**MATHEMATICAL OPERATION**

**Exercise - A**

1. If ‘<’ means ‘minus’, ‘>’ means ‘plus’, ‘=’ means ‘multiplied by’ and ‘$’ means ‘divided by’, then what would be the value of 27 > 81 $ 9 < 6?

(a) 6 (b) 33 (c) 36 (d) 54 (e) None of these

1. If ‘+’ means ‘divided by’, ‘-‘ means ‘added to’, ‘×’ means ‘subtracted from’ and ‘÷’ means ‘multiplied by’, then what is the value of 24 ÷ 12 – 18 + 9?

(a) -25 (b) 0.72 (c) 15.30 (d) 290 (e) None of these

1. If $ means +, # means -, @ means × and \* means ÷, then what is the value of 16 $ 4 @ 5 # 72 \* 8?

(a) 25 (b) 27 (c) 29 (d) 36 (e) None of these

1. If ÷ means ×, × means +, + means – and – means ÷, find the value of 16 × 3 + 5 – 2 ÷ 4.

(a) 9 (b) 10 (c) 19 (d) 29 (e) None of these

1. If + means ÷, ÷ means -, - means ×, × means +, then 12 + 6 ÷ 3 – 2 × 8 =?

(a) -2 (b) 2 (c) 4 (d) 8 (e) None of these

1. If + means -, - means ×, ÷ means + and × means ÷, then 15 – 3 + 10 × 5 ÷ 5 =?

(a) 5 (b) 22 (c) 48 (d) 52 (e) None of these

1. If × means ÷, - means ×, ÷ means + and + means -, then (3 – 15 ÷ 19) × 8 + 6 =?

(a) -1 (b) 2 (c) 4 (d) 8 (e) None of these

b

1. If × means +, + means ÷, - means × and ÷ means -, then 8 × 7 – 8 + 40 ÷2 =?

(a) 1 (b) 7 (c) 8 (d) 44 (e) None of these

1. If × means -, + means ÷, - means × and ÷ means +, then 15 – 2 ÷ 900 + 90 × 100 =?

(a) 190 (b) 180 (c) 90 (d) 0 (e) None of these

1. If ÷ means +, - means ÷, × means – and + means ×, then = ?

(a) 0 (b) 8 (c) 12 (d) 16 (e) None of these

1. If ‘+’ means ‘divided by’, ‘-‘ means ‘add’, ‘×’ means ‘minus’ and ‘/’ means ‘multiplied by’, what will be the value of the following expressions?

[{(17 × 12) – (4/2)} + (23 – 6)] /0

(a) Infinite (b) 0 (c) 118 (d) 219

(e) None of these

1. If + stands for ×, - for ÷, × for – and ÷ for +, find the value of 26 + 74 – 4 × 5 ÷ 2.

(a) 220 (b) 376 (c) 478 (d) 488 (e) None of these

1. If Q means ‘add to’, J means ‘multiply by’, T means ‘subtract from’ and K means ‘divide by’, then30 K 2 Q 3 J 6 T 5 =?

(a) 18 (b) 28 (c) 31 (d) 103 (e) None of these

1. If P denotes ÷, Q denotes ×, R denotes + and S denotes -, then what is the value of 18 Q 12 P 4 R 5 S 6?

(a) 53 (b) 59 (c) 63 (d) 65 (e) None of these

1. If P means ‘division’, T means ‘addition’, M means ‘subtraction’ and D means ‘multiplication’, then what will be the value of the expression 12 M 12 D 28 P 7 T 15?

(a) -30 (b) -15 (c) 15 (d) 45 (e) None of these

1. If P means ×, R means +, T means ÷ and S means -, then 18 T 3 P 9 S 8 R 6 =?

(a) -1 (b) (c) 46 (d) 58 (e) None of these

1. If P denotes ‘multiplied by’, T denotes ‘subtracted from’, M denotes ‘added to’ and B denotes ‘divided by’, then 28 B 7 P 8 T 6 M 4 =?

(a) 35 (b) 30 (c) 32 (d) 34 (e) None of these

1. If ‘when’ means ‘×’, ‘you’ means ‘÷’, ‘come’ means ‘-‘ and ‘will’ means ‘+’, then what will be the value of “8 when 12 will 16 you 2 come 10”?

