

**ENTRANCE EXAMINATION FOR ADMISSION, MAY 2013.**

**M.C.A. (MASTER OF COMPUTER APPLICATIONS)**

**COURSE CODE : 352**

Register Number :

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*Signature of the Invigilator  
(with date)*

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**COURSE CODE : 352**

**Time : 2 Hours**

**Max : 400 Marks**

***Instructions to Candidates :***

1. Write your Register Number within the box provided on the top of this page and fill in the page 1 of the answer sheet using pen.
2. Do not write your name anywhere in this booklet or answer sheet. Violation of this entails disqualification.
3. Read each question carefully and shade the relevant answer (A) or (B) or (C) or (D) or (E) in the relevant box of the ANSWER SHEET using HB pencil.
4. Avoid blind guessing. A wrong answer will fetch you -1 mark and the correct answer will fetch 4 marks.
5. Do not write anything in the question paper. Use the white sheets attached at the end for rough works.
6. Do not open the question paper until the start signal is given.
7. Do not attempt to answer after stop signal is given. Any such attempt will disqualify your candidature.
8. On stop signal, keep the question paper and the answer sheet on your table and wait for the invigilator to collect them.
9. Use of Calculators, Tables, etc. are prohibited.

Directions ( For questions 1 to 6 ) : In each of the following questions there is a certain relationship between two given words on one side of :: and one word is given on another side of :: while another word is to be found from the given alternatives, having the same kind of relation with this word as the words of given pair bear. Choose the correct alternative.

1. ANGLE : DEGREE ::  
(A) Area : square unit  
(B) Milk : quart  
(C) Society : classes  
(D) Letter : alphabet  
(E) None of the Above
  
2. CONFIRMED : INVETERATE ::  
(A) Knowledge : supposed  
(B) Financial : bankrupt  
(C) Immature : callow  
(D) Credible : incredible  
(E) None of the Above
  
3. PARENTHESIS : EXPLANATION ::  
(A) Ellipsis : omission  
(B) Asterisk : exaggeration  
(C) Synopsis : affectation  
(D) Apostrophe : annotation  
(E) None of the Above
  
4. CENSUS : POPULATION ::  
(A) Manifest : debts  
(B) Roster : audience  
(C) Itinerary : journeys  
(D) Inventory : merchandise  
(E) None of the Above
  
5. STANZA : POEM ::  
(A) Mimicry : pantomime  
(B) Duet : chorus  
(C) Act : opera  
(D) Rhyme : verse  
(E) None of the Above
  
6. DEMURE: CHURL :  
(A) Hare-brained:savant  
(B) Soothing: emollient  
(C) Venal: greenery  
(D) Diabolic: hoodoo  
(E) None of the above

Directions (For questions 7 to 12) : From amongst the four alternatives, choose the best answer whose meaning is closest to the meaning of the word in question. If nothing is appropriate, choose the last option.

7. RHINOPHYTONECROPHILIA

- (A) Romancing the dead
- (B) One who is love with the undertaker
- (C) One who likes smelling dead plants and flowers
- (D) One who summons ghosts
- (E) None of the above

8. PLEONASM

- (A) Tautological
- (B) Chimerical
- (C) Episodic
- (D) Prismatic
- (E) None of the above

9. APOTHECARY

- (A) Planet close to the Sun
- (B) Star closest to Earth
- (C) Coat hanger
- (D) Pharmacy
- (E) None of the above

10. NOSEGAY

- (A) Olfactory sensation
- (B) A bouquet of flowers
- (C) Obnoxious person
- (D) Pungent smelling
- (E) None of the above

11. UNGUENT

- (A) An ointment or medicinal application
- (B) Uncle like
- (C) Soporific
- (D) Sophomoric
- (E) None of the above

12. LUDICROUS

- (A) Absurd
- (B) Clear
- (C) Simple
- (D) Dismal
- (E) None of the above

Overlapping Start (13 => 15 = 3)

Directions ( For questions 13 to 15): For each of the words below, a contextual usage is provide(D) Pick the word from the alternatives given that is most inappropriate in the given context.

