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Comprehensive MCA Entrance Coaching

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M. C. A. ENTRANCE **Test Code: DUMOCK - I** **Total Questions: 100**
Max. Time: 135 Min.

Subtest – I (Quantitative and Mathematical Ability)
(Questions: 50, Time: 75 Minutes)

1. If $< a_n >$ be a sequence 2, 3, 1, 0, 1, 0, 1, ..., then

(a) $\lim_{n\to\infty} \sup a_n = 1, \lim_{n\to\infty} \inf \ a_n = 0$

(b) $\lim_{n\to\infty} \sup a_n = 3, \lim_{n\to\infty} \inf a_n = -1$

(c) $\lim_{n\to\infty} \sup a_n = 3 = \lim_{n\to\infty} \inf a_n$

(d) none of these

2. F-test is used for
(a) testing the difference between two means for small samples
(b) testing the difference between two variance for small samples
(c) testing the sum of two sample means
(d) none of these

3. The product of two regression coefficients is
(a) r^2 (b) r
(c) 1 (d) none of these

4. For a normal distribution with mean 0 and standard deviation 5, the approximate value of mean deviation about 0 is
(a) $(2/\pi)^{1/2}$ (b) 4
(c) 5 (d) 0

5. A r.v. X has the following probability distribution

x	0	1	2	3
p(x)	0.1	0.2	0.3	0.4

If $Y = x^2 + 1$, the mean of Y is
(a) 4 (b) 6
(c) 8 (d) none of these

6. The distance between the pair of complex numbers $1+3i$ and $3+4i$ is given by
(a) $\sqrt{3}$ (b) 2
(c) $\sqrt{5}$ (d) $\sqrt{6}$

7. A man gives the pocket money for his son the following way. He tosses 2 five rupee coins and the son may take any coin that turns heads up. What is the expected pocket money of the son?
(a) Rs. 3 (b) Rs. 4
(c) Rs. 5 (d) Rs. 6

8. The cumulative distribution function of the exponential distribution is given by
(a) $\lambda e^{-\lambda^b}$ (b) $1-e^{-\lambda^b}$
(c) $e^{-\lambda^b}$ (d) $\frac{1}{\lambda}e^{-\lambda^b}$

9. If $X_1, X_2, ...X_n$ are identically independently distributed $N(\mu, \sigma^2)$ variates, then $\sum_{e=1}^{n} X_i$ has the distribution
(a) $N\left(\mu, \frac{\sigma^2}{n}\right)$ (b) $N(n^2\mu, n^2\sigma^2)$
(c) $N(n\mu, n^2\sigma^2)$ (d) $N(n\mu, n\sigma^2)$

10. A bag has 5 coins each of a different denomination. The number of different amount of money, he can form is
(a) 30 (b) 31
(c) 29 (d) none of these

11. The equation $x! + y! + z! = w!$ where $n!$ is the factorial of n, for positive integers x, y, z, w has
(a) no solution (b) a unique solution
(c) three solution (d) none of these

12. The largest member of the sequence
$2^{1/2}, 3^{1/3}, 4^{1/4}, 5^{1/5}, ...$ is
(a) $6^{1/6}$ (b) ∞

(c) $2^{1/2}$ (d) none of these

13. The number of real roots of $3x^8+2x^4+6x^2+3=0$ is
(a) 0 (b) 1
(c) 3 (d) none of these

14. Equation $y=\frac{ax+b}{cx+d}$, where a, b, c, d are real numbers $(c\neq 0)$ represents a
(a) circle (b) parabola
(c) ellipse (d) hyperbola

15. The optional value of $z=4x^2-2xy+6y^2$ subject to $x+y=72$ is
(a) 0 (b) 1026
(c) 5825 (d) 9936

16. A plane passes through a fixed point (a,b,c) and cuts axes in A,B,C. The locus of the centre of the sphere $OABC$ is
(a) $\frac{a}{x}+\frac{b}{y}+\frac{c}{z}=1$ (b) $\frac{a}{x}+\frac{b}{y}+\frac{c}{z}=3$
(c) $\frac{a}{x}+\frac{b}{y}+\frac{c}{z}=3$ (d) none of these

17. The number of generators of a cyclic group of order 15 is
(a) 4 (b) 6
(c) 8 (d) none of these

<u>**Directions (Q. 18 – 20)**</u>: Given three vectors
$\bar{a}=3i+4j-5k$ $\bar{c}=2i+2j+2k$
$\bar{b}=5i+6j-3k$
Answer the following questions.

