food, it means that you _____ everything on your plate very quickly.

A. keep in
B. go over
C. polish off
D. put out

For questions **21-24**, select the best version **(A, B, C or D)** of the underlined part of the sentence.

21. The baby was obviously getting too hot, then Hashim did what he could to cool her.

A. hot, then Hashim did
B. hot, Hashim did
C. hot; Hashim, therefore, did
D. hot; Hashim, trying to do

22. Salma hoped to find a new job. One that would let her earn money during the school year.

A. job. One that
B. job. The kind that
C. job, one that
D. job, so that it

23. Knocked sideways, the statue looked as if it would fall.

A. Knocked sideways, the statue looked
B. The statue was knocked sideways, looked
C. The statue looked knocked sideways
D. The statue, looking knocked sideways,

24. To walk, biking, and driving are Ahmed's favourite ways of getting around.

A. To walk, biking, and driving
B. Walking, biking, and driving
C. To walk, biking, and to drive
D. To walk, to bike, and also driving

For questions **25-32**, two sentences are given. Read the sentences, and then choose the best answer **(A, B, C, or D)** to the question.

25. Interviewing for a new job can be an extremely stressful event.

Many job candidates become anxious about having to respond to certain interview questions, especially those that ask them to prove their competence.

How are the two sentences related?

A. They repeat the same idea.
B. They give a problem and a solution.
C. They make a comparison.
D. They provide a general claim and specific example.

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ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED ANSWER SH
BY CROSSING THE CORRESPONDING LETTER

26. The pain associated with many medical conditions can be alleviated by listening to classical mu regular basis.

A great deal of American hospitals have established music therapy programs to help reduce the suffering of their terminally-ill patients.

What does the second sentence do?

A. It supports the claim made in the first sentence.
B. It gives the reason for the result mentioned in the first sentence.
C. It contradicts the evidence given in the first sentence.
D. It draws a conclusion about what is stated in the first sentence.

27. The tornado caused wide-spread devastation to property in the local area.

Property insurance is much more expensive now than it was before the storm.

What does the second sentence do?

A. It states the effect.
B. It gives an example.
C. It offers a solution.
D. It makes a contrast.

28. The city has been trying to reduce the amount of litter dropped by pedestrians.

The municipal government has recently introduced fines for littering.

How are the two sentences related?

A. They repeat the same idea.
B. They provide a general rule and a specific example.
C. They state a problem and a solution.
D. They offer a theory and an explanation.

29. According to the law of gravity, objects dropped from above the surface of the earth fall to the earth's surface.

Apples that fall from apple trees land on the ground.

What does the second sentence do?

A. It refutes the claim made in the first sentence.
B. It draws a conclusion about what is stated in the first sentence.
C. It applies the theory mentioned in the first sentence.
D. It contradicts the evidence given in the first sentence.

30. Increasing levels of pollution have an extremely adverse effect on the environment.

The government has established regulations to limit the amount of noxious fumes emitted into the atmosphere.

What does the second sentence do?

A. It exemplifies the first sentence.
B. It explains the reason for the result mentioned in the first sentence.
C. It gives a solution to the problem that is stated in the first sentence.
D. It draws a conclusion about what is stated in the first sentence.

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31. It is widely believed that dinosaurs became extinct as a consequence of a catastrophic m event.

Archaeological evidence recovered near the Gulf of Mexico demonstrates that dinosaurs died out a large asteroid struck the area.

What does the second sentence do?

A. It repeats the same idea as stated in the first sentence.
B. It refutes the point raised in the first sentence.
C. It presents a solution to the problem mentioned in the first sentence.
D. It analyzes the claim made in the first sentence.

32. Everyone should take regular vacations in order maintain his or her physical health and well being.

Recent research demonstrates that taking a vacation helps to reduce the chances of getting certain diseases, particularly those that are caused by high stress levels.

How are the two sentences related?

A. They repeat the same idea.
B. They give a problem and solution.
C. They provide a general rule and a specific example.
D. They create a contrast.

For questions 33-37, read the text below and answer the questions that follow.

In Asia and much of the Third World, trees are still destroyed in the old-fashioned way: they are cut down for fuel and cropland. In Europe, there is new and potentially more deadly culprit. The Germans call it *Waldsterben*, the dying forest syndrome.

