Achievement Test

Name of the Student:_____ Date: _____

Name of the School: _____ Division: _____

Note: - Read the questions properly

- Number on the on the right side indicates total marks for each

Question

Q.I Fill in the blanks by selecting the correct alternative from the options

given on the right. (40)

1. Every line has atleast _____ distinct points.

(0,1,2)

2. If $\overrightarrow{XY} = \overrightarrow{YZ}$ then Y_____$\overrightarrow{XZ}$.

($\subset$, $\in$, $\notin$)

3. Exactly _____ lines can be determined by three distinct non-

collinear points. (1,2,3)

4. If P$\in \overrightarrow{QR}$ then P, Q, R are _____.

(equal, collinear, non-collinear)

5. Two distinct points P,Q are on both the lines ℓ_1 and ℓ_2. So ℓ_1 ___ ℓ_2.

(=, $\neq$, $\in$)

6. If P$\in \ell$ & Q$\notin \ell$, then $\overrightarrow{PQ}$ ___ℓ.

(=, $\neq$, $\subset$)

7. If two distinct lines intersect in exactly one point, then they are

_____ lines.

(parallel, non-parallel, same)

8. If R$\in \overrightarrow{PQ}$ & S$\notin \overrightarrow{PQ}$, then $\overrightarrow{PQ} \cap \overrightarrow{RS}$ = _____.

({S}, {P}, {R})

9. For points P, Q, R , PQ+QR _____ PR.

(=, $\leq$, $\geq$)

10.For distinct collinear points P, Q & R if RP+PQ=QR, then _____.

(P-Q-R, R-P-Q, R-Q-P)

11. A & B are the end points of _____.

($\overrightarrow{AB}$, $\overleftrightarrow{AB}$, $\overline{AB}$)

12. Line-segments having equal lengths are called _____ line-segments.

(congruent, parallel, same)

13. If P-Q-R & _____ then Q is a midpoint of a line-segment $\overline{PR}$.

(PQ=PR, PR=QR, PQ=QR)

14. Every line-segment has _____ mid-point.

(0, 1, 2)

15. For D-E-F-G, $\overline{DF} \cap \overline{EG}$ = _____.

($\overline{DE}$, $\overline{FG}$, $\overline{EF}$)

16. For $\overrightarrow{AB}$, _____ is called the initial point.

(A, {A}, {B})

17. For $\overrightarrow{PQ}$, the ray extends infinitely towards _____.

(P, Q, nowhere)

18. $\overline{AB}$ _____ $\overrightarrow{AB}$.

($\in$, =, $\subset$)

19. $\overline{AB} \cup \{P/A\text{-}B\text{-}P\}$ = _____.

($\overrightarrow{PB}$, $\overrightarrow{BP}$, $\overrightarrow{AB}$)

20. For E-D-F, _____ will be the opposite rays.

($\overrightarrow{ED}$ & $\overrightarrow{DF}$, $\overrightarrow{FD}$ & $\overrightarrow{DE}$, $\overrightarrow{DE}$ & $\overrightarrow{DF}$)

21. A _____ has a bisector.

(line, line-segment, ray)

22. If MN=PQ, then $\overline{MN}$ ___ $\overline{PQ}$.

(=, $\subset$, $\cong$)

23. Three non-collinear points determine _____ plane.

(more than two, two, one and only one)

24. A plane α contains atleast _____ non-collinear points.

(1, 2, 3)

25. If P & Q are points of plane α then $\overrightarrow{PQ}$ ___ α.

($\in$, =, $\subset$)

26. The intersection of two intersecting distinct planes is a _____.

(line, ray, plane)

27. Let X_1 & X_2 be two half planes formed by line ℓ & plane α, then
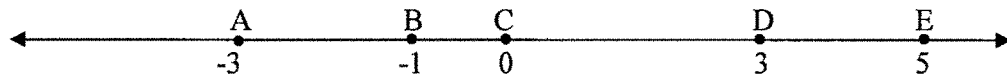$X_1 \cap X_2$ = _____. (X_1, ℓ, ϕ)

28. If A & B are in the same half plane made by ℓ then $\overline{AB} \cap \ell$ = _____.

(A, ϕ, ℓ)

29. For points P & Q and a plane X, P≠Q & P, Q ∈ X; X∩ $\overleftrightarrow{PQ}$ = _____.

({P,Q}, Plane X, $\overrightarrow{PQ}$)

30. If three non-collinear points A, B, C are in plane X as well as in plane Y, then _____.

(X=Y, X≠Y, X⊂Y)