18. The vector $\bar{a},\bar{b},\bar{c}$ form:
(a) a square (b) a triangle
(c) a circle (d) no closed figure

19. The quantity $(\bar{a}\times\bar{b})(\bar{b}.\bar{c})$ is
(a) $32(9i-8j-k)$ (b) $-20(2i+j-k)$
(c) $35(i-j+k)$ (d) $8i-4j+4k$

20. The scalar triple product of the 3 vector is
(a) $-8(11i+12j+15k)$ (b) $-4(15i+11j+47k)$
(c) $4(-7i-10j+17k)$ (d) 0

21. The circular asymptote of the curve $r=a\frac{e^{\theta}+1}{e^{\theta}-1}$ is
(a) $r=\theta/2$ (b) $r=a$
(c) $r=2a$ (d) none of these

22. The asymptotes of the curve
$x^2y-xy^2+xy+y^2+x-y=0$ are
(a) $x=0, y=0, y=x+2$ (b) $x=0, y=0, y=x$
(c) $x=0, y=0, y=x+1$ (d) none of these

23. What is the remainder when
$x+x^3+x^9+x^{27}+x^{81}+x^{243}$ is divided by x^2-1
(a) x (b) $2x$
(c) $6x$ (d) none of these

24. Let $<a_n>$ be a sequence such that $a_1=1$ and $a_{n+1}=\cos a_n, n\geq 1$ If $a=\lim_{n\to\infty} a_n$, then a belongs to the interval
(a) $\left(0,\frac{\pi}{6}\right)$ (b) $\left(\frac{\pi}{6},\frac{\pi}{3}\right)$
(c) $\left(\frac{\pi}{3},\frac{\pi}{2}\right)$ (d) none of these

25. If $f(x)=(\sin x)(\sin 2x)....(\sin nx)$ then $f'(x)$ is
(a) $f(x)\sum_{k=1}^{n} k\cot kx$ (b) $\sum_{k=1}^{n} k\cot kx$
(c) $f(x)\sum_{k=1}^{n} k\sin kx$ (d) none of these

26. What if $\rho(0,0)$ on the curve $x^3+y^3=3axy$
(a) $3a$ (b) $3a/2$
(c) $6a/2$ (d) none of these

27. The L.P.P. minimize $(x+y)$, subject to $x+y\geq 5$, $3x+4y\leq 22, x\geq 0, y\geq 0$
(a) is infeasible (b) has unbounded solution
(c) has 5 as optional value (d) none of these

28. Which of the following is not true?
(a) There exists functions which posses continuous derivatives for all x and yet cannot be expressed in terms of Maclaurin's series
(b) $e^{ax},(a>0)$ tends to ∞ more rapidly than any positive power of x, when $x\to\infty$.

(c) The infinite series $a+\frac{a_1}{10}+\frac{a_2}{10^2}+....+\frac{a_n}{10^n}+....$ is convergent if, a is any integer and $a_1, a_2, ..., a_n$ are integers between 0 and 9.

