

## English Comprehension

**Directions (Q. Nos. 1 to 5) :** Which of the phrases (A), (B), (C) and (D) given below each sentence should replace the phrase printed in underline/bold type to make the sentence grammatically correct?

1. The performance of our players was rather worst than I had expected.  
(A) bad as I had expected  
(B) worse than I had expected  
(C) worse than expectation  
(D) worst than was expected
2. It is always better to make people realise the importance of discipline than to impose them on it.  
(A) impose it with them  
(B) impose them with it  
(C) imposing them on it  
(D) impose it on them
3. The crops are dying. It must not had rained.  
(A) must had not  
(B) must not be  
(C) must not have  
(D) must not have been
4. They were all shocked at his failure in the competition.  
(A) were shocked at all  
(B) had all shocked at  
(C) had all shocked by  
(D) no correction required

5. He is too impatient **for tolerating** any delay.
- (A) to tolerate
  - (B) to tolerating
  - (C) at tolerating
  - (D) with tolerating

**Directions (Q. Nos. 6 to 9) :** Each sentence below has one or two blanks, each blank indicating that something has been omitted. Beneath the sentences are four lettered words or sets of words. Choose the word or set of words for each blank that best fits the meaning of the sentence as a whole.

6. Friends of the theater have long decried the ..... of the New York drama critics, whose reviews can determine the fate of a play in a single night.
- (A) insensitivity
  - (B) provinciality
  - (C) intelligence
  - (D) power
7. Hits ..... writing style made it difficult to follow his thought processes—no surprise to his colleagues, who were familiar with his ..... manner of speech.
- (A) precise ..... arcane
  - (B) laborious ..... tedious
  - (C) trite ..... flippant
  - (D) convoluted ..... circumlocutory

8. A giant squid is still ..... marine biologists, as it has never been seen alive, making it impossible to study in its natural habitat.
- (A) fascinating to
  - (B) enigmatic to
  - (C) dangerous to
  - (D) exploited by
9. Advertising can increase sales of a ..... product, but it cannot create demand for a bad one; consumers may buy a ..... item because of advertising but only once.
- (A) good ..... new
  - (B) reliable ..... costly
  - (C) useful ..... valuable
  - (D) well made ..... badly made

### Logical Reasoning

10. I go towards South, then turn left, then left again and then right. In which direction am I moving now ?
- (A) North
  - (B) South
  - (C) East
  - (D) West
11. Facing towards South, Aseel walked 50 metres. He then turned to his right and walked 30 metres. He again turned right and walked 50 metres. How far was he from his original position and towards which direction ?
- (A) 20 metres East
  - (B) 30 metres South
  - (C) 20 metres North
  - (D) 30 metres West

12. The distance between two towns A and B is 410 kms. A bus starts from A to B at a speed of 70 kms per hour. After half an hour, a car starts from B to A at a speed of 80 kms per hour. The meeting point of both the car and the bus from A is :
- (A) 220 kms
  - (B) 210 kms
  - (C) 230 kms
  - (D) 240 kms

**Directions (Q. Nos. 13 and 14) :**

A is the father of C, but C is not his son.

E is the daughter of C, F is the spouse of A.

B is the brother of C, D is the son of B.

G is the spouse of B, H is the father of G.

13. Who is the Grandmother of D ?
- (A) H
  - (B) A
  - (C) C
  - (D) F
14. Who is the son of F ?
- (A) B
  - (B) C
  - (C) E
  - (D) D

**Directions (Q. Nos. 15 to 19) :** Read the following information carefully and based on that information, answer the following questions :

- (A) P, Q, R, S, T and U are members of a club. Each one of them has a different occupation such as, Lawyer, Engineer, Architect, Doctor, Teacher and Housewife.
- (B) There are two ladies in the group.
- (C) R is a housewife and is married to T.
- (D) Doctor is married to P who is a lady teacher.

15. How is P related to Q ?
- (A) Brother
  - (B) Nephew
  - (C) Father
  - (D) Data inadequate
16. Who is doctor in the group ?
- (A) S
  - (B) U
  - (C) T
  - (D) Data inadequate
17. Which of the following is the married pair ?
- (A) QT
  - (B) PT
  - (C) PS
  - (D) QR
18. Which of the following pairs represent the two husbands ?
- (A) T, R
  - (B) P, S
  - (C) T, U
  - (D) None of the above
19. What is the occupation of T ?
- (A) Engineer
  - (B) Architect
  - (C) Engineer or Architect
  - (D) Data inadequate

**Directions (Q. Nos. 20 to 24) :** There are four friends Anil, Sushil, Raj and Harish. One of them is a cricketer and studies Chemistry and Biology. Anil and Sushil play football. Anil studies Commerce. Both the football players study Mathematics. Harish 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.