But the disease is far more than a German phenomenon. Since it was first observed by German scientists in the autumn of 1980, the mysterious malady has raced across Europe, blighting woods in countries as far apart as Sweden and Italy.

Explanations for the epidemic range from a cyclic change in the environment to a baffling form of tree cancer. But the most convincing evidence points to air pollution.

Indeed, saving the rapidly deteriorating Forests of Europe will probably require a two-pronged strategy: an offensive campaign that includes the breeding of pollution-immune trees and a defensive scheme that calls for reductions in toxic emissions. But both will require more money than is currently being spent on such measures, as well as total commitment to protecting the environment.

33. According to this passage, which one of the following statements is correct?

A. There is less damage in Asia than in Europe.
B. More forests are dying in Germany than anywhere else in Europe.
C. A cyclic change in the environment is responsible for deforestation.
D. Air pollution is the main culprit of destroying European forests.

34. Saving the trees of European forests

A. should not be difficult because of the advances in experimental research.
B. appears to be a hopeless task and therefore pointless to undertake.
C. requires a much bigger budget.
D. demands vigilance and punitive measures against those who cut down the trees.

ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED ANSWER
BY CROSSING THE CORRESPONDING LETTER

35. The dying forest syndrome is a disease that

A. is peculiar to the forests of Asia
B. has spread rapidly over the forests of Europe
C. is confined to the forests of Germany
D. has affected forests all over the world

36. The writer suggests that

A. it is no longer possible to grow trees in industrialized areas
B. pollution-immune trees will absorb toxic emissions
C. all pollution-prone trees should be destroyed
D. it is not possible to grow trees that remain unaffected by pollution

37. The writer's approach toward the problem of forest devastation is one of

A. tolerance
B. indifference
C. well thought-out strategy
D. despondency

Stop. Do not turn the next page. Wait for the invigilator's signal.

ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED AN... ET
BY CROSSING THE CORRESPONDING LETTER

Mathematics M.C.Q's

No. of Questions: 43 (from 38 to 80) Time allo... tes
Questions start from page 7 Negative m...

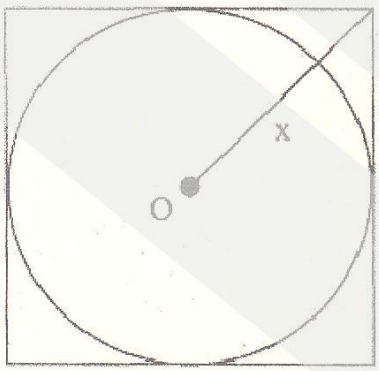
Q38 $6.7 \times 10^{-2} =$
A) 0.0067
B) 0.067
C) 0.67
D) 670

Q39 If x and y are distinct prime numbers less than 10, which of the following *cannot* be the sum of x and y?
A) 5
B) 6
C) 7
D) 8

Q40 If the radius of a circle is increased by 10% then the area is increased by
A) 2.1%
B) 21%
C) 121%
D) None of these

Q41 In a right isosceles triangle, the lengths of the two nonhypotenuse sides are designated a. What is the perimeter of the triangle in terms of a?
A) $4a$
B) a^2
C) $(2 + \sqrt{2})\, a$
D) None of these

Q42 In the figure below, $x = 4$. What is the area of square?



A) 8 B) 8π C) 16 D) 16π

Q43 In an examination, each student in a group scores either 8, 12, 16 or 20 marks. The number of students scoring each mark is shown in the table below. If the median mark is 12, then the largest possible value of x will be:

Mark	8	12	16	20
Number of students	10	20	x	10

A) 49
B) 59
C) 69
D) None of these

Q44 If $x + y = \alpha - \beta$ and $x - y = \alpha + \beta$, then xy is

A) $\alpha^2 + \beta^2$

B) $-\alpha\beta$

C) $\alpha\beta$

D) None of these

Q45 In the xy-coordinate system, if $(-3, \beta)$ and $(\alpha - 3, \beta - 3)$ are two points on the line defined by $x + 3y = 12$, then $\alpha =$

A) 5

B) 7

C) 9

D) 11

Q46 What is the product of the distinct prime factors of 150?