31. For an angle $\angle ABC$ if A-O-C, then O is in the _____ of $\angle ABC$.

(exterior, cross, interior)

32. If D is in the _____ of an angle $\angle ABC$, then $\overrightarrow{BD}$ intersects $\overline{AC}$.

(interior, exterior, intersection)

33. An angle has _____ measure between 0 & 180.

(exactly one, more than one, no)

34. For point D in the interior of $\angle BAC$, m$\angle BAD$ + _____ = m$\angle BAC$.

(m$\angle ACD$, m$\angle DAC$, m$\angle ADC$)

35. An angle has _____ bisector.

(one, two, no)

36. If two congruent angles are supplementary, then each of them is a _____ angle.   (right, acute, obtuse)

37. If one angle of a pair of supplementary angles is acute then the other is _____ angle.   (acute, right, obtuse)

38. The bisector of $\angle MON$ is $\overrightarrow{OP}$. If m$\angle MOP$ = 45°, then $\angle MOP$ is _____ to $\angle PON$.

(supplementary, obtuse, complementary)

39. If S is in the interior of $\angle PQR$ then point P is in the exterior of _____.

($\angle PQS$, $\angle SQR$, $\angle SPQ$)

40. Each of the angles from a pair of complementary angles is _____.

(obtuse, right, acute)

Q.II [A]

Look at the following figure of the number-line and answer the respective questions:

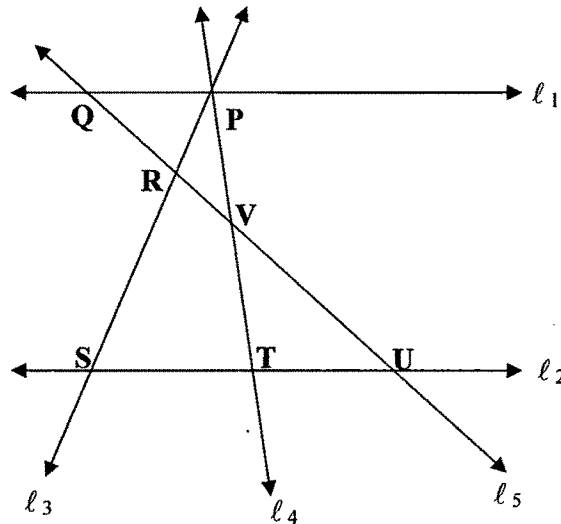Figure – 1   (05)

$$\overleftarrow{\underset{-3}{\overset{A}{\bullet}} \qquad \underset{-1}{\overset{B}{\bullet}} \quad \underset{0}{\overset{C}{\bullet}} \qquad\qquad \underset{3}{\overset{D}{\bullet}} \qquad \underset{5}{\overset{E}{\bullet}}} \rightarrow$$

1. Is $\overline{AC} \cong \overline{CD}$?   Ans. _____

2. What will be the number corresponding to the mid-point of $\overline{BD}$?   Ans. _____

3. What will be AE?   Ans. _____

4. For the point F, if A-F-E and AF=4, then what will be the number corresponding to F?   Ans. _____

5. For C-O-P-E, if OP=2=PE, then what will be CO?

                                                Ans. _____

Q.II [B]
Look at the following figure and answer the respective questions:
Figure – 2   (15)

1. What is $\ell_1 \cap \ell_2$?   Ans. _____

2. Which are the points on line ℓ_4?   Ans. _____

3. Which four points are collinear?   Ans. _____

4. Which are the lines that intersect in P?   Ans. _____

5. If PT=9.5 & PV=3, then what is VT?   Ans. _____

6. If T is a mid-point of $\overline{SU}$ & numbers corresponding to S & U
   on ℓ_2 are -6 & 7 respectively, then what is the number
   corresponding to T?   Ans. _____