(a) 45 (b) 94 (c) 96 (d) 112 (e) None of these

1. If A stands for +, B stands for -, C stands for ×, then what is the value of (10 C 4) A (4 C 4) B 6?

(a) 60 (b) 56 (c) 50 (d) 46 (e) None of these

**Directions (Questions 20 to 33): In an imaginary language, the digits 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are substituted by a, b, c, d, e, f, g, h, I and j. And 10 is written as ba.**

1. (cd + ef) × bc is equal to

(a) 684 (b) 816 (c) 916 (d) 1564 (e) None of these

1. baf ÷ bf × d is equal to

(a) df (b) cb (c) be (d) d (e) None of these

1. dc × f – (bf – d) × d is equal to

(a) abb (b) abe (c) bce (d) bcf (e) None of these

1. bee + fg – (ca × h/be) is equal to

(a) bhc (b) bic (c) bib (d) bja (e) None of these

1. If ‘-‘ stands for ‘division’, ‘+’ for ‘multiplication’, ‘÷’ for ‘subtraction’ and ‘×’ for ‘addition’, then which one of the following equations is correct?

(a) 4 × 5 + 9 – 3 ÷ 4 =15 (b) 4 × 5 × 9 + 3 ÷ 4 =11

(c) 4 – 5 ÷ 9 × 3 – 4 =17 (d) 18 + 6 ÷ 7 × 5 – 2 =18

(e) None of these

1. If ‘+’ stands for ‘division’, ‘÷’ stands for b ’multiplication’, ‘×’ stands for ‘subtraction’ and ‘-‘ stands for ‘addition’, which one of the following is correct?

(a) 18 ÷ 6 × 7 + 5 – 2 =22 (b) 18 × 6 + 7 ÷ 5 – 2 =16

(c) 18 ÷ 6 – 7 + 5 × 2 =20

(d) 18 + 6 ÷ 7 × 5 – 2 =18 (e) None of these

1. If ‘-‘ stands for ‘division’, ‘+’ for ‘multiplication’, ‘÷’ for ‘subtraction’ and ‘×’ for ‘addition’ which one of the following equations is correct?

(a) 6 + 20 – 12 ÷ 7 – 1 = 38 (b) 6 – 20 ÷ 12 × 7 + 1 =57

(c) 6 + 20 – 12 ÷ 7 × 1 =62

(d) 6 ÷ 20 × 12 + 7 – 1 =70 (e) None of these

1. If → stands for ‘addition’, ← stands for ‘subtraction’, ↑ stands for ‘division’, ↓ stands for ‘multiplication’, ↗ stands for ‘equal to’, then which of the following alternatives is correct?

(a) 7← 43 ↑ 6 ↓ 1 ↗ 4 (b) 3 ↓ 6 ↑ 2 → 3 ← 6 ↗ 5 (c) 5 → 7 ← 3 ↑ 2 ↗ 4

(d) 2 ↓ 5 ← 6 → 2 ↗ 6 (e) None of these

1. If – means ÷, + means ×, ÷ means -, × means +, then which of the following equations is correct?

(a) 52 ÷ 4 + 5 × 8 – 2 =36 (b) 43 × 7 ÷ 5 + 4 – 8 =25

(c) 36 × 4 – 12 + 5 ÷ 3 = 420 (d) 36 – 12 × 6 ÷ 3 + 4 =60

(e) None of these

1. If P denotes +, Q denotes -, R denotes × and S denotes ÷, which of the following statements is correct?

(a) 36 R 4 S 8 Q 7 P 4 =10 (b) 16 R 12 P 49 S 7 Q 9 =200

(c) 32 S 8 R 9 = 160 Q 12 R 12

(d) 8 R 8 P 8 S 8 Q 8 =57 (e) None of these

1. If L denotes ÷, M denotes ×, P denotes + and Q denotes -, then which of the following statements is true?

(a) 32 P 8 L 16 Q 4 = - (b) 6 M 18 Q 26 L 13 P 7 = (c) 11 M 34 L 17 Q 8 L 3 =

(d) 9 P 9 L 9 Q 9 M 9 =-71 (e) None of these

1. If ‘×’ stands for ‘addition’, ‘<’ for ‘subtraction’, ‘+’ for ‘division’, ‘>’ for ‘multiplication’, ‘-‘ for ‘equal to’, ‘÷’ for ‘greater than’ and ‘=’ for ‘less than’, then state which of the following is true?