(d) $\lim_{n\to\infty} a_n = 0$ imply $\sum a_n$ is cgt

29. The series $i+\frac{1}{2}i^2+\frac{1}{3}i^3+....$

(a) converges (b) converges absolutely
(c) oscillates (d) none of these

30. Let $f(x)=1+2x^3$ and $g(x)=2+x+3x^2$ be the polynomials over the ring of integers modulo 6 then the degree of $f(x)g(x)$ over Z_6 is

(a) 5 (b) 4
(c) 3 (d) none of these

31. If u and v be two solutions of the differential equation $x^3\frac{d^3y}{dx^3}+x^2\frac{d^2y}{dy^2}+x\frac{dy}{dx}+y=0$, then another solutions is

(a) uv (b) $u-v$
(c) v/u (d) u/v

32. If $\theta=\alpha$ and $\theta=\beta$ be the roots of the equation $a\cos\theta+b\sin\theta=c$, then $\cos\alpha+\cos\beta$ is equal to

(a) $\frac{2ab}{a+b}$ (b) $\frac{2ab}{a^2+b^2}$
(c) $\frac{2ac}{a^2+b^2}$ (d) none of these

33. The maximum number of different possible non zero entries in a skew-symmetric matrix of order n is

(a) n^2 (b) $\frac{1}{2}\left(n^2-n\right)$
(c) $\frac{1}{2}\left(n^2+n\right)$ (d) none of these

34. Consider the following two series

$1-\frac{1}{2}+\frac{1}{3}-\frac{1}{4}+\frac{1}{5}-\frac{1}{6}+......$ (A) and

$1-\frac{1}{2}-\frac{1}{4}+\frac{1}{3}-\frac{1}{6}-\frac{1}{8}+......$ (B)

where one positive term is followed by two negative terms then

(a) (A) is convergent and (B) is divergent
(b) (A) and (B) are both convergent, converging to the same sum
(c) (A) and (B) are both convergent, converging to different sums.
(d) (A) and (B) are both divergent

35. Let $f(x)=\binom{4}{x}\left(\frac{1}{2}\right)^4$, $x=0,1,2,3,4$ then $E(x^2)$ is

(a) 1 (b) 5
(c) 4 (d) 10

36. If X is a poisson variate such that $P(X=2)=9P(X=4)+90P(X=6)$ then its mean is

(a) 1 (b) 2
(c) 4 (d) none of these

37. An infinite sequence is formed with exactly two distinct real numbers. If the sequence is convergent then

(a) The two numbers must differ by a rational
(b) At least one of them should be rational
(c) At least one of them must occur infinite number of times
(d) Exactly one of them occurs infinite number of times

38. *A* is a finite set of integers. *B* is formed by taking squares of the members in *A*. The

(a) A and B must have same cardinality
(b) cardinality of A must be more than B
(c) Their cardinalities must add up to an even number
(d) Twice the cardinality of B must be at least equal to the cardinality of A.

39. If $P=(x,y), F_1=(3,0), F_2=(-3,0)$ and $16x^2+25y^2=400$, then PF_1+PF_2 equals

(a) 8 (b) 6
(c) 10 (d) 12

40. Let $f:[0,1]\to R$ be defined by $f(x)=(x-1)^2+2$ for all $x\in[0,1]$, then the equation of the tangent to the graph of this curve which is parallel to the chord joining the points (0, 3) and (1, 2) of the curve is

(a) $x+y=11$ (b) $4x+4y=11$
(c) $4x+4y=13$ (d) none of these

41. The 95 percent confidence interval for a population proportion is given by

(a) $\overline{x}-2\frac{\sigma}{(n)^{1/2}}$ to $\overline{x}+2\frac{\sigma}{(n)^{1/2}}$
(b) $p-\overline{p}$ to $p+\overline{p}$
(c) $p-2pq$ to $p+2pq$
(d) $p-2\left(\frac{pq}{n}\right)^{1/2}$ to $p+2\left(\frac{pq}{n}\right)^{1/2}$

42. On an average how many times must a die be thrown until one gets a 6?

(a) 5 (b) $7/2$
(c) 7 (d) none of these

43. If the roots of $x^3 - 3x^2 + px + 1 = 0$ are in arithmetic progression then the sum of squares of the largest and the smallest roots is
(a) 3 (b) 5
(c) 6 (d) 10

44. The number of linearly independent vectors when $X \neq 0$ such that $X\begin{bmatrix} 4 & 2 & 1 \\ 6 & 3 & 4 \\ 2 & 1 & 0 \end{bmatrix} = 0$ is
(a) zero (b) one
(c) two (d) infinite