A) 150

B) 75

C) 50

D) 30

Q47 If $x|y + 9| > 0$, which of the following must be true?

A) $x < 0$

B) $x > 0$

C) $y < -9$

D) $y > -9$

Q48 The average of three consecutive integers such that twice the greatest integer is 2 less than 3 times the least integer is

A) 6

B) 7

C) 8

D) None of these

Q49 The area of a circle of radius r is the same as the area of a square of side a. Ratio of r to a is

A) 1 : 1

B) $a : r\pi$

C) $a : r$

D) None of the these

Q50 Humera wants to put up fencing around three sides of her rectangular yard and leave a side of 20 feet unfenced. If the yard has an area of 680 square feet, how many feet of fencing does she need?

A) 40

B) 68

C) 74

D) 88

Q51 If the price of CNG increases by 20% and Rizwana intend to spend only 5% more on CNG, by how much % should she reduce the quantity of CNG she buys?

A) 0.125%

B) 12.5%

C) 33.33%

D) None of these

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Q52 All possible values of an integer variable x satisfying the conditions below are:

$$3x + 9 < 14 \text{ and } 1 - x \leq 3$$

A) –2, –3, –4, –5
B) –2, –1, 0, 1
C) 1, 2, 3, 4
D) None of these

Q53 What is the smallest integer u for which $5^u > 625$?
A) 3
B) 4
C) 5
D) 6

Q54 Which of the following is not a solution to the equation $x^3 - x^2 - 9900x = 0$?
A) – 99
B) 0
C) 100
D) 1000

Q55 The average of 5 consecutive integers starting with m as the first integer is n. What is the average of following integers?

$$m + 1, m + 3, m + 5, m + 7, m + 9$$

A) m + 4
B) n + 6
C) m + 5
D) None of these

Q56 An entry test conducted by IBA demanded that the test takers answer 45 quantitative questions within 65 minutes. Which of the following is closest to the average amount of time the test takers can spend on each question?
A) 2 minutes, 18 seconds
B) 2 minutes, 10 seconds
C) 1 minute, 29 seconds
D) 1 minute, 49 seconds

Q57 A jar has three black marbles and three white marbles. If you draw three marbles, replacing each marble before drawing the next one, what is the probability that you will draw at least one black marble?
A) $\frac{1}{2}$
B) $\frac{3}{8}$
C) $\frac{5}{8}$
D) $\frac{7}{8}$

Q58 If $3x + 2y = 1$ and $2x + 3y = 4$, then $x + y$ must be
A) 1
B) 2
C) 3
D) 1 – y

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English M.C.Q's

No. of Questions: 37 (from 1 to 37) [illegible]inutes
Questions on Page Nos: 1 To 6 Negati[illegible]es

For questions **1-20**, decide which answer **(A, B, C** or **D)** best fits each blank.

1. It's better _____ I thought.

A. as
B. then
C. than
D. like

2. It was _____ expensive restaurant I've ever been to.

A. more
B. the more
C. most
D. the most

3. "I _____ biology all my life," said the renowned biologist.

A. study
B. studied
C. have studied
D. am studying

4. _____ Salma _____ to bed early yesterday?

A. Was; going
B. Had; been going
C. Had; gone
D. Did; go

5. These are the pupils _____ parents have volunteered to take the class out on field trip.

A. which
B. whose
C. whom
D. who

6. Mohsin's writing is so illegible that I cannot _____ what he has written.

A. make up
B. make over
C. make out
D. make off

7. Neither the boys nor Sidra _____ the answer to the difficult question.

A. know
B. knows
C. has known
D. have known

8. Ali prefers watching musicals _____ watching movies.

A. to
B. than
C. over
D. against

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Q66 Which of the following is equivalent to $(x+2)(x^4+16)(x-2)(x^2+4)$?

A) x^2-4
B) x^4-16
C) x^8-256
D) None of these

Q67 Monthly rainfall was recorded for two towns over a five-month period using the chart below. If the median rainfall in Town A was equal to the average rainfall in Town B, what is the value of x?

Month	Town A	Town B
April	3	3
May	0	2
June	2	0
July	4	x
August	5	1

A) 9
B) 8
C) 7
D) 6

Q68 A circle is tangent to both axes. If the distance from the origin to the centre of the circle is r, what is the area of the circle?