(a) 3 × 4 > 2 – 9 + 3 < 3 (b) 5 × 3 < 7 ÷ 8 + 4 × 1 (c) 5 > 2 + 2 = 10 < 4 × 8

(d) 3 × 2 < 4 ÷ 16 > 2 + 4 (e) None of these

1. If ‘÷’ stands for ‘greater than’, ‘×’ stands for ‘addition’, ‘+’ stands for ‘division’, ‘-‘ stands for ‘equal to’, ‘>’ stands for ‘multiplication’, ‘=’ stands for ‘less than’ and ‘<’ stands for ‘minus’, then which of the following alternatives is correct?

(a) 5 > 2 < 1 – 3 × 4 × 1 (b) 5 < 2 × 1 + 3 > 4 × 1

(c) 5 > 2 × 1 – 3 > 4 < 1

(d) 5 + 2 × 1 = 3 + 4 > 1 (e) None of these

1. If ÷ implies =, × implies <, + implies >, - implies ×, > implies ÷, < implies +, = implies -, identify the correct expression.

(a) 1 – 3 > 2 + 1 – 5 = 3 – 1 < 2 (b) 1 – 3 > 2 + 1 × 5 = 3 × 1 > 2

(c) 1 × 3 > 2 + 1 × 5 × 3 – 1 > 2 (d) 1 – 3 > 2 + 1 × 5 + 3 – 1 > 2

(e) None of these

**Directions (Questions 34 to 45): In each of the following questions, some symbols are represented by letters as shown below:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| + | - | × | ÷ | = | > | < |
| B | G | E | C | D | A | F |

Now, identify the correct expression in each case.

1. (a) 18 C 3 D 6 B 8 C 4 G 12 (b) 18 A 3 E 6 B 8 G 4 B 12

(c) 18 B 3 G 6 B 8 B 4 D 12

(d) 15 C 5 F 8 C 4 B 6 C 3 (e) None of these

1. (a) 15 B 5 G 8 B 4 G 6 F 3 (b) 15 C 15 B 8 F 4 B 6 C 3

(c) 15 A 5 E 8 C 4 B 6 E 3

(d) 15 C 5 F 8 C 4 B 6 C 3 (e) None of these

**Directions (Questions 36 to 40): If > denotes +, < denotes -, + denotes ÷, 𝚲 denotes ×, - denotes =, × denotes > and = denotes <, choose the correct statement in each of the following questions.**

1. (a) 6 + 3 > 8 = 4 + 2 < 1 (b) 4 > 6 + 2 × 32 + 4 < 1 (c) 8 < 4 + 2 = 6 > 3

(d) 14 + 7 > 3 = 6 + 3 > 2 (e) None of these

1. (a) 14 > 18 + 9 = 16 + 4 < 1 (b) 4 > 3 Λ 8 < 1 – 6 + 2 > 24

(c) 3 < 6 Λ 4 > 25 = 8 + 4 < 1 (d) 12 > 9 + 3 < 6 × 25 + 5 > 6

(e) None of these

1. (a)13 > 7 < 6 + 2 = 3 Λ 4 (b) 9 > 5 > 4 – 18 + 9 > 16

(c) 9 < 3 < 2 > 1 × 8 Λ 2

(d) 28 + 4 Λ 2 = 6 Λ 4 + 2 (e) None of these

1. (a) 29 < 18 + 6 = 36 + 6 Λ 4 (b) 18 > 12 + 4 × 7 > 8 Λ 2

(c) 32 > 6 + 2 = 6 < 7 Λ 2

(d) 31 > 1 < 2 = 4 > 6 Λ 7 (e) None of these

1. (a) 7 > 7 < 7 + 7 = 14 (b) 7 Λ 7 > 7 + 7 = 7 Λ 7 > 1

(c) 7 < 7 + 7 =6

(d) 7 + 7 > 7 = 8 (e) None of these

**Directions (Questions 41 to 45): In each of the following questions, different alphabets stand for various symbols as indicated below:**

Addition: O

Subtraction: M

Multiplication: A

Division: Q

Equal to: X

Greater than: Y

Less than: Z

Out of the four alternatives given in these questions, only one is correct according to the above letter symbols. Identify the correct answer.