45. If $A = \text{Diag}(\lambda_1, \lambda_2, ..., \lambda_n)$, then the roots of the equation det (A – XI) = 0 are
(a) all equal to one (b) all equal to zero
(c) $\lambda_i, 1 \le i \le n$ (d) $-\lambda_i, \quad 1 \le i \le n$

46. If $y = \log_e \left[e^x \left(\frac{x-2}{x+2} \right)^{3/4} \right]$ then $\frac{dy}{dx}$ is
(a) $\frac{x-2}{x+2}$ (b) $\frac{x^2-1}{x^2-4}$
(c) $\frac{3}{4}\left[\frac{x^2-2}{x^2+2}\right]$ (d) $\frac{x^2-3}{x^2-4}$

47. If $u = f\left(\frac{y}{x}\right)$ then $x\frac{\delta u}{\delta x} + y\frac{\delta u}{\delta y} =$
(a) $f\left(\frac{y}{x}\right)$ (b) $f'\left(\frac{y}{x}\right)$
(c) 0 (d) none of these

48. Integral $\int_0^\infty \frac{dx}{\sqrt{x}e^{\sqrt{x}}}$ is equal to
(a) 1 (b) 2
(c) $1/e$ (d) $-2/e$

49. The asymptotes of the conic $\frac{l}{r} = 1 + e\cos\theta$ are given by $\frac{l}{r} = \left(\frac{e^2-1}{e}\right)^{1/2} \left(\sqrt{e^2-1}\cos\theta \pm \sin\theta\right)$ if
(a) $e \ge 1$ (b) $e \le 1$
(c) $e > 1$ or $e < 1$ (d) $e > 1$

50. The area enclosed by the curve $y = e^x$, $x - axis$, $x = -1$ and $x = 1$, is given by
(a) $e + 1/e$ (b) $1 - e^2/e$
(c) $e^2 - 1/e$ (d) $\log 1/2$

Subtest – II **(Deductive & Logical Ability)**
(Questions: 50, Time: 60 Minutes)

51. The value of $(10110111)_2 \otimes (11010110)_2$ is
(a) $(01100001)_2$
(b) $(01100001)_2$
(c) $(10011110)_2$
(d) $(10011110)_2$

52. The 2's complement of $(765)_8$ is
(a) $(063)_8$
(b) $(013)_8$
(c) $(053)_8$
(d) $(083)_8$

53. Find $(11001.100011101111000)_2$ in base 32
(a) 22141716
(b) 2572724
(c) 224716
(d) 25172724

54. The Boolean expression $a\bar{b} + a\bar{b}c + \bar{a}\bar{b}d + \overline{db}e + \bar{a}bf =$
(a) $\bar{a}b + ad + ae\bar{f} + bf$
(b) $ab + ad + ae + bf$
(c) $a\bar{b} + \bar{b}d + \bar{b}\bar{e} + \bar{a}bf$
(d) $\overline{ab} + \bar{b}d + b\bar{e} + \bar{a}bf$