13. TEMPORAL: Do not get tempted by these temporal pleasures. They do not last long.  
(A) Ephemeral (B) Immortal  
(C) Everlasting (D) Eternal  
(E) None of the above
14. FATUOUS: He is far too sensible to have done a fatuous thing like this.  
(A) Stupid (B) Intelligent  
(C) Inane (D) Foolish  
(E) None of the above
15. MACABRE: The office wore a macabre look on Friday after the company downsized its staff strength.  
(A) Grisly (B) Gruesome  
(C) Tropical (D) Lugubrious  
(E) None of the above

Overlapping End (13 => 15 = 3)

Directions ( For questions 16 to 23) : From amongst the four alternatives, choose the best answer whose meaning is appropriately opposite to the meaning of the word in question. If nothing is appropriate, choose the last option.

16. OBSEQUIOUS  
(A) servile (B) first  
(C) fawning (D) supercilious  
(E) None of the above
17. FULMINATION  
(A) praise (B) repetition  
(C) escape (D) ratification  
(E) None of the above
18. TOUT  
(A) cast aspersions on (B) deny the relevance of  
(C) misrepresent (D) withhold consent  
(E) None of the above
19. OUTLANDISH  
(A) conventional (B) prolific  
(C) unchanging (D) transparent  
(E) None of the above

20. RAVEL  
 (A) knit (B) omit  
 (C) remain silent (D) measure  
 (E) None of the above
21. PERSISTENCE  
 (A) irrelevance (B) inconstancy  
 (C) inequality (D) intemperance  
 (E) None of the above
22. IGNOMINIOUS  
 (A) scholarly (B) incognito  
 (C) laudatory (D) disgraceful  
 (E) None of the above
23. CONTENTIOUS  
 (A) satisfied (B) pacific  
 (C) hungry (D) bellicose  
 (E) None of the above

Directions ( For questions 24 to 27 ) : From amongst the four alternatives, choose the best answer which is appropriate for the blank(s) in the question. If nothing is appropriate, choose the last option.

24. In his usual \_\_\_\_\_ manner, he had insured himself against this type of loss.  
 (A) pensive (B) providential  
 (C) indifferent (D) circumspect  
 (E) None of the above
25. We never believed that he would resort to \_\_\_\_\_ in order to achieve his goal; we always regarded him as a \_\_\_\_\_ man.  
 (A) charm - insincere (B) necromancy - pietistic  
 (C) subterfuge - honest (D) prestidigitation - articulate  
 (E) None of the above
26. The most technologically advanced societies have been responsible for the greatest \_\_\_\_\_ indeed savagery seems to be indirect proposition to \_\_\_\_\_.  
 (A) inventions - know-how (B) wars - viciousness  
 (C) triumphs - civilizations (D) atrocities - development  
 (E) None of the above
27. When I am elected, I will work towards effecting those changes for which I have been fighting all these years. We will work together to do away with the bureaucratic bogs which have existed ever since my opponent took office. Everyone of you knows what I stand for; I invite my opponent to \_\_\_\_\_.  
 (A) hand in his resignation graciously (B) stop lying to the public  
 (C) make his stance clear (D) get our city more federal aid  
 (E) None of the above

Directions (Questions X to X): Read the passages give below and answer the questions appropriate to the concerned passages.

Nine individuals - Z, Y, X, W, V, U, T, S and R - are the only candidates, who can serve on three committees - A, B and C The following are the rules regarding to constituting the committees:

- Each candidate should serve on exactly one of the committees.
- Committee A should consist of exactly one member more than committee (B)
- It is possible that there are no members of committee (C)
- Among Z, Y and X none can serve on committee (A)
- Among W, V and U none can serve on committee (B)
- Among T, S and R none can serve on committee (C)

With the above base information answer the following questions:

