MCA

English Comprehension

Directions (Q. Nos. 1—5) :

Each of the following idioms is followed by four meanings of which only one is correct. Choose the correct meaning.

1. To chew the cud :

    (A)   to eat slowly

    (B)   to ruminate over the past

    (C)   to enjoy

    (D)   to swallow a bitter pill

2. To fly off the handle :

    (A)   to dislocate

    (B)   to loose one's temper

    (C)   to be air-borne

    (D)   to be indifferent

3. To worship the rising sun :

    (A)   to welcome the coming events

    (B)   to honour the promising people

    (C)   to make salutations to the sun early at sunrise

    (D)   to honour a man who is coming into the office

4. To blaze a trail :

    (A)   to set a fire

    (B)   to blow the trumpet

    (C)   to be vehemently opposed

    (D)   to initiate work in a movement

5. Out of the wood :

    (A)   out of the forest

    (B)   out of the society of the good persons

    (C)   free from danger of difficulty

    (D)   in the deranged state of mind

Directions (Q. Nos. 6—9) :

Each of the following questions consists of a word printed in capital letters followed by four lettered words or phases. Select the word or phrase which is most nearly opposite to the capitalized word in meaning.

6. RECONDITE :

   (A) Miniature

   (B) Ceramic

   (C) Caraway

   (D) Obvious

7. CONTUMELY :

   (A) Willingness

   (B) Imminence

   (C) Praise

   (D) Augmentation

8. APOCRYPHAL :

   (A) Authentic

   (B) Winsome

   (C) Zealous

   (D) Crooked

9. VENERATE :

   (A) abominate

   (B) involve

   (C) adapt

   (D) correlate

Logical Reasoning

Directions (Q. Nos. 10—14) :

Six lecturers A, B, C, D, E and F are to be organised in a span of seven days from Sunday to Saturday, only one lecture on each day in accordance with the following :

(i) A should not be organised on Thursday.

(ii) C should be organised immediately after F.

(iii) There should be a gap of two days between E and D.

(iv) One day there will be no lecture (Friday is not that day) just before that day D will be organised.

(v) B should be organised on Tuesday and should not be followed by D.

10. How many lectures are organised between C and D ?

(A) None

(B) One

(C) Two

(D) Three

11. Which of the following is the last lecture in the series ?

(A) A

(B) C

(C) B

(D) Cannot be determined

12. Which of the information is *not* required in finding the complete sequence of organisation of lectures ?

(A) (i) only

(B) (ii) only

(C) (v) only

(D) All are required

13. Which day will the lecture F be organised ?

    (A) Friday

    (B) Saturday

    (C) Sunday

    (D) Thursday

14. On which day is there no lecture ?

    (A) Sunday

    (B) Friday

    (C) Monday

    (D) Cannot be determined

Directions (Q. Nos. 15—17) :

Study the following letter-number sequence and answer the questions given below :

A G L 2 O K W C 3 R M N P D 4
H S T Y J E 6 Q U N F B K V S

15. If every alternate position starting from right hand side replaces digits of a clock with 1 replaced by 8, which digit will replace '7' of the clock ?

    (A) H

    (B) Q

    (C) U

    (D) T

16. If the first half is written in the reverse order, which number/letter will be third to the right of 21st letter/number from your right ?

    (A) P

    (B) U

    (C) L

    (D) W

17. If every alternate position is dropped starting from 2 in the remaining part of the series, which of the following will be fifth to the left of the twelfth position from your left ?

   (A)   M

   (B)   V

   (C)   S

   (D)   3

18. Aseel started walking towards North. After walking 30 m he turned left and walked 40 m. He then turned left and walked 30 m. He again turned left and walked 50 m. How far was he from his original position ?

   (A)   50 m

   (B)   40 m

   (C)   30 m

   (D)   150 m

19. At my house I am facing East. Then I turn left and go 10 m, then I turned right and go 5 m. Then I go 5 m to the South and from there 5 m to the West. In which direction am I from my house ?