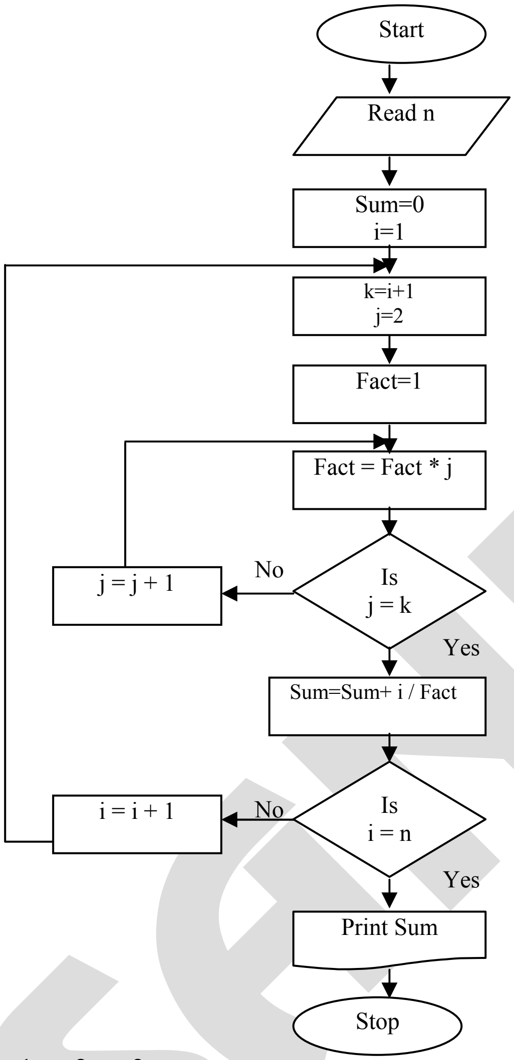
55. Find $1000001001.1000000101110110_{BCD} = (?)_{10}$
(a) 210.8176_{10}
(b) 209.8176_{10}
(c) 230.8176_{10}
(d) 219.8176_{10}

56. What is the value of z provided? $(123z)_4 = (1234)_z$
(a) 2 (b) 3
(c) 5 (d) none of these

57. Let $a_n a_{n-1} ...... a_1 a_0$ be the binary representation of an integer say x. Then x is divisible by 3 if
(a) number of 1's in binary is divisible by 3

(b) number of 0's in binary is divisible by 3
(c) both **(a)** & **(b)**
(d) difference of alternate sums in binary is divisible by 3

58. What is the output of the following flowchart?



(a) $\frac{1}{1!}+\frac{2}{2!}+\frac{3}{3!}+.....$

(b) $\frac{1}{2!}+\frac{2}{3!}+\frac{3}{4!}+.....$

(c) $\frac{1}{n!}+\frac{2}{(n-1)!}+\frac{3}{(n-2)!}+.....$

(d) $\frac{1+2+3+.....}{1!+2!+3!+.....}$

59. Consider the following sequence of instructions:
$a = a \oplus b$ $b = a \oplus b$ $a = b \oplus a$
This sequence
(a) retains the values of a and b
(b) swap a and b
(c) complements the values of a and b
(d) negates values of a and b and then swaps them

60. We execute the following three steps
Step 1: Initially RESULT is any two digit positive number.
Step 2: RESULT = $\sqrt{\text{RESULT} + 72}$
Step 3: Step 2 is repeated several times Then
(a) The value may sometimes be less than 9, depending on the initial choice of RESULT
(b) After some steps the value of RESULT lies between 9 and 9.2 and goes on decreasing towards 9
(c) After some steps the value of RESULT lies between 9 and 9.2 but may fluctuate in this range instead of just decreasing
(d) none of these

61. Consider the following algorithm: Step 1: Read A, B
Step 2: If A=B Then Print A
Step 3: If A<B Then B = B – A, goto Step 2
Step 4: If A>B Then A=A-B, goto Step 2
If A = 12.1 and B = 14.4 then
(a) The algorithm will never end
(b) The algorithm ends with output 0
(c) The algorithm ends with output 0.1
(d) none of these

62. Which of the following numbers wherein some of the digits have been suppressed by the symbol '*' can possibly be the perfect square of two digit odd number?
(a) 99*9 (b) 2*6
(c) 1**6 (d) ***1

63. Consider the following collection f statements:
1. If Amar is in the team. Bharat is in it.
2. If Chetan is in the team. Bharat is not.
3. Amar and Bharat are in the team.Then
(a) The collection of statements is consistent
(b) The collection of statements is inconsistent
(c) If one of the statement is removed, the collection will become inconsistent
(d) none of these

64. Consider the following array of numbers

1	3	6	10	15	-	-	-
2	5	9	14	20	-	-	-
4	8	13	19	26	-	-	-
7	12	18	25	33	-	-	-
11	17	24	32	41	-	-	-
16	23	31	41	50	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