28. In case T and Z are the individuals serving on committee B, how many of the nine individuals should serve on committee C?  
(A) 3 (B) 4  
(C) 5 (D) 6  
(E) None of the above
29. Of the nine individuals, the largest number that can serve together on committee C is  
(A) 9 (B) 8  
(C) 7 (D) 6  
(E) None of the above
30. In case R is the only individual serving on committee B, which among the following should serve on committee A?  
(A) W and S (B) V and U  
(C) T and S (D) U and S  
(E) None of the above
31. In case any of the nine individuals serves on committee C, which among the following should be the candidate to serve on committee A?  
(A) Z (B) Y  
(C) W (D) T  
(E) None of the above
32. In case T, S and X are the only individuals serving on committee B, the total membership of committee C should be:  
(A) Z and Y (B) Z and W  
(C) Y and V (D) Y and U  
(E) None of the above
33. Among the following combinations which could constitute the membership of committee C?  
(A) Y and T (B) X and U  
(C) Y, X and W (D) W, V and U  
(E) None of the above

In an experiment conducted at a laboratory, 160 white mice were injected with Serum D 160 other white mice were injected with a harmless sugar solution. In two weeks time 39% of the white mice, who were injected with Serum D contracted the highly contagious and often fatal disease, jungle fever. Hence, it can be concluded that jungle fever is caused by some elements similar to the elements in Serum D

With the above base information answer the following questions:

34. The above discussion would be weakened most severely in case it is shown that
- (A) People contracting jungle fever are usually the victims of the bite of the South American Lesser Hooded Viper.
  - (B) One among the 160 white mice had already contracted jungle fever prior to the laboratory experiment.
  - (C) The natural habitats of white mice does not contain any of the elements found in Serum D
  - (D) The scientists administered the injections being ignorant of the contents of the solutions used
  - (E) None of the above.
35. The above argument would be highly empowered in case it were shown that:
- (A) Some of the elements in Serum D are extracted from the root of a certain poisonous jungle wildflower.
  - (B) Invariably the blood of the victims of jungle fever victims contains a high level of a certain toxic substance also found in serum D
  - (C) Almost all the white mice died within a period of two days after the first symptoms appeared
  - (D) Normally the rate of jungle fever among white mice is less than 0.01%.
  - (E) None of the above.
36. Distribution of leaflets and delivering speeches on government property should be outlawed. Radicals and fanatics have no right to use public property when peddling their unsavory views.
- The argument above is based on the postulate
- (A) The general public has a special concern in the free exchange of different political views.
  - (B) Every person who hands out leaflets and delivers speeches is a radical or fanati C
  - (C) Radicals and fanatics prefer the use of public property while propagating their viewpoint.
  - (D) Legal constraints which are applicable to one group need not be equally applicable to all.
  - (E) None of the above

37. No national productivity measures are available for underground industries that may exist but remain unreported. On the other hand, at least some industries that are run entirely by self-employed industrialists are included in national productivity measures.

From the information given above, it can be validly concluded that,

- (A) There are at least some industries run entirely by self-employed industrialists that are underground industries
  - (B) No industries that are run entirely by self-employed industrialists operate underground
  - (C) There are at least some industries other than those run entirely by self-employed industrialists that are underground industries
  - (D) There are at least some industries run entirely by self-employed industrialists that are not underground industries
  - (E) None of the above
38. Sally has never received a violation from the Federal Aviation Administration during her 16-year flying career. Sally must be a great pilot.  
Which of the following can be said about the reasoning above?
- (A) The definitions of the terms create ambiguity.
  - (B) The argument uses circular reasoning.
  - (C) The argument works by analogy.
  - (D) The argument is built upon hidden assumptions.
  - (E) None of the above.
39. Cars are safer than planes. Fifty percent of plane accidents result in death, while only one percent of car accidents result in death.  
Which of the following, if true, would most seriously weaken the argument above?
- (A) Planes are inspected more often than cars.
  - (B) The number of car accidents is several hundred thousand times higher than the number of plane accidents.
  - (C) Pilots never fly under the influence of alcohol, while car drivers often do.
  - (D) Plane accidents are usually the fault of air traffic controllers, not pilots.
  - (E) None of the above.
40. Dear Editor: I feel obliged to comment on the unfair review you published last week written by Robert Duxbury. Your readers should know that Mr. Duxbury recently published his own book that covered the same topic as my book, which you asked him to review. It is regrettable that Mr. Duxbury should feel the need to belittle a competing work in the hope of elevating his own book.  
The author of the letter above makes her point by employing which method of argument?
- (A) Attacking the motives of the author of the unfavorable review.
  - (B) Attacking the book on the same topic written by the author of the review.
  - (C) Contrasting her own book with that written by the author of the review.
  - (D) Questioning the judgment of the author of the unfavorable review.
  - (E) None of the above.