1. (a) 2 Z 2 A 4 O 1 A 4 M 8 (b) 8 Y 2 A 3 A 4 Q 2 A 4

(c) 10 X 2 O 2 A 4 O 1 M 2

(d) 12 X 4 O 2 Q 1 A 4 A 2 (e) None of these

1. (a) 1O 1 Q 1 M 1 Y 3 Q 1 (b) 2 Q 1 O 10 A 1 Z 6 A 4

(c) 3 O 2 O 10 Q 2 X 10 A 2

(d) 5 Q 5 A 5 O 5 Y 5 A 2 (e) None of these

1. (a) 3 O 2 X 2 Q 1 A 3 O 1 (b) 6 M 2 Y 10 Q 2 A 3 O 1

(c) 10 A 2 Z 2 Q 2 A 10 Q 2

(d) 10 A 2 Y 2 Q 1 A 10 Q 2 (e) None of these

1. (a) 32 X 8 Q 2 A 3 Q 1 A 2 (b) 14 X 2 A 4 A 2 M 2 Q 1

(c) 2 Y 1 A 1 Q 1 O 1 A 1

(d) 16 Y 8 A 3 O 1 A 2 M 2 (e) None of these

1. (a) 8 Q 4 A 1 M 2 X 16 M 16 (b) 8 O 2 A 12 Q 10 X 18 Q 9

(c) 6 Q 2 O 1 O 1 X 16 A 1 (d) 2 O 3 M 4 Q 2 Z 1 A 2

(e) None of these

**Directions (Questions 46 to 50): In the following questions, different letters stand for various symbols as indicated below:**

R: Addition

S: Subtraction

T: Multiplication

U: Division

V: Equal to

W: Greater than

X: Less than

Out of the four alternatives given in these questions, only one is correct according to the above letter symbols. Identify the correct one.

1. (a) 16 T 2 R 4 U 6 X 8 (b) 16 R 2 S 4 V 6 R 8 (c) 16 T 2 U 4 V 6 R 8

(d) 16 U 2 R 4 S 6 W 8 (e) None of these

1. (a) 20 U 4 R 4 X 2 T 3 (b) 20 S 4 U 4 V 2 T 3 (c) 20 T 4 U 4 2 X 3

(d) 20 R 4 U 4 S 2 W 3 (e) None of these

1. (a) 15 U 5 R 3 V 2 T 3 (b) 15 U 5 W 3 R 2 T 3 (c) 15 S 5 T 3 W 2 R 3

(d) 15 R 5 U 3 V 2 R 3 (e) None of these

1. (a) 24 U 3 R 2 S 2 W 8 (b) 24 S 3 X 2 T 2 U 8 (c) 24 R 3 S 2 X 2 T 8

(d) 24 U 3 T 2 V 2 T 8 (e) None of these

1. (a) 30 R 6 U 2 W 4 T 3 (b) 30 S 6 S 2 X 4 T 3 (c) 30 S 6 U 2 W 4 T 3

(d) 30 U 6 R 2 W 4 T 3 (e) None of these

**Exercise – B**

**Directions (Questions 1to 5): In the following questions, the symbols \*, %, $, # and © are used with the following meanings as illustrated below:**

‘P $ Q’ means ‘P is smaller than Q’;

‘P \* Q’ means is neither smaller than nor greater than Q’;

‘P # Q’ means is either greater than or equal to Q1’;

‘P % Q’ means ‘P is greater than Q’;

‘P © Q’ means ‘P is either smaller than or equal to Q’.

Now, in each of the following questions, assuming the given statements to be true, find which of the two conclusions I and II given below them is/are definitely true?

Give answer

(a) If only conclusion I is true; (b) If only conclusions II is true;

(c) If either conclusions I or II is true; (d) If neither conclusions I nor II is true; and

(e) If both conclusions I and II are true.

1. Statements: B # D, D \* F, F % H

Conclusions: I. F \* B II. F $ B

2. Statements: H $ J, J \* N, N # T

Conclusions: I. T % H II. J # T

1. Statements: M % K, K # T, T \* J

Conclusions: I. J © K II. T $ M

1. Statements: W © F, F % R, R # K

Conclusions: I. W $ K II. K \* W

1. Statements: V © R, R $ M, M \* W

Conclusions: I. W % V II. V © W

**Directions (Questions: 6 to 10): In the following questions, the symbols @, #, $, %, \* are used with the following meanings as illustrated below:**

‘A @ B’ means ‘A is not greater than B’;

‘A # B’ means ‘A is greater than or equal to B’;

‘A $ B’ means ‘A is neither greater than nor less than B’;

‘A % B’ means ‘A is less than B’;

‘A \* B’ means ‘A is neither less than nor equal to B’.