The number 1995 lies in the (row, column)

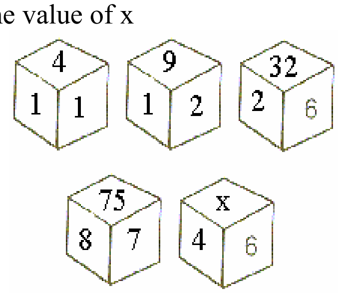
(a) (22, 42) (b) (21, 43)
(c) (20, 43) (d) none of these

65. A river has an average depth of 5 feet across two banks. Consider the followings Conclusions:
(I) A group of people with average height 5'6" can safely cross the river by walk.
(II) From a group of average height 5 feet, 50% can cross the river safely by walk.
(III) We can say how many can safely cross only when we know the maximum depth.
(IV) none of the above is true.
Then the number of correct conclusions is
(a) 1 (b) 2
(c) 3 (d) 0

66. The number of 1's in the binary representation of $2^{20}-2$ is
(a) 17 (b) 18
(c) 19 (d) none of these

67. The number of 0's in the binary representation of $2^{15}-3$ is
(a) 0 (b) 1
(c) 2 (d) 3

68. What is the value of x



(a) 60 (b) 78
(c) 72 (d) none of these

69. If in the following, each letter stands for a different unique digit from 1 to 9 and stands for multiplication of integer:

$$\frac{\text{S.I.X.T.E.E.N.}}{\text{S.I.X.T.Y.F.I.V.E.}} = \frac{\text{O.N.E.}}{\text{F.I.V.E.}}$$

Then, the two possible values of E are given by
(a) 5 and 9 (b) 4 and 7
(c) 3 and 5 (d) 6 and 8

70. Consider the algorithm:
Step 1: Z ← Z * a ('*' stands for multiplication)
Step 2: Y ← Y – 1
Which of the following assertion is invariant with respect to this algorithm (i.e. if the assertion is true before passing through the algorithm then it will also be true afterwards)?
(a) a*Y = Z (b) $Z = a^Y$
(c) $a^b = Z*a^Y$ (d) none of these

71. If the steps of the above given algorithm are interchanged (i. e. Step 1 : Y = Y – 1 and assertion Step 2: Z = Z*a) then which of the following assertion is invariant with respect to this algorithm?
(a) a*Y = Z (b) $Z = a^Y$
(c) $a^b = Z*a^Y$ (d) none of these

<u>Directions (Q. 72 - 77)</u>: Following table shows the number of student of class XI participating in different games. Study the table carefully and answer the question that follows:

Games	XIA	XIB	XIC	XID	XIE	Total
Chess	8	8	8	4	4	32
Badminton	8	12	8	12	12	52
Table Tennis	12	16	12	8	12	60
Hockey	8	4	8	4	8	32
Football	8	8	12	12	12	52
Total No. Boys	44	48	48	40	48	228

Notes: (1) Every student (boy or girl) of each class of standard XI participate in a game.
(2) In each class, the number of girls participating in each game is 25% of the number of boys participating in each game.
(3) Each student (boy or girl) participates in one and only one game.

72. All the boys of class XI D passed at the annual examination but a few girls failed. If all the boys and girls, who passed entered XII D and if in class XIID, the ratio of boys to girls is 5:1, what would be the number of girls who failed in class XI D?
(a) 8 (b) 5
(c) 6 (d) 2

73. Girls playing which of the following games need to be combined to yield a ratio of boys to girls of 4 : 1, if all boys playing Chess and Badminton are combined?
(a) Table Tennis and Hockey
(b) Badminton and Table Tennis
(c) Chess and Hockey
(d) Hockey an Football

74. What should be the total number of students in the school if all the boys of class XI A together with all the girls of class XI B and XI C were to be equal to 25% of the total number of students?
(a) 272 (b) 560
(c) 340 (d) none of these

75. Boys of which of the following classes need to be combined to equal to four times the no. of girls in class XI B and XI C.
(a) XID and XIE (b) XIA and XIB
(c) XIA and XID (d) none of these

76. If boys of class XIE participating in Chess together with girls of class XIB and class XIC participating in Table Tennis and Hockey resp. are selected for a course at the college of sports. What % of the students will get this advantage approximately

(a) 4.38 (b) 3.51
(c) 10.52 (d) 13.5

77. If for social work, every boy of class XID and class XIC is paired with a girl of the same class, what % of the boys of these classes cannot participating in social work?