A) $\frac{\pi r^2}{2}$
B) πr^2
C) $2\pi r$
D) None of these

Q69 Which of the following data suffices to find the area of a right angled triangle?
I) Magnitude of any two angles of the triangle.
II) Length of any two sides of the triangle.
III) Length of all three sides of the triangle.
A) I only.
B) II only.
C) III only.
D) I and III only.

Q70 If the sum of the interior angles of a regular polygon measures up to 1440 degrees, how many sides does the polygon have?

A) 10 sides
B) 9 sides
C) 8 sides
D) 7 sides

Q71 What is the area of the circle defined by the equation $(x-5)^2+(y+7)^2=3^2$?

A) 3π
B) 6π
C) 9π
D) 18π

(go on to the next page)

Q72 What are the roots of the equation $3x^2 + 24x = 27$?
A) (–1, 9)
B) (1, 9)
C) (1, –9)
D) (–1, –9)

Q73 If $2^{(-5y)} = 32^{(2+y)}$, then value of y is
A) 2
B) 1
C) 0
D) –1

Q74 Which of the following sets contains only factors of 180?
A) {12, 15, 16, 30}
B) {12, 18, 20, 22}
C) {1, 2, 4, 9, 15}
D) {2, 9, 30, 16}

Q75 A Pythagorean triple is a triple of positive integers (*a, b, c*) such that a right triangle exists with legs *a*, *b* and hypotenuse *c*. Following are Pythagorean triples, except
A) (3, 4, 5)
B) (5, 12, 13)
C) (10, 11, 12)
D) (10, 24, 26)

Q76 What is the length of the diagonal of a square whose area is 289 square inches?
A) $289\sqrt{2}$
B) $289\sqrt{3}$
C) $17\sqrt{2}$
D) $17\sqrt{3}$

Q77 Freed and Sami are standing 45 miles apart and they start walking toward each other at the exact same moment. If Freed's speed is 4 miles per hour and Sami's speed is 5 miles per hour, how many miles has Sami walked when they meet?
A) 5
B) 20
C) 25
D) 30

Q78 If Sami can finish a job in 3 hours and Maria can finish the same job in 12 hours; in how many hours could they finish the job if they worked on it together at their respective rates?

A) 2 B) 2.4 C) 3.25 D) 4

Q79 There are eight job applicants sitting in a waiting room – four women and four men. If two of the applicants are selected at random, what is the probability that both will be the men?

A) $\frac{1}{2}$ B) $\frac{3}{7}$ C) $\frac{3}{14}$ D) $\frac{1}{10}$

Q80 At a restaurant, you must choose an appetizer, a main course and a desert. If there are two possible appetizers, three possible main courses, and five possible deserts, how many different meals one can order?

A) 10 B) 20 C) 30 D) 40

Stop. Do not turn the next page. Wait for the invigilator's signal.

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Computer Science M.C.Q's

No. of Questions: 45 (from 81 to 125) Time allowed:
Questions start from page 13 Negative marki

81. The application layer of a network
   A) Establishes, maintains and terminates virtual circuits
   B) Defines the user's port into the network
   C) Consists of software being run on the computer connected to the network
   D) All of the above

82. Which of the following services dynamically resolves NetBIOS-to-IP resolution?
   A) DNS
   B) DHCP
   C) WINS
   D) LMHOSTS

83. The return type for all destructors is
   A) int
   B) the class
   C) the same as the first data in the class
   D) None

84. A distributed network configuration in which all data/information pass through a central computer is
   A) Bus network
   B) Star network
   C) Ring network
   D) Point-to-point network

85. In SQL, which command(s) are used to remove rows from a table
   A) Delete
   B) Remove
   C) Truncate
   D) Both (a) and (c)

86. Which of the following regular expression zero or more instances of x or y?
   A) (x | y)
   B) (x | y)*
   C) (x* | y)
   D) (xy*)

87. A variable's _____ indicates which portion of the program can use it
   A) area
   B) scope
   C) lifetime
   D) reach

ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED ANSW
BY CROSSING THE CORRESPONDING LETTER

88. Scheduling
   A) Allows jobs to use the processor
   B) Is not required in uni-processor systems
   C) Is used at the data link layer
   D) None of the above

89. In SQL, which command is used to change data in a table?
   A) Update
   B) Insert
   C) Browse
   D) Append

90. The errors that can be pointed out by the compiler are
   A) Syntax errors
   B) Semantic errors
   C) Logical errors
   D) Internal errors

91. Semaphores
   A) Synchronize critical resources to prevent deadlock
   B) Synchronize critical resources to prevent contention
   C) Are used to do I/O
   D) Are used for memory management

92. Which of the following perform modulation and demodulation
   A) Fiber optics
   B) Satellite
   C) Coaxial cable
   D) Modem

93. Inheritance occurs when a class adopts all the traits of
   A) An object
   B) A parent class
   C) A variable
   D) A function

94. In half-dupex transmission
   A) Data can be transmitted in one direction only
   B) Data can be transmitted in both directions
   C) Data can be transmitted in both directions simultaneously
   D) Data cannot be transmitted

95. What is the term used to describe addresses available on a DHCP server
   A) pool
   B) grid
   C) cluster
   D) notes

ALL ANSWERS MUST BE GIVEN ON THE COMPUERIZED ANSW... BY CROSSING THE CORRESPONDING LETTER

96. What does a MAC (Media Access Control) address represent?
   A) A logical address that identifies the workstation
   B) A physical address that is randomly assigned each time the computer is started
   C) A physical address that is assigned by the manufacturer
   D) The logical domain address for the workstation

97. Variable names known only to the procedure in which they are declared are called
   A) global
   B) local
   C) recent
   D) internal

98. The break statement is used to exit from
   A) A do loop
   B) A for loop
   C) A switch statement
   D) All of the above

99. Which of the following is characteristic(s) of an operating system?
   A) Resource management
   B) Error recovery
   C) Memory management
   D) All of the above

100. Consider the following regular expression: **R = (ab | abb)*bbab** . Which of the following string is NOT in the set denoted by R?
   A) ababab
   B) ababbbbab
   C) abbabbbab
   D) ababbbab

101. Consider the following arithmetic expression

$$2 * ((i \% 5) * 4 + (j - 3) / (k + 2))$$

Where i,j,k are integer variables. If these variables are assigned the values 8, 15 and 4 respectively, then the given expression will be result as
   a. 32
   b. 36
   c. 30
   d. None of the above

102. Consider the following assignment statement

$$flag = (i < 0) ? 0 : 100$$

What will be the value of flag if 'i' is assigned a non-negative value.
   a. 0
   b. 100
   c. -100
   d. 1

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103. Consider the following assignment statement

a = 2 * ((i/5) + (4 * (j-3)) % (i + j -2))

What will be the value of 'a' if i is an integer equal to 8 and j is an integer equal to 5.

a. 14
b. 16
c. 18
d. 20

104. What the following 'C' program is calculating:

```
main( )
{
        int n, count = 1;
        float x, result, sum = 0;

        printf("How many numbers?");
        scanf("%d", &n);

        while (count <= n) {
                printf("x = ");
                scanf("%f", &x);
                sum += x;
                ++count;
        }
        result = sum/n;
        printf("\n The result is %f  \n", result);
}
```

a. Average of list of real numbers
b. Average of list of integers
c. Square of list of integers
d. Square of list of real numbers

105. What will be the output of the following 'C' program?

```
main( )
{
        int i = 0, x = 0;
        for (i = 1; i<10; ++i)
{
        if (i % 2 == 1)
                x += i;
        else x--;
printf("%d", x);
continue;
                }
printf("\nx = %d", x);
}
```

a. 1 2 3 4 5 6 7 8 9
   x=15

b. 2 4 6 8 10 12 14 16 18
   x= 20

c. 1 0 3 2 7 6 13 12 21
x = 21

d. 1 3 5 7 9 11 13 15 17
x = 15

106. What will be the output of the following 'C' program

```
#include <stdio.h>
main( )
{
        int i, j, k, x  = 0;

        for (i=0; i<5; ++i) {
                for(j = 0; j<i; ++j)
                        x += (i + j -1);
                        printf ("%d ",x);
                        break;
                        }
                printf("\nx = %d", x);
}
```