41. Many people argue that the death penalty deters murder. However, the notorious killer Ned Grandy deliberately moved to a state that imposes the death penalty just before embarking on a series of ferocious murders. Thus, it seems clear that the existence of the death penalty does not serve as a deterrent to murder.

The argument above may best be characterized as:

- (A) an appeal to emotion.
- (B) a flawed analogy.
- (C) a general conclusion based on a specific example.
- (D) circular reasoning.
- (E) None of the above.

42. Consider the following:

- James weighs more than Kelly.
- Luis weighs more than Mark.
- Mark weighs less than Ned
- Kelly and Ned are exactly the same weight.

If the information above is true, which of the following must also be true?

- (A) Luis weighs more than Ned
- (B) Luis weighs more than James.
- (C) Kelly weighs less than Luis
- (D) James weighs more than Mark
- (E) None of the above.

43. Man: I've heard that the new Chemistry class is really difficult.

Woman: Oh, I wouldn't say that. I took Chemistry 402 last quarter, and I think the course went very smoothly.

Question: What does the woman mean?

- (A) The chemistry class is very tough.
- (B) The chemistry class is not teaching this quarter.
- (C) The chemistry class is easier than the man thinks.
- (D) The chemistry class should be avoided if possible.
- (E) None of the above.

44. Woman: I've heard great things about that movie that just came out. You want to go see it tonight?

Man: I'd love to, but I've got a history final in two days, and I haven't studied all quarter. I think I'd better take a rain check this time.

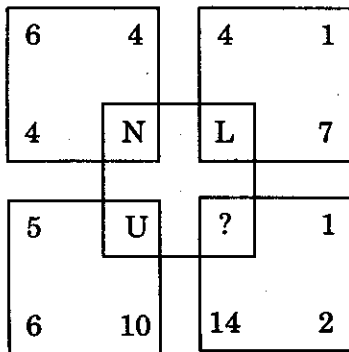
What does the man mean?

- (A) He needs to take a break from his studying.
- (B) He loves the woman very much.
- (C) He doesn't like going out in the rain.
- (D) He will not be able to accompany the woman.
- (E) None of the above.

45. Woman: The milk in the refrigerator is sour. I don't think it's drinkable.  
 Man: No joke. The expiration date was three weeks ago.  
 Question: What does the man imply?  
 (A) The woman has an extremely sour disposition.  
 (B) They need to replace the refrigerator.  
 (C) The woman is just kidding.  
 (D) It's not surprising the milk has ruined  
 (E) None of the above.

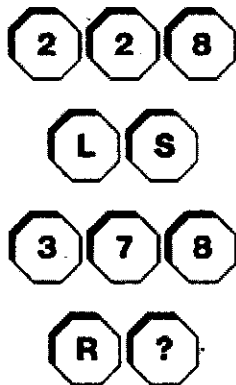
Directions (Questions X to X): Observe the series of patterns given in each question and find the appropriate one which can replace the concern Question Mark.

46. Which letter replaces the question mark?



- (A) P  
 (B) Q  
 (C) R  
 (D) S  
 (E) None of the above.

47. Which letter replaces the question mark?



- (A) S  
 (B) M  
 (C) U  
 (D) P  
 (E) None of the above.

48.