(a) 88 (b) 66
(c) 60 (d) 75

78. How many pair of rabbits can be produced from a single pair in a year? We start with a single newly born pair. It takes one month for a pair to mature, after which they produce a new pair each month and the rabbits never die.

(a) 144 (b) 66
(c) 67 (d) 143

Directions (Q. 79 – 82): In each of the question below are two statements followed by two conclusions numbered I and II. You have to take the two given statements to be true if they seem to be a variance from commonly known facts and then decide which of the given conclusion logically follow (s) from the two statements disregarding commonly known facts.

Give answer **(a)** if only conclusion I follow.
Give answer **(b)** if only conclusion II follows.
Give answer **(c)** if neither I nor II follows.
Give answer **(d)** if both I and II follows.

79. Statements: All cats are tables
Some tables are mangoes.
Conclusions: I. Some cats are mangoes.
II. Some tables are cats.

80. Statements: All books are chairs.
All books are flowers.
Conclusions: I. Some flower are books.
II. All books are flowers.

81. Statements: Some crows are doors.
Some doors are monkeys.
Conclusions: I. Some crows are monkeys.
II. Some monkeys are crows.

82. Statements: All dogs are bats.
No bat is costly
Conclusions: I. All bats are dogs.
II. No dog is costly

83. $\phi(176)$ is

(a) 88 (b) 80
(c) 77 (d) none of these

84. The smallest number with 22 divisors is

(a) 3072 (b) 4072
(c) 6144 (d) none of these

85. The next term in the series
720, 720, 360, 120, 30, 6, ____, is

(a) 1 (b) 2
(c) 3 (d) 4

86. What is the number of zeros at the end in the expression of 500! as a number

(a) 120 (b) 124
(c) 410 (d) none of these

87. The value of the sum

$$\frac{1}{100+100^2}+\frac{1}{101+101^2}+\ldots+\frac{1}{999+999^2} \text{ is}$$

(a) $\frac{9}{1000}$ (b) $\frac{9}{100}$
(c) $\frac{99}{1000}$ (d) none of these

88. Which is odd man out?

(a) 165 (b) 273 (c) 642 (d) 803

Directions (Q. 89 – 92): Professor Kittredge's literature seminar includes students with varied tastes in poetry. All those in the seminar who enjoy the poetry of Browning also enjoy the poetry of Eliot. Those who enjoy the poetry of Eliot despise the poetry of Coleridge.

Some of those who enjoy the poetry of Eliot also enjoy the poetry of Auden.

All those who enjoy the poetry of Coleridge also enjoy the poetry of Donne.

Some of those who enjoy the poetry of Donne also enjoy the poetry of Eliot.

Some of those who enjoy the poetry of Auden despise the poetry of Coleridge.

All those who enjoy the poetry of Donne also enjoy the poetry of Frost.

89. Miss Garfield enjoys the poetry of Donne. Which of the following must be true?

(a) She may or may not enjoy the poetry of Coleridge.
(b) She does not enjoy the poetry of Browning.
(c) She enjoys the poetry of Auden.
(d) She does not enjoy the poetry of Eliot.

90. Mr. Hustable enjoys the poetry of Browning. He may also enjoy any of the following poets except

(a) Auden (b) Coleridge
(c) Donne (d) Eliot

91. Miss laaguchi enjoys the poetry of Coleridge, Which of the following must be false?

(a) She does not enjoy the poetry of Auden.
(b) She enjoys the poetry of Donne.
(c) She enjoys the poetry of Frost.

(d) She does not enjoy the poetry of Browning.