a. 0
x = 0

b. 1 2 3 4 5
x = 55

c. 1 3 5 7 9
x = 9

d. 1 3 5 7 9
X = 1

107. What is the output of the following program

```
main( )
{
        int i, j, k, x  = 0;
        for (i=0; i<5; ++i)
                for(j = 0; j<i; ++j) {
                        switch (i +j -1) {

                        case -1:
                        case 0:
                                x += 1;
                                break;
                        case 1:
                        case 2:
                        case 3:
                                x +=2;
                        default:
                                x +=3;
                        }
                        printf ("%d ",x);
                }
                printf("\nx = %d", x);
```

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```
}
```

a. 1 2 3 4 5 6 7 8 9
   x=1

b. 2 4 6 8 10 12 14 16 18
   x=18

c. 2 4 6 8 10 12 14 16 18
   x=2

d. 1 6 11 16 21 24 29 32 35 38
   x=38

108. What is the output of the following code

```
int main( ){
   int arr[][3]={{1,1},{2,2,2},{3}};
   printf("%d %d %d",sizeof(arr),arr[0][2],arr[1][2]);
return 0;
}
```

a. 36 0 2
b. 6 1 1
c. 36 1 2
d. 6 0 0

109. In Object Oriented Programming style, which of the following relationship is known as inheritance relationship?

a. 'has-a' relationship
b. 'is-a' relationship
c. association relationship
d. none of the above

110. What is the output of the following 'C' program

```
main( )
{
        int n = 10;
        printf("%d", funct1(n));
}

int funct1(int n)
{
        if (n > 0) return (n + funct1(n-1));
}
```

a. 10
b. 55
c. 0
d. 1 2 3 4 5 6 7 8 9 10

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111. What is the output of the following 'C' program

```
#include <stdio.h>

int funct1(int a);
int funct2(int a);

main( )
{
        int a = 0, b=1, count;
        for(count=1; count<=5; ++count)
        {
                b+= funct1(a) + funct2(a);
                printf("%d  ", b);
        }
}

funct1(int a)
{
        int b;
        b = funct2(a);
        return(b);
}

funct2(int a)
{
        static int b =1;
        b+=1;
        return(b+a);
}
```

a. 5 10 15 20 25
b. 6 12 18 24 30
c. 6 10 28 45 66
d. 6 66 666 6666 66666

112. Consider the following table of integers:

1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1

Among the following, which array would store the table with the minimum amount of memory used?

a. `int[ ][ ] a = new int[5][6];`

b.
```
int[ ][ ] a = new int[5][ ];
for(int i=0; i<a.length; i++) a[i] = new int[i];
```

c.
```
int[ ][ ] a = new int[5][ ];
for(int i=0; i<a.length; i++) a[i] = new int[i+1];
```

d.
```
int[ ][ ] a = new int[5][ ];
for(int i=0; i<a.length; i++) a[i] = new int[i+2];
```

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113. Let

m = "Faisal is a math major,"
c = "Faisal is a computer science major,"
g = "Faisal's cousin is a literature major,"
h = "Faisal's cousin has read Ghalib,"
t = "Faisal's sister has read Faiz."

Which of the following expresses the statement:
Faisal is a computer science major and a math major, but his cousin is a literature major who hasn't read both Ghalib and Faiz.

a. $c \wedge m \wedge (g \vee (\sim h \vee \sim t))$
b. $c \wedge m \wedge g \wedge (\sim h \wedge \sim t)$
c. $c \wedge m \wedge g \wedge (\sim h \vee \sim t)$
d. $c \wedge m \wedge (g \vee (\sim h \wedge \sim t))$

114. The Boolean expression $X = = \overline{\overline{A} + \overline{B} + \overline{C}}$ is logically equivalent to what single binary operation?

a. NOR
b. NAND
c. AND
d. OR

115. Polymorphism reduces the effort required to extend an object system by
a. Coupling objects together more tightly.
b. Enabling a number of different operations to share the same name.
c. Making objects more dependent on one another.
d. Removing the barriers imposed by encapsulation.

For questions 116-118 use the following Bank class information. It contains the headings of the methods in the Bank class, along with a description.