Now, in each of the following questions, assuming the given statements to be true, find which of the three conclusions I, II and III given below them is/are definitely true.

1. Statements: K @ L, L % N, E # N

Conclusions: I. K % E II. E \* L III. N \* K

(a) Only I and II are true (b) Only II and III are true

(c) Only I and III are true (d) All are true

1. Statements: D $ T, T \* P, M @ P

Conclusions: I. D \* M II. M % T III. D # P

(a) Only I is true (b) Only I and II are true (c) All are true

(d) Only I and III are true (e) None of these

1. Statements: T # R, R % L, L \* K

Conclusions: I. T % L II. K \* R III. T # K

(a) Only I is true (b) Only I and II are true (c) All are true

(d) Only II and III are true (e) None of these

1. Statements: N % S, S # U, U \* M

Conclusions: I. M % S II. N % U III. N \* M

(a) Only I is true (b) Only II is true (c) All are true

(d) Only I and III are true (e) None is true

1. Statements: C $ J, J % V, E @ V

Conclusions: I. E % J II. C \* V III. C \* E

(a) None is true (b) Only II is true

(c) Only III is true (d) Only II and III are true

(e) All are true

**Directions (Questions 11 to 17): In the following questions, the symbols @, %, #, $, © are used with different meanings as explained below:**

‘P @ Q’ means ‘P is not greater than Q’;

‘P % Q’ means ‘P is neither greater than nor equal to Q’;

‘P # Q’ means ‘P is neither smaller than nor equal to Q’;

‘P $ Q’ means ‘P is neither smaller than nor greater than Q’;

‘P © Q’ means ‘P is not smaller than Q’.

IN each questions, three statements showing relationships have been given, which are followed by two conclusions I and II. Assuming that the given statements are true, find out which of the conclusions is/are definitely true.

**Mark answer**

(a) If only conclusions I is true; (b) If only conclusions II is true;

(c) If either conclusions I or II is true; (d) If neither conclusions I nor II is true; and

(e) If both conclusions I and II are true.

1. Statements: T @ L, L % N, D © N

Conclusions: I. N # T II. L % D

1. Statements: J # R, R @ B, B % H

Conclusions: I. J @ B II. J % H

1. Statements: W @ V, V # X, Y © V

Conclusions: I. X % Y II. X $ W

1. Statements: M $ K, K © F, F % H

Conclusions: I. M # F II. M $ F

1. Statements: H © D, D # R, R @ K

Conclusions: I. K @ H II. H # R

1. Statements: E © H, K $ H, K @ M

Conclusions: I. E # K II. E $ M

1. Statements: N % R, R @ K, K # F

Conclusions: I. R @ F II. R # F

**Directions (Questions 18 to 22): In the following questions, the symbols $, #, %, \* and @ are used with the following meanings as illustrated below:**

‘X $ Y’ means ‘X is not greater than Y’;

‘X # Y’, means ‘X is neither greater than nor smaller than Y’;

‘X % Y’ means ‘X is not smaller than Y’;

‘X \* Y’ means ‘X is neither smaller than nor equal to Y’;

‘X @ Y’ means ‘X is neither greater than nor equal to Y’.

Now, in each of the following questions, assuming the given statements to be true, find which of the three conclusions I, II and III given below them is/are definitely true.

1. Statements: D $ K, H \* B, K @ H

Conclusions: I. B % K II. B @ K III. H \* D

(a) Only I and II are true (b) Only either I or II is true

(c) Only I and III are true

(d) Only either I or II, and III are true (e) None of these

1. Statements: T @ R, R $ G, G \* B

Conclusions: I. T @ B II. B \* R III. T $ G

(a) None is true (b) Either I or III is true (c) Only I and III are true

(d) All I, II and III are true (e) Only I and either II or III are true

1. Statements: F # M,M \* J, P % F

Conclusions: I. P \* J II. P % J III. P # M

(a) Only I is true (b) Only I and II are true (c) Only I and III are true

(d) Only II and III or I are true (e) None of these

1. Statements: L % J,L @ K, J \* F

Conclusions: I. F @ K II. K \* J III. F @ L

(a) None is true (b) Only I and II are true (c) Only II and III are true

(d) Only I and III are true (e) All I, II and III are true

1. Statements: N $ P,P @ Q, H % Q

Conclusions: I. H % N II. N @ H III. N # H

(a) Only I is true (b) Only II is true

(c) Only I and II are true

(d) All I, II and III are true (e) None of these

**EXERCISE: C**

**Directions (1-3):** In the following questions the symbols @, #, %, $, \* are used with different meanings as follows

P@Q means P is not smaller than Q.