   (A)   North

   (B)   South

   (C)   East

   (D)   West

20. A is brother of B, C is father of A, D is brother of E, E is daughter of B. The uncle of D is :

   (A)   A

   (B)   B

   (C)   C

   (D)   E

21. My father has two brothers. The youngest has two sons and one daughter, the elder one has one son and two daughters and the remaining one has three sons. If my father has four nephews, how many cousins (brothers) have I got ?

   (A)   6

   (B)   4

   (C)   7

   (D)   5

Directions (Q. Nos. 22 to Q. 26) :

   There are four friends Anil, Sushil, Raj and Haris. One of them is cricketer and studies Chemistry and Biology. Anil and Sushil play football. Anil studies Commerce. Both the football players study Mathematics. Haris is a boxer. One football player also studies Physics. The boxer studies Mathematics and Accountancy. All the friends study two subjects each and play one game each.

22. Who is the Cricketer ?

   (A)   Raj

   (B)   Anil

   (C)   Sushil

   (D)   Haris

23. Who does not study Mathematics ?

    (A)   Anil

    (B)   Sushil

    (C)   Raj

    (D)   Haris

24. Who studies Physics ?

    (A)   Anil

    (B)   Sushil

    (C)   Raj

    (D)   Haris

25. Who studies Commerce and plays football ?

    (A)   Anil

    (B)   Sushil

    (C)   Raj

    (D)   Haris

26. How many games are played and subjects studied by the four friends ?

    (A)   1, 2

    (B)   2, 3

    (C)   3, 4

    (D)   4, 5

Mathematics

27. The work done in moving an object from A(1, 0, 0) to B(3, −1, −1) if the force applied is $F = 3\hat{i} + 2\hat{j} - 5\hat{k}$, is :

   (A)   9

   (B) $\sqrt{17}$

   (C)   43

   (D)   41

28. The value of b such that the scalar product of the vector $\hat{i} + \hat{j} + \hat{k}$ with the unit vector parallel to the sum of the vectors $2\hat{i} + 4\hat{j} - 5\hat{k}$ and $b\hat{i} + 2\hat{j} + 3\hat{k}$ is one is :

   (A)   −2

   (B)   −1

   (C)   0

   (D)   1

29. The projections of the segment joining (2, 3, 1) and (5, 5, 1) on the line with direction ratios 8, 4, 1 is the length :

   (A)   4

   (B)   5

   (C)   6

   (D)   7

30. How many concurrent lines can specify a particular plane ?

   (A)   1

   (B)   2

   (C)   3

   (D)   4

31. In a triangle ABC, let $\angle C = \dfrac{\pi}{2}$. If r is the in-radius and R is the circum-radius of the triangle, there $2(r + R)$ is equal to :

   (A) $a + b$

   (B) $b + c$

   (C) $c + a$

   (D) $a + b + c$

32. If the line $x - 1 = 0$ is the directrix of the parabola $y^2 - kx + 8 = 0$, then one of the values of k is :

   (A) $\dfrac{1}{8}$

   (B) 8

   (C) 4

   (D) $\dfrac{1}{4}$

33. The value of $\underset{m \to \infty}{\text{Lt.}}\left(\cos \dfrac{x}{m}\right)^m$ is :

   (A) 1

   (B) e

   (C) e^{-1}

   (D)   None of the above

34. If $f(x)$ is the integral function of the function $\dfrac{2 \sin x - \sin 2x}{x^3}$, $x \neq 0$, then

$\underset{x \to 0}{\text{Lt.}} f(x)$ is equal to :

(A) 0

(B) 1

(C) −1

(D) None of the above

35. If $x^p y^q = (x + y)^{p+q}$, then $\dfrac{dy}{dx}$ is equal to :

(A) $\dfrac{y}{x}$

(B) $\dfrac{py}{qx}$

(C) $\dfrac{x}{y}$

(D) $\dfrac{qy}{px}$

36. The number of integer values of m, for which the x-co-ordinate of the point of intersection of the lines $3x + 4y = 9$ and $y = mx + 1$ is also an integer, is :