Which number replaces the question mark?

|   |   |   |
|---|---|---|
| 6 |   | 1 |
| L | P | D |
| 2 |   | 4 |

|   |   |   |
|---|---|---|
| 5 |   | 1 |
| J | M | C |
| 2 |   | 3 |

|   |   |   |
|---|---|---|
| 4 |   | 4 |
| L | T | H |
| 3 |   | 2 |

|   |   |   |
|---|---|---|
| 3 |   | 2 |
| O | U | F |
| 5 |   | ? |

- (A) 1 (B) 2  
 (C) 3 (D) 4  
 (E) None of the above.

49.

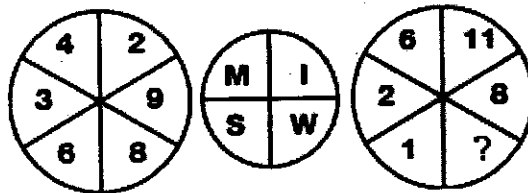
Which letter replaces the question mark?

|   |   |    |
|---|---|----|
| 3 | P | 8  |
| 9 | G | 11 |
| 2 | U | 4  |
| 3 | W | 1  |
| 7 | ? | 18 |

- (A) Q (B) B  
 (C) S (D) K  
 (E) None of the above.

50.

Which number replaces the question mark?



- (A) 1 (B) 2  
 (C) 3 (D) 4  
 (E) None of the above.

Directions (Questions 51 to 54): Choose the odd one out from the following series of patterns.

51. 3, 5, 11, 14, 17, 21  
(A) 21 (B) 17  
(C) 14 (D) 3  
(E) None of the above.
52. 8, 27, 64, 100, 125, 216, 343  
(A) 27 (B) 100  
(C) 125 (D) 343  
(E) None of the above.
53. 10, 25, 45, 54, 60, 75, 80  
(A) 10 (B) 45  
(C) 54 (D) 75  
(E) None of the above.
54. 396, 462, 572, 396, 427, 671, 264  
(A) 396 (B) 427  
(C) 671 (D) 264  
(E) None of the above.

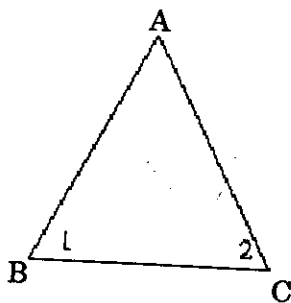
Directions (Questions 55 to 60): For each question, compare between the given Two quantities and choose the appropriate answer from the given options.

55. Quantity A:  $(-6)^4$   
Quantity B:  $(-6)^5$   
(A) Quantity A is greater  
(B) Quantity B is greater  
(C) Two quantities are equal  
(D) The relationship cannot be determined from the information given  
(E) None of the above
56. Quantity A: Time to travel 95 miles at 50 miles per hour  
Quantity B: Time to travel 125 miles at 60 miles per hour  
(A) Quantity A is greater  
(B) Quantity A equals Quantity B  
(C) Quantity B is greater  
(D) The relationship cannot be determined from the information given  
(E) None of the above
57. Quantity A:  $(9/13)^2$   
Quantity B:  $(9/13)^{1/2}$   
(A) Quantity A equals Quantity B  
(B) The relationship cannot be determined from the information given  
(C) Quantity B is greater  
(D) Quantity A is greater  
(E) None of the above

58. Quantity A:  $4/100$   
Quantity B:  $0.012/3$
- (A) Quantity B is greater
  - (B) Quantity A equals Quantity B
  - (C) Quantity A is greater
  - (D) The relationship cannot be determined from the information given
  - (E) None of the above

59.  $x = 2y + 3$   
 $y = -2$   
Quantity A:  $x$   
Quantity B:  $-1$
- (A) Quantity in Column A is greater
  - (B) Quantity in Column B is greater
  - (C) The two quantities are equal
  - (D) The relationship cannot be determined from the information given
  - (E) None of the above

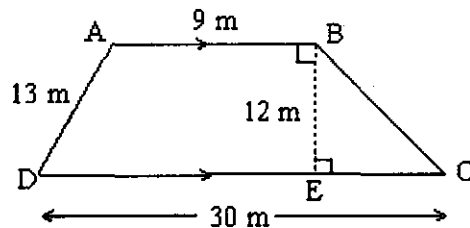
60.