20. Who is the cricketer ?
- (A) Raj
  - (B) Anil
  - (C) Sushil
  - (D) Harish
21. Who *does not* study Mathematics ?
- (A) Anil
  - (B) Sushil
  - (C) Raj
  - (D) Harish
22. Who studies Physics ?
- (A) Anil
  - (B) Sushil
  - (C) Raj
  - (D) Harish
23. Who studies Commerce and plays football ?
- (A) Anil
  - (B) Sushil
  - (C) Raj
  - (D) Harish

24. How many games are played and subjects studied by the four friends ?
- (A) 1, 2
  - (B) 2, 3
  - (C) 3, 4
  - (D) 4, 5

**Directions (Q. Nos. 25 and 26) :** These questions are based on the following alphabet :

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

25. What will come in place of the question mark (?) in the following sequence ?

BCDB CDDEC DEEFD ?

- (A) EFFFGE
  - (B) EEEFEE
  - (C) EFFFFG
  - (D) None of the above
26. Which letter is ninth to the left of thirteenth letter from your right ?
- (A) S
  - (B) H
  - (C) E
  - (D) G

### Mathematics

27. Let  $A_0 A_1 A_2 A_3 A_4 A_5$  be a regular hexagon inscribed in a circle of unit radius. Then the product of the lengths of the line segments  $A_0 A_1$ ,  $A_0 A_2$  and  $A_0 A_4$  is :
- (A)  $3/4$   
(B)  $3\sqrt{3}$   
(C)  $3$   
(D)  $\frac{3\sqrt{3}}{2}$
28. For three vectors  $\vec{u}, \vec{v}, \vec{w}$  which of the following expressions is *not* equal to any of the remaining three ?
- (A)  $\vec{u} \cdot (\vec{v} \times \vec{w})$   
(B)  $(\vec{v} \times \vec{w}) \cdot \vec{u}$   
(C)  $\vec{v} \cdot (\vec{u} \times \vec{w})$   
(D)  $(\vec{u} \times \vec{v}) \cdot \vec{w}$
29. A fair coin is tossed repeatedly. If tail appears on first four tosses, then the probability of head appearing on fifth toss equals :
- (A)  $\frac{1}{2}$   
(B)  $\frac{1}{32}$   
(C)  $\frac{31}{32}$   
(D)  $1/5$



30. The number of common tangents to the circles  $x^2 + y^2 = 4$  and  $x^2 + y^2 - 6x - 8y - 24 = 0$  is :
- (A) 0  
(B) 1  
(C) 3  
(D) 4
31. Which of the following number(s) is/are rational ?
- (A)  $\sin 15^\circ$   
(B)  $\cos 15^\circ$   
(C)  $\sin 15^\circ \cos 15^\circ$   
(D)  $\sin 15^\circ \cos 75^\circ$
32. If  $x_1, x_2, x_3$  as well as  $y_1, y_2, y_3$  are in G.P. with the same common ratio then the points  $(x_1, y_1), (x_2, y_2)$  and  $(x_3, y_3)$  :
- (A) lie on a straight line  
(B) lie on an ellipse  
(C) lie on a circle  
(D) are vertices of a triangle
33. The curve described parametrically by  $x = t^2 + t + 1, y = t^2 - t + 1$  represents :
- (A) a pair of straight lines  
(B) an ellipse  
(C) a parabola  
(D) a hyperbola

34. If the integers  $m$  and  $n$  are chosen at random between 1 and 100, then the probability that a number of the form  $7^m + 7^n$  is divisible by 5 equals :

(A)  $\frac{1}{4}$

(B)  $\frac{1}{7}$

(C)  $\frac{1}{8}$

(D)  $\frac{1}{49}$

35. For which of the following values of  $m$ , is the area of the region bounded by the curve  $y = x - x^2$  and the line  $y = mx$  equals  $\frac{9}{2}$  ?