92. Based on the information provided, which of the following statements concerning the members of the seminar must be true?
(a) All those who enjoy the poetry of Eliot also enjoy the poetry of Browning.
(b) None of those who despise the poetry of Frost enjoy the poetry of Auden.
(c) Some of those who enjoy the poetry of Auden despise the poetry of Coleridge.
(d) None of those who enjoy the poetry of Browning despise the poetry of Donne.

Directions (Q. 93 – 96):
(1) All G's are H's . (2) All G's are J's or K's
(3) All J's and K's are G's (4) All L's are K's
(5) All N's are M's (6) No M's are G's

93. If no P's are K's, which of the following must be true?
(a) All P's are J's. (b) No P is a G.
(c) No P is an H. (d) If any P is a G it is a J.

94. Which of the following can be logically deduced from the conditions stated?
(a) No M's are H's
(b) No M's that are not N's are H's
(c) No H's are M's
(d) No N's are G's

95. Which of the following is inconsistent with one or more of the conditions?
(a) All H's are G's.
(b) All H's that are not G's are M's.
(c) Some H's are both M's and G's.
(d) No M's are H's

96. The statement "No L's are J's" is
I. logically deducible from the conditions stated
II. consistent with but not deducible from the conditions stated
III. deducible from the stated conditions together with the additional statement "No J's are K's"
(a) I only (b) II Only
(c) III Only (d) II and III only

97. My father, my three uncles, and both my grandfathers became bald within five years after they began practicing law. I don't want to lose my hair, so I'm going to become a doctor.
Which of the following most closely resembles the reasoning used in the argument above?
(a) Every time I drink coffee before going to bed. I have trouble falling asleep. I want to sleep well tonight, so I'm going to take a sleeping pill.
(b) All of the teenagers in my neighborhood have gotten tickets for speeding on Dole Road within the last year. I don't want to have to pay a fine, so I'm not going to speed on Dole Road.
(c) Everyone else got transferred out of our department within three years after starting work here. I don't want to work in another department, so I'm going to start working harder.
(d) The other punch press operators on my shift each were seriously injured on the job within a week after eating at Rosie's Diner. I want to maintain my safety record, so I'm going to eat at Harry's Luncheonette.

Directions (Q. 98 – 99):
If Dr. Seymour's theory is correct, then the events she predicts will happen. The events she predicted did happen. Therefore, her theory must be correct.

98. Which of the following arguments has a logical structure that most nearly resembles that of the argument above?
(a) If we win the game, we will be the league champions. We won the game; therefore, we are the league champions.
(b) If the fan is running, then the electricity must be on. The electricity is on; the fan must be running.
(c) If the store is open, I will buy a shirt. I think the store is open; therefore, I should be able to buy a shirt.
(d) If Alice answers her phone, then my prediction is correct. I predict that she is at home; therefore, she will answer her phone.

99. The conclusion drawn in the argument above would be valid if which of the following were true?
(a) Only Dr. Seymour's theory fully explains the events which happened.
(b) If the events Dr. Seymour predicted happen, then her theory is correct.
(c) If Dr. Seymour's theory is correct, then the events she predicted may happen.
(d) Only Dr. Seymour predicted the events which happened.

100. Those who oppose the new water project claim to have the best interests of this community at heart. Yet they are the same people who, only three years ago, opposed the building of the new state highway, which now provides half a million commuters with fast, easy motoring every day. What could be a better argument in favor of the water project?
Which of the following statements is most like the argument above?
(a) Those who oppose nuclear power are unable or simply unwilling to recognize the fact that the nuclear energy industry has a safety record unparalleled by that of any other industry.
(b) The new gun control law is a misguided and dangerous proposal, which has been denounced by every sportmen's club and gun-owner's association in the state.
(c) We must fight the proposed antipornography statute, for its principal sponsors have voted against every major

piece of women's rights legislation introduced in the last twenty years.

(d) The polls show that over 60% of the concerned parents in the state favor the school bond issue; cast your vote with the concerned majority on Election Day.