- Diagram is illustrative and is not drawn to scale.  
Given  $AB = AC$  and angle  $BAC = 60^\circ$   
Quantity A: Length of side AB  
Quantity B: Length of side BC
- (A) Quantity A equals Quantity B
  - (B) Quantity B is greater
  - (C) The relationship cannot be determined from the information given
  - (D) Quantity A is greater
  - (E) None of the above

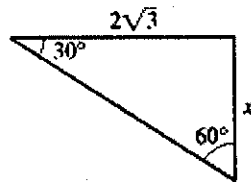
61. If the radius of a circle is increased by 20% then the area is increased by  
 (A) 44% (B) 120%  
 (C) 144% (D) 40%  
 (E) None of the above

62. A plot of land is in the shape of a trapezium whose dimensions are given in the figure below :



Hence the perimeter of the field is

- (A) 50 m (B) 64 m  
 (C) 72 m (D) 84 m  
 (E) None of the above
63. Lengths for the triangle below are given in feet. What is the value of  $x$  ?



- (A) 2 (B)  $\sqrt{3}$   
 (C) 4 (D) 5  
 (E) None of the above

Overlapping Start ( $64 \Rightarrow 73 = 11$ )

64. A person starts multiplying consecutive positive integers from 20. How many numbers should he multiply before the will have result that will end with 3 zeroes?  
 (A) 11 (B) 10  
 (C) 6 (D) 5  
 (E) None of the above
65. What is the remainder when  $91 + 92 + 93 + \dots + 99$  is divided by 6?  
 (A) 0 (B) 3  
 (C) 4 (D) 2  
 (E) None of the above
66. How many numbers are there between 100 and 1000 such that atleast one of their digits is 6?  
 (A) 648 (B) 258  
 (C) 654 (D) 252  
 (E) None of the above

67. Find the sum of all the integers which are multiples of 7 and lie between 200 and 400.  
 (A) 8729 (B) 8700  
 (C) 8428 (D) 8438  
 (E) None of the above
68. Let A and B be two solid spheres such that the surface area of B is 300% higher than the surface area of A. The volume of A is found to be  $k\%$  lower than the volume of B. The value of  $k$  must be  
 (A) 85.5 (B) 92.5  
 (C) 90.5 (D) 87.5  
 (E) None of the above
69. A test has 50 questions. A student scores 1 mark for a correct answer,  $-1/3$  for a wrong answer, and  $-1/6$  for not attempting a question. If the net score of a student is 32, the number of questions answered wrongly by that student cannot be less than  
 (A) 6 (B) 12  
 (C) 3 (D) 9  
 (E) None of the above
70. How many even integers  $n$ , where  $100 \leq n \leq 200$ , are divisible neither by seven nor by nine?  
 (A) 40 (B) 37  
 (C) 39 (D) 38  
 (E) None of the above
71. Let  $g(x) = \max(5 - x, x + 2)$ . The smallest possible value of  $g(x)$  is  
 (A) 4.0 (B) 4.5  
 (C) 1.5 (D) 3.5  
 (E) None of the above
72. Given that  $-1 \leq v \leq 1$ ,  $-2 \leq u \leq -0.5$  and  $-2 \leq z \leq -0.5$  and  $w = vz/u$ , then which of the following is necessarily true?  
 (A)  $-0.5 \leq w \leq 2$  (B)  $-4 \leq w \leq 4$   
 (C)  $-4 \leq w \leq 2$  (D)  $-2 \leq w \leq -0.5$   
 (E) None of the above
73. How many three digit positive integers, with digits  $x$ ,  $y$  and  $z$  in the hundred's, ten's and unit's place respectively, exist such that  $x < y$ ,  $z < y$  and  $x \neq 0$ ?  
 (A) 245 (B) 285  
 (C) 240 (D) 320  
 (E) None of the above
74. Let  $T$  be the set of integers  $\{3, 11, 19, 27, \dots, 451, 459, 467\}$  and  $S$  be a subset of  $T$  such that the sum of no two elements of  $S$  is 470. The maximum possible number of elements in  $S$  is  
 (A) 32 (B) 28  
 (C) 29 (D) 30  
 (E) None of the above

Overlapping End ( $64 \Rightarrow 74 = 11$ )

Already Overlapping End ( $13 \Rightarrow 15 = 3$ )

So, Total overlapping is equal to  $11 + 3 = 14$ .