(A) -4

(B) -2

(C) 2

(D) 14

36. Let  $f(\theta) = \sin \theta (\sin \theta + \cos 3\theta)$ . Then  $f(\theta)$  :

(A)  $\geq 0$  only when  $\theta \geq 0$

(B)  $\leq 0$  for all real  $\theta$

(C)  $\geq 0$  for all real  $\theta$

(D)  $\leq 0$  only when  $\theta \leq 0$

37. The triangle PQR is inscribed in the circle  $x^2 + y^2 = 25$ . If Q and R have co-ordinates (3, 4) and (-4, 3) respectively, then  $\angle QPR$  is equal to :
- (A)  $\pi/2$   
(B)  $\pi/3$   
(C)  $\pi/4$   
(D)  $\pi/6$
38. For  $x \in \mathbb{R}$ ,  $\text{Lt}_{x \rightarrow \infty} \left( \frac{x-3}{x+2} \right)^x =$
- (A)  $e$   
(B)  $e^{-1}$   
(C)  $e^{-5}$   
(D)  $e^5$
39. How many different nine-digit numbers can be formed from the number 223355888 by rearranging its digits so that the odd digits occupy even positions ?
- (A) 16  
(B) 36  
(C) 60  
(D) 180
40. If  $\arg(Z) < 0$ , then  $\arg(-Z) - \arg(Z) =$
- (A)  $\pi$   
(B)  $-\pi$   
(C)  $-\pi/2$   
(D)  $\pi/2$

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

(A)  $y/x$

(B)  $Py/qx$

(C)  $x/y$

(D)  $qy/px$

42. The value of  $\int_0^{\pi/2} (x + \cos x) dx$  is :

(A)  $\frac{\pi}{8} + 1$

(B)  $\pi^2 + 1$

(C)  $\pi^2/8$

(D)  $\frac{\pi^2}{8} + 1$

43. If  $\alpha, \beta$  be the roots of  $x^2 - x + p = 0$  and  $\gamma, \delta$  be the roots of  $x^2 - 4x + q = 0$ . If  $\alpha, \beta, \gamma, \delta$  are in G.P. then the integral values of  $p$  and  $q$  respectively, are :

(A)  $-2, -32$

(B)  $-2, 3$

(C)  $-6, 3$

(D)  $-6, -32$

### Computer Applications

44. The decimal equivalent of binary number 0.0111 is :
- (A) 4375
  - (B) 0.4375
  - (C) 0.5375
  - (D) 0.4389
45. What is the hexadecimal equivalent of a binary number ?
- 10101111
- (A) AF
  - (B) 9E
  - (C) 8C
  - (D) None of the above
46. How many address lines are needed to address each memory location in a  $2048 \times 4$  memory chip ?
- (A) 10
  - (B) 11
  - (C) 8
  - (D) 12
47. A multiprocessor computer is of the type :
- (A) SISD
  - (B) SIMD
  - (C) MIMD
  - (D) All of the above

48. Which company developed the TCP/IP protocol for networking ?
- (A) IBM
  - (B) DEC
  - (C) DARPA
  - (D) Novell
49. Which transmission mode is used for data communication along telephone lines ?
- (A) Parallel
  - (B) Serial
  - (C) Synchronous
  - (D) Asynchronous
50. Microprocessors can be used to make :
- (A) Computers
  - (B) Digital systems
  - (C) Calculators
  - (D) All of the above
51. A computer program written in a high level language is called a :
- (A) source program
  - (B) object program
  - (C) machine language program
  - (D) none of the above

52. Compilers can diagnose :
- (A) grammatical errors only
  - (B) logical errors only
  - (C) grammatical as well as logical errors
  - (D) neither grammatical nor logical errors
53. In an absolute loading scheme, which loader function(s) is (are) accomplished by programmer ?
- (A) Allocation
  - (B) Linking
  - (C) Reallocation
  - (D) Both (A) and (B)
54. Real time systems are :
- (A) primarily used on mainframe computers
  - (B) used for monitoring events as they occur
  - (C) used for program analysis
  - (D) none of the above
55. Which of the following parsing methods handle left recursive grammars ?
- (A) Top down parsing
  - (B) Bottom up parsing
  - (C) Both top down and bottom up parsing
  - (D) None of the above

56. The symbol for the address operator is :
- (A) %a
  - (B) &
  - (C) \$
  - (D) !
57. The bitwise AND operator is represented by the symbol :
- (A) ^
  - (B) &
  - (C) &&
  - (D) >>
58. If there are six routers and seven networks in an internetwork using link state routing, how many routing tables are there ?
- (A) 1
  - (B) 5
  - (C) 6
  - (D) none of the above
59. Which of the following is the fastest (speed of operation) input/output device ?
- (A) Teletypewriter
  - (B) Visual display unit
  - (C) Magnetic floppy disk
  - (D) None of the above
60. Library functions are linked with the code at the time of :
- (A) preprocessing
  - (B) compilation
  - (C) linking
  - (D) none of the above