P#Q means P is not greater than Q.

P%Q means P is neither smaller than nor equal to Q.

P$Q means P is neither greater than nor equal to Q.

P\*Q means P is neither greater than nor smaller than Q.

1. Statements: A#K, K@Z, Z%B, B\*D

Conclusion: I. D$K II. B$A III. B@A

(1) only I and either II or III follow

(2) only I follows

(3) either II and III follow

(4) both I and II follows

(5) None of these

2. Statements: W@V, V#S, S$A, A@B

Conclusions: I. A%V II. S$B III. B@V

(1) both I and II follow

(2) both II and III follow

(3) both I and III follow

(4) All I, II and III follow

(5) None of these

3. Statements: M@L, K#L, K$N, N%O

Conclusions: I. M%K II. L@N III. K$O

(1) Only I follow

(2) Only II follows

(3) Both II and III follow

(4) Both I and II follow

(5) None of these

**Directions (4-8)**

‘P $ Q’ means ‘P is not smaller than Q’

‘P @ Q’ means ‘P is neither smaller than nor equal to Q’

‘P # Q’ means ‘P is neither greater than nor equal to Q’

‘P & Q’ means ‘P is neither greater than nor smaller than Q’

‘P \* Q’ means ‘P is not greater than Q’

4.    Statements:

 H @ T, T # F, F& E, E \* V

 Conclusions:

            I.        V $ F            II.        E @ T

         III.        H @ V          IV.        T # V

a)    Only I II and III are true

b)    Only I II and IV are true

c)    Only II III and IV are true

d)    Only I III and IV are true

e)    All I II III and IV are true

5.    Statements:

 D # R, R \* K, K @ F, F $ J

 Conclusions:

            I.        J # R            II.        J # K

         III.        R # F          IV.        K @ D

a)    Only I II and III are true

b)    Only II III and IV are true

c)    Only I III and IV are true

d)    All I II III and IV are true

e)    None of these

6.    Statements:

 N & B, B $ W, W # H, H \* M

 Conclusions:

            I.        M @ W            II.        H @ N

         III.        W & N          IV.        W # N

a)    Only I is true

b)    Only III is true

c)    Only IV is true

d)    Only either III or IV are true

e)    Only either III or IV and I are true

7.    Statements:

 R \* D, D $ J, J # M, M @ K

 Conclusions:

            I.        K # J            II.        D @ M

         III.        R # M          IV.        D @ K

a)    None is true

b)    Only I is true

c)    Only II is true

d)    Only III is true

e)    Only IV is true

8.    Statements:

 M $ K, K @ N, N \* R, R # W

 Conclusions:

            I.        W @ K            II.        M $ R

         III.        K @ W          IV.        M @ N

a)    Only I and II are true

b)    Only III and IV are true

c)    Only III or IV is true

d)    Only II III and IV are true

e)    None of these

**Directions: (9-13)**

‘A % B’ means ‘A is smaller than B’

‘A @ B’ means ‘A is neither smaller than nor equal to B’

‘A $ B’ means ‘A is neither greater than nor equal to B’

‘A \* B’ means ‘A is neither greater than nor smaller than B’

‘A # B’ means ‘A is not greater than B’

9.    Statements:

 F @ J, J # R, R \* L, L % M

 Conclusions:

            I.        F $ R            II.        M # R

         III.        M % J

a)    None is true

b)    Only I is true

c)    Only II is true

d)    Only either II or III is true

e)    All  are true

10.    statements:

 T # W, W $ Q, Q % D, D @ J

 Conclusions:

            I.        J $ T            II.        T $ J

         III.        T $ Q

a)    Only I and III are true

b)    Only either I or II is true

c)    Only II and III are true

d)    Only III and either I or II are true

e)    None of these

11.    Statements:

 L # V, V $ E, E % U, U @ B

 Conclusions:

            I.        B $ E            II.        L $ E

         III.        B \* L

a)    Only I and II are true

b)    Only III is true

c)    Only either I or II is true

d)    All are true

e)    None of these

12.    Statements:

 M $ T, T \* R, R @ H, H # G

 Conclusions:

            I.        M $ H            II.        R @ G

         III.        M # R

a)    Only I is true

b)    Only II is true

c)    Only III is true

d)    All are true

e)    None is true

13.  Statements:

 H % R, R @ W, W \* F, J $ F

 Conclusions:

            I.        H @ F            II.        J $ W

         III.        F @ J

a)    Only I and  II are true

b)    Only  II and III are true

c)    Only III is true

d)    Only either I or III is true

e)    All are true

**Directions  : (Q.14 to 18):** In the following questions, the symbols @, ©, %, \* and $ are used with the following meaning as illustrated below.

‘P © Q’ means ‘P is not greater than Q’.  
‘P $ Q’ means ‘P is not smaller than Q’.  
‘P @ Q’ means ‘P is neither smaller than nor greater than Q’.  
'P \* Q’ means ‘P is neither equal to nor greater than Q’.  
‘P % Q’ means ‘P is neither smaller than nor equal to Q’.

Now in each of the following questions assuming the given statements to be true, find which of the three conclusions I, II and III given below them is/are definitely true and give your answer accordingly.

14. Statements: D @ M,  M $ B,  B \* R,  R % T

Conclusions: I. B \* D       II. B @ D

III. T \* M

A. None is true

B. Only I is true

C. Only either I or II is true

D. Only II is true

E. Only III is true

15. Statements: W © F,  F @ D,  D \* K,  K $ J  
Conclusions : I. K % W        II. D $ W                     III. F \* K

A. Only I and II are true

B. Only II and III are true

C. Only I and III are true

D. All I, II and III are true

E. None of the above

16. Statements : R \* K, K © M, M % T, T $ J  
Conclusions : I. J \* M

II. R \* M

III. K © J  
A. Only I is true

B. Only II is true

C. Only I and II are true

D. All I, II and III are true

E. None of these

17. Statements : R @ K, T © K, T $ M, M \* W  
Conclusions : I. W % K

II. M © R                     III. T © R

A. Only I is true

B. Only II is true

C. Only III is true

D. All I, II and III are true

E. None of the above

18. Statements : T $ N, N % B, B @ W, K © W  
Conclusions : I. K $ B                    II. K $ T                     III. T % B

A. Only I and II are true

B. Only I and III are true

C. Only II and III are true

D. All I, II and III are true

E. None of the above

**Directions  : (Q. 19 to 23):** In the following questions, the symbols @, $, \*, # and © are used with the following meaning as illustrated below :  
 P $ Q’ means ‘P is not smaller than Q’.

‘P @ Q’ means ‘P is neither smaller than nor equal to Q’.  
‘P # Q’ means ‘P is neither greater than nor equal to Q’.  
‘P © Q’ means ‘P is neither greater than nor smaller than Q’.

‘P \* Q’ means ‘P is not greater than Q’.

Now, in each of the following questions assuming the given statements to be true, find which of the four conclusions I, II, III and IV given below them is/are definitely true and give your answer accordingly.

19. Statements: N © B, B $ W, W # H, H \* M  
Conclusions: I. M @ W                    II. H @ N                     III. W © N                 IV. W # N

A. Only I is true

B. Only IV is true

C. Only either III or IV and I are true

D. Only either III or IV is true

E. Only III is true

20. Statements : R \* D, D $ J, J # M, M @ K  
Conclusions : I. K # J                    II. D @ M                   III. R # M               IV. D @ K

A. Only IV is true

B. None is true

C. Only II is true

D. Only I is true

E. Only III is true

21. Statements : H @ T, T # F, F © E, E \* V  
Conclusions : I. V $ F                    II. E @ T                   III. H @ V                IV. T # V