75. The average of 5 quantities is 6. The average of 3 of them is 8. What is the average of the remaining two numbers?  
(A) 6.5 (B) 4  
(C) 3 (D) 3.5  
(E) None of the above
76. The average age of a family of 5 members is 20 years. If the age of the youngest member be 10 years then what was the average age of the family at the time of the birth of the youngest member?  
(A) 13.5 (B) 14  
(C) 15 (D) 12.5  
(E) None of the above
77. If ABC is a right angle triangle with angle A =  $90^\circ$  and  $2s = a + b + c$ , where  $a > b > c$  where notations have their usual meanings, then which one of the following is Correct?  
(A)  $(s - b)(s - c) > s(s - a)$  (B)  $(s - a)(s - c) > s(s - b)$   
(C)  $(s - a)(s - b) < s(s - c)$  (D)  $4s(s - a)(s - b)(s - c) = bc$   
(E) None of the above
78. Daal is now being sold at Rs. 20 per kg. During last month, its rate was Rs. 16 per kg. By how much percent should a family reduce its consumption so as to keep the expenditure fixed?  
(A) 15 (B) 18  
(C) 20 (D) 33  
(E) None of the above
79. Find the least value of  $3x + 4y$  if  $x^2y^3 = 6$ .  
(A) 15 (B) 8  
(C) 10 (D) 12  
(E) None of the above
80. One fast typist type some matter in 2hrs and another slow typist type the same matter in 3hrs. If both do combine in how much time they will finish?  
(A) 1hr 14 mints (B) 1hr 18 mints  
(C) 1hr 12 mints (D) 1hr 02 mints  
(E) None of the above



81. In 8\*8 Chess board, what is the total number of squares?  
 (A) 64 (B) 128  
 (C) 192 (D) 204  
 (E) None of the above
82. In a fraction, if 1 is added to both the numerator at the denominator, the fraction becomes  $\frac{1}{2}$ . If numerator is subtracted from the denominator, the fraction becomes  $\frac{3}{4}$ . Find the fraction.  
 (A)  $\frac{6}{5}$  (B)  $\frac{1}{5}$   
 (C)  $\frac{3}{7}$  (D)  $\frac{7}{8}$   
 (E) None of the above
83. Five years ago, Beth's age was three times that of Amy. Ten years ago, Beth's age was one half that of Chelsea. If C represents Chelsea's current age, which of the following represents Amy's current age?  
 (A)  $\frac{c}{6} + 5$  (B)  $2c$   
 (C)  $\frac{(c-10)}{3}$  (D)  $3c-5$   
 (E) None of the above
84. A person who decided to go weekend trip should not exceed 8 hours driving in a day. Average speed of forward journey is 40 mph. due to traffic in sundays, the return journey average speed is 30 mph. how far he can select a picnic spot  
 (A) 90 miles (B) 120 miles  
 (C) 115 miles (D) 112 miles  
 (E) None of the above
85. The monthly incomes of A and B are in the ratio 4 : 5, their expenses are in the ratio 5:6. If 'A' saves Rs.25 per month and 'B' saves Rs.50 per month, what are their respective incomes?  
 (A) Rs.400 and Rs.500 (B) Rs.240 and Rs.300  
 (C) Rs.320 and Rs.400 (D) Rs.440 and Rs.550  
 (E) None of the above

Overlapping Start (86 => 93 = 8)