```
public Bank( )
 // default constructor starts checking and savings account with zero rupees.
 public Bank(double c, double s)
 // parameter creates an object with c rupees in current account and s rupees in savings.
public double getCurrent( )
 // returns the current account balance
 public double getSavings( )
 // returns the savings account balance
public double getCombined( )
 // returns the combined balance of the current and savings account
 public void changeCurrent(double amount)
 // alters the balance of the current account by the amount parameter
 public void changeSavings(double amount)
 // alters the balance of the savings account by the amount parameter
public void closeCurrent( )
 // alters the current account balance to zero
public void closeSavings( )
 // alters the savings account balance to zero
```

116. The methods in the Bank class are
a. class methods.
b. object methods.
c. expression methods.
d. variable methods

117. Access to methods of the Bank class requires
   a. using a statement, like Bank.getSavings( );
   b. using a statement, like Bank.getSavings;
   c. the creation of one or more Bank objects
   d. using the get method

118. What is the output of the following program segment?

```
Bank Kashif;
Kashif = new Bank();
Bank Zoya;
Zoya = new Bank();
Kashif.changeChecking(1000);
Zoya.changeChecking(1500);
System.out.println("Zoya:  " + Zoya.getSavings( ));
System.out.println("Kashif:  " + Kashif.getSavings( ));
```

   a. Kashif: 1000
      Zoya: 1500
   b. Kashif: 1500
      Zoya: 1000
   c. Zoya: 0
      Kashif: 0
   d. None of the above

119. Is the Binary Search always preferred over the Linear Search, and why?

   a. Yes, because the Binary Search is always faster than the Linear Search.
   b. Yes, because the Binary Search can search any type of data.
   c. No, because the Linear Search is faster than the Binary Search with sorted data.
   d. No, because the Binary Search only works with sorted data, unlike the Linear Search.

120. Object-based programming languages do not support:

   i. Inheritance

   ii. Dynamic binding

   iii. Encapsulation

   iv. All of the above

   a. Both i and ii

   b. iii only

   c. iv only

   d. i, and iii

121. Consider the following code:

```
#include <stdio.h>
main( )
{
        int n1 = 100;
        int n2 = 200;
        int n3 = n1 / n2;
        if (n3 > 0)
        {
```

```
            n2 = n1;
            n1 = n2;
        }
        else
        {
            n1 = n2;
            n2 = n1;
        }
        printf("%d %d",n1,n2);
}
```

What will be the output of this program?

a. 200 200
b. 100 200
c. 200 100
d. 100 100

122. What is the value of num at the conclusion of the following program segment?

```
#include <stdio.h>
main( )
{
 char qwerty = 'B';
 int num = 100;
 switch(qwerty)
 {
  case 'A':
      num ++;
    case 'B':
      num += 2;
  case 'C':
      num += 3;
  case 'D':
      num += 4;
 }
 printf("%d", num);
 }
```

a. 100
b. 102
c. 109
d. Error

123. What is the value of num at the conclusion of the following program statement

```
main()
{
 char qwerty = 'B';
 int num = 100;
 switch(qwerty)
 {
  case 'A':
      num ++;
      break;
    case 'B':
      num += 2;
      break;
  case 'C':
      num += 3;
      break;
```

```
    case 'D':
        num += 4;
    }
    printf("%d", num);
    }
```

a. 100
b. 102
c. 104
d. 106

124. What is the output of the following code

```
main( )
{
int num1 = 120;
int num2 = 108;
int num3 = 0;
do
{
 num3 = num1 % num2;
 if (num3 == 0)
    printf("%d",num2);
   else
    {
 num1 = num2;
  num2 = num3;
    }
}
while (num3 != 0);
}
```

a. 0
b. 6
c. 12
d. 36

125. Consider that the methods f1 and f2 are in the same class:

```
public static int f1(int a, int b)
{
        if ( a == b)
                return b;
        else
                return a + f2(a-1, b);
}

public static int f2 (int p, int q)
{
        If ( p < q)
                return p+q;
        Else
                return p + f1(p-2, q);
}
```

What value will be returned by a call to f1(5,3)?

a. 5
b. 6
c. 7
d. 15