A. Only I, II and III are true

B. Only II, III and IV are true

C. All I, II, III and IV are true

D. Only I, II and IV are true

E. Only I, III and IV are true

22. Statements : D # R, R \* K, K @ F, F $ J  
Conclusions : I. J # R           II. J # K

III. R # F        IV. K @ D

A. Only I, II and III are true

B. Only I, III and IV are true

C. None of the above

D. Only II, III and IV are true

E. All I, II, III and IV are true

23. Statements : M $ K, K @ N, N \* R, R # W  
Conclusions : I. W @ K                    II. M $ R                     III. K @ W                  IV. M @ N

A. Only I and II are true

B. Only I, II and III are true

C. Only III and IV are true

D. None of the above

E. Only II, III and IV are true

**Directions:- (Q. 24 to 28)** In the following questions, the symbols @, $, \*, # and © are used with the following meaning as illustrated below :  
‘P $ Q’ means ‘P is not smaller than Q’.  
‘P @ Q’ means ‘P is neither smaller than nor equal to Q’.  
‘P # Q’ means ‘P is neither greater than nor equal to Q’.  
‘P © Q’ means ‘P is neither greater than nor smaller than Q’.  
 ‘P \* Q’ means ‘P is not greater than Q’.

Now, in each of the following questions assuming the given statements to be true, find which of the four conclusions I, II, III and IV given below them is/are definitely true and give your answer accordingly.

24. Statements : N © B, B $ W, W # H, H \* M  
Conclusions : I. M @ W                    II. H @ N                     III. W © N                    IV. W # N

A. Only I is true

B. Only IV is true

C. Only either III or IV and I are true

D. Only III is true

E. Only either III or IV is true

25. Statements : R \* D, D $ J, J # M, M @ K  
Conclusions : I. K # J                    II. D @ M                     III. R # M                    IV. D @ K

A. None is true

B. Only II is true

C. Only IV is true

D. Only I is true

E. Only III is true

26. Statements : H @ T, T # F, F © E, E \* V  
Conclusions : I. V $ F                    II. E @ T                   III. H @ V                IV. T # V

A. Only I, II and III are true

B. Only II, III and IV are true

C. All I, II, III and IV are true

D. Only I, II and IV are true

E. Only I, III and IV are true

27. Statements : D # R, R \* K, K @ F, F $ J  
Conclusions : I. J # R          II. J # K

III. R # F         IV. K @ D

A. Only I, II and III are true

B. Only II, III and IV are true

C. Only I, III and IV are true

D. None of the above

E. All I, II, III and IV are true

28. Statements : M $ K, K @ N, N \* R, R # W  
Conclusions : I. W @ K               II. M $ R           III. K @ W             IV. M @ N

A. Only III and IV are true

B. Only I and II are true

C. None of the above

D. Only I, II and III are true

E. Only II, III and IV are true

**Directions  : (Q. 29. To 32)** In the following questions, the symbols $ , @, ©, % and \* are used with the following meaning as illustrated below :

‘P © Q’ means ‘P is not smaller than Q’.  
‘P % Q’ means ‘P is neither smaller than nor equal to Q’.  
‘P \* Q’ means ‘P is neither greater than nor equal to Q’.  
‘P $ Q’ means ‘P is not greater than Q’.  
 ‘P @ Q’ means ‘P is neither greater than nor smaller than Q’.

Now in each of the following questions assuming the given statements to be true, find which of the three conclusions I, II, III and IV given below them is/are definitely true and give your answer accordingly.

29. Statements : D $ T, T @ R, R © M, M % K  
Conclusions : I. R @ D           II. R % D                     III. K \* T                  IV. M $ T

Only either I or II is true

Only either I or II and III are true

Only III and IV are true

Only either I or II and III and IV are true

Only either I or II and IV are true

30 . Statements : J @ F, F $ N, N % H, H © G  
Conclusions : I. G \* N                    II. N © J                     III. F \* J                    IV. J $ G

A. Only I and II are true

B. Only II, III and IV are true

C. None of the above

D. Only I, II and III are true

E. All I, II, III and IV are true

31. Statements : R \* K, K % D, D @ V, V $ M  
Conclusions : I. R \* D                    II. V \* R                     III. D @ M                IV. M % D

A. None is true

B. Only either III or IV and II

C. Only IV is true

D. Only III is true

E. Only either III or IV is true

32. Statements : B © T, T \* R, R % F, F @ K  
Conclusions : I. B % R   II. F \* T

III. R % K        IV. K \* T

A. None is true

B. Only II is true

C. Only IV is true

D. Only I is true

E.Only III is true