(A) 2

(B) 0

(C) 4

(D) 1

37. The value of $\int_{\pi}^{\pi} \frac{\cos^2 x}{1 + a^x} dx$, $a > 0$, is :

   (A) π

   (B) $a\pi$

   (C) $\frac{\pi}{2}$

   (D) 2π

38. Let $f(x) = \frac{ax}{x + 1}$, $x \neq -1$, then, for what value of α is $f[f(x)] = x$?

   (A) $\sqrt{2}$

   (B) $-\sqrt{2}$

   (C) 1

   (D) -1

39. If $\alpha + \beta = \frac{\pi}{2}$ and $\beta + \gamma = \alpha$, then $\tan \alpha$ equals :

   (A) $2(\tan \beta + \tan \gamma)$

   (B) $\tan \beta + \tan \gamma$

   (C) $\tan \beta + 2\tan \gamma$

   (D) $2\tan \beta + \tan \gamma$

40. The number of values of k for which the system of equations

   $(k + 1)x + 8y = 4k$

   $kx + (k + 3)y = 3k - 1$

   has infinitely many solutions, is :

   (A) 0

   (B) 1

   (C) 2

   (D) infinite

41. The minimum value of $px + qy$ when $xy = r^2$ is :

(A) $2r\sqrt{pq}$

(B) $2pq\sqrt{r}$

(C) $-2r\sqrt{pq}$

(D) None of the above

42. The area of the figure bounded by the curves $y = e^x$, $y = e^{-x}$ and the straight line $x = 1$ is :

(A) $e + \dfrac{1}{e}$

(B) $e - \dfrac{1}{e}$

(C) $e + \dfrac{2}{e}$

(D) None of the above

43. The degree and order of the differential equation of all parabolas whose axis is x-axis are :

(A) 2

(B) 1, 2

(C) 3, 2

(D) None of the above

44. An OR gate has 6 inputs. How many input words are in its truth table ?

   (A)   64

   (B)   32

   (C)   16

   (D)   128

45. How many memory locations can 14 address bits access ?

   (A)   16,384

   (B)   8,192

   (C)   4096

   (D)   14

46. Which gate is known as universal gate ?

   (A)   NOT gate

   (B)   AND gate

   (C)   NAND gate

   (D)   XOR gate

47. Memory access in RISC architecture is limited to instructions :

   (A)   CALL and RET

   (B)   PUSH and POP

   (C)   STA and LDA

   (D)   MOV and JMP

48. Which of the following codes used in present day computing was developed by IBM Corporation ?

    (A) ASCII

    (B) Hollerith code

    (C) Baudot code

    (D) EBCDIC code

49. How many OSI layers are covered in the X-25 standard ?

    (A) Two

    (B) Three

    (C) Seven

    (D) Six

50. Which of the following is *not* a standard synchronous communication protocol ?

    (A) SDLC

    (B) SMPT

    (C) SLIP

    (D) PAS

51. How many bits internet address is assigned to each host on a TCP/IP internet which is used in all communication with the host ?

    (A) 16-bits

    (B) 32-bits

    (C) 48-bits

    (D) 64-bits

52. The primary job of the operating system of a computer is to :

   (A) command resources

   (B) manage resources

   (C) provide utilities

   (D) be user friendly

53. Which of the following programs is *not* a utility ?

   (A) Debugger

   (B) Editor

   (C) Spooler

   (D) All of the above

54. Which technique stores a program on disk and then transfers the program into main storage as and when they are needed, is known as :

   (A) Spooling

   (B) Swapping

   (C) Thrashing

   (D) All of the above

55. C provides loop constructs for performing loop operations. They are :

   (A) the while statement

   (B) the do statement

   (C) the for statement

   (D) None of the above

56. A variable that holds the memory address of another object is called a/an :

   (A) integer

   (B) pointer

   (C) constant

   (D) memory variable

57. Which of the following is *not* a type of linked list ?

   (A) linear singly linked list

   (B) circular linked list

   (C) two-way linked list

   (D) All of the above

58. Static variables are sometimes called :

   (A) class variable

   (B) functional variable

   (C) dynamic variable

   (D) auto variable

59. How many instances of the visual basic development environment are required to debug an Active X DLL ?

   (A) 0

   (B) 1

   (C) 2

   (D) 3

60. A group of related fields, is known as :

   (A) tuple

   (B) schema

   (C) validity

   (D) file