86. Which of the following features are implemented directly by virtual memory?

- (i) A larger virtual address space than physical memory
- (ii) Allow multiple processes to share a physical memory
- (iii) Higher bandwidth access to disk
- (iv) A larger number of auto vectored interrupts
- (v) Protection between processes

- (A) i, ii & iii
- (B) i, ii, v
- (C) i, ii, iv
- (D) i, iv, v
- (E) None of the above

87. How many bits are required to address a 4M x 32-bit main memory if,

- (i). Main memory is word-addressable
- (ii). Main memory is byte-addressable

- (A) 22, 24
- (B) 24, 22
- (C) 22, 22
- (D) 24, 24
- (E) None of the above

88. What will be the output of the following program?

```
#include<stdio.h>
main()
{ float a=12,b=12;
if (a = b)
printf("\n a and b are equal ");
}
```

- (A) Nothing will be printed
- (B) a and b are equal
- (C) compilation error
- (D) Syntax error
- (E) None of the above

89. What will be the output of the following program?

```
#include<stdio.h>
main()
{static char a[]="Bombay";
char *b="Bombay";
printf("%d %d",sizeof(a),sizeof(b));
}
```

- (A) 1 6
- (B) 1 1
- (C) 2 2
- (D) 7 2
- (E) None of the above

90. The open source language used with Mozilla is  
 (A) M++ (B) XUL  
 (C) Mo Basic (D) All of the above  
 (E) None of the above
91. Thunder bird is a  
 (A) Spreadsheet application (B) Debugging tool  
 (C) Testing Tool (D) E-mail client  
 (E) None of the above
92. If  $R=(A,B,C,D,E)$  with AB as the primary key and  $F=(B \rightarrow F, A \rightarrow C, AB \rightarrow DE, AB \rightarrow F)$ , Then the relation is in \_\_\_\_\_ normal form.  
 (A) First (B) Second  
 (C) Third (D) All of the above  
 (E) None of the above
93. In a FCFS Disk Scheduling, Consider, a disk queue with requests for I/O to blocks on cylinders in the order 98,183, 37,122, 14,124, 65, 67. Make an assumption that disk head is initially at cylinder 53, Then the total head movement involved is  
 (A) 640 (B) 740  
 (C) 840 (D) 940  
 (E) None of the above
- Overlapping End ( $86 \Rightarrow 93 = 8$ )  
 Already Overlapping End ( $13 \Rightarrow 15 = 3$ )  
 Already Overlapping End ( $64 \Rightarrow 74 = 11$ )  
 So, Total overlapping is equal to  $8+3+11 = 22$ .
94. What will be the output of the following program?  

```
#include<stdio.h>
#define PRODUCT(x) (x*x)
main()
{
  int i=3,j=0,k=0;
  clrscr();
  j=PRODUCT(i++);
  k=PRODUCT(++i);
  printf("%d %d ",j,k);
}
```

 (A) 9 49 (B) 49 9  
 (C) 9 9 (D) 0 0  
 (E) None of above

95. Business Intelligence is the industrial terminology for  
(A) Data Structures (B) Database normalization  
(C) Data encryption (D) Neural Networks  
(E) None of the above
96. On a movable-head system, the time it takes to position the head at the track is known as  
(A) Latency time (B) Transfer Time  
(C) Rotational Delay (D) seek time  
(E) None of the above
97. Which is not true in the following?  
(A) Functional independence is a direct outgrowth of modularity.  
(B) Cohesion is a natural extension of information hiding.  
(C) Modularity is the only criteria to increase the rate of reusability.  
(D) Design specification contains a requirements cross reference.  
(E) None of the above.
98. Half-adder is also known as  
(A) AND gate (B) NAND gate  
(C) NOR gate (D) XOR gate  
(E) None of the above
99. Trap door  
(A) Could be included in a compiler  
(B) Pose a difficult problem because, to detect them  
(C) Could be included in interpreter  
(D) Both A and B  
(E) None of the above
100. Every BCNF decomposition is  
(A) Dependency preserving (B) Not dependency preserving  
(C) Need to be dependency preserving (D) All of the above  
(E) None of the above
-