7. Are lines $\overleftrightarrow{QV}$ & $\overleftrightarrow{ST}$ intersecting?   Ans. _____

8. What is the intersection of $\overline{RV}$ & $\overline{UV}$?   Ans. _____

9. What is $\overline{QV} \cap \overline{RU}$?   Ans. _____

10. What is $\overline{PV} \cap \overline{TU}$?   Ans. _____

11. What is the intersection of $\overrightarrow{UQ}$ & $\overrightarrow{TS}$?   Ans. _____

12. What is the intersection of $\overrightarrow{UV}$ & $\overrightarrow{PQ}$?   Ans. _____

13. Are $\overrightarrow{RQ}$ & $\overrightarrow{VU}$ opposite rays?   Ans. _____

14. What is the intersection of line ℓ_1 and $\overrightarrow{QP}$?   Ans. _____

15. What is $\overline{RS} \cap \ell_3$?   Ans. _____

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Q.II [C]
Look at the following figure and answer the respective questions:
Here α & β are parallel planes.
Figure – 3   (10)
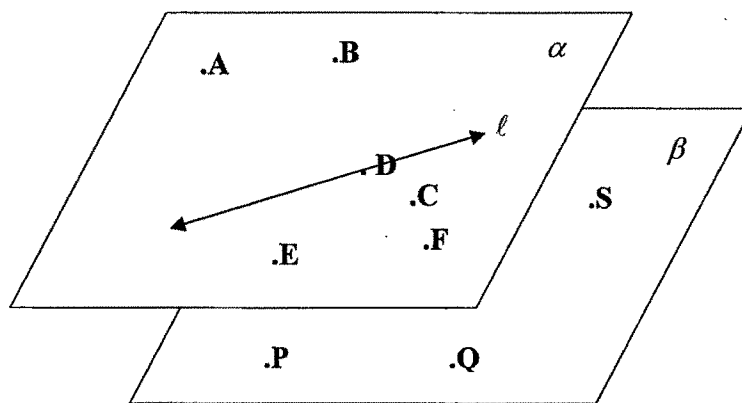
1. Which all points are in the plane α?   Ans. _____

2. What is the intersection of the line ℓ and $\overline{PS}$? Ans. _____

3. Of which plane is $\overline{PS}$ subset?   Ans. _____

4. Are $\overline{AF}$ and ℓ intersecting lines?   Ans. _____

5. $\overline{AC}$ & $\overline{PQ}$, are they coplanar or skew lines? Ans. _____

6. Mention the points of α lying in the same half planes?

                                                                     Ans. _____

7. Are $\overline{AE}$ & $\overline{QS}$ intersecting each other? Ans. _____

8. What is the intersection of planes α & β?   Ans. _____

9. Is ℓ a subset of closed half plane of α?   Ans. _____

10. Are P, Q & S coplanar points?   Ans. _____

Q.II [D]
Look at the following figure and answer the respective questions:
Figure – 4   (15)
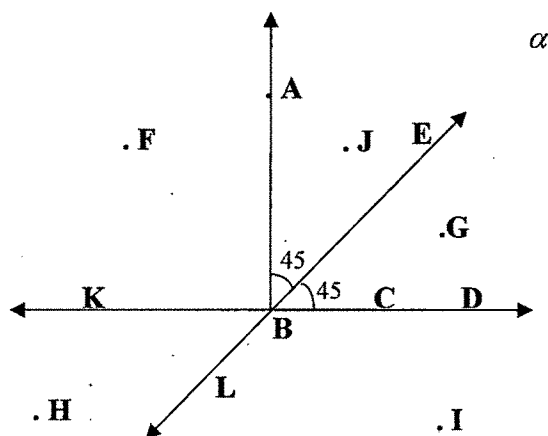
1. Name the arms of ∠ABC?   Ans. _____

2. List the points in the exterior of ∠EBC?   Ans. _____

3. List the points in the interior of ∠ABD?   Ans. _____

4. List the points on the ∠ABD?   Ans. _____

5. Which rays will intersect $\overline{AD}$?   Ans. _____

6. Are ∠ABC & ∠BCA same?   Ans. _____

7. Are ∠ABE & ∠EBA same?   Ans. _____

8. Are ∠ABK & ∠KBL adjacent angles?   Ans. _____

9. Which is the bisector of ∠ABD?   Ans. _____

10. Which is the complementary angle to an ∠ABE?

                                                  Ans. _____

11. Are ∠ABL & ∠ABE supplementary angles?   Ans. _____

12. Is ∠ABD & ∠ABL a linear pair of angles?   Ans. _____

13. Are ∠EBD & ∠KBL congruent angles?   Ans. _____

14. Are ∠EBA & ∠LBD vertically opposite angles? Ans. _____

15. ∠ABL is which type of angle?   Ans. _____

Q.III: Represent each of the following by a figure: (15)

1. $P \notin \overrightarrow{AB}$ but $Q \in \overrightarrow{BP}$.

2. $\overrightarrow{AB} = \overrightarrow{PQ}$, but $\overrightarrow{AB} \neq \overrightarrow{PR}$ & $S \in \overrightarrow{QR}$ & R-Q-S.

3. A-B-C, C-D-E, A-F-E, D-G-A.

4. $R \in \overrightarrow{PQ}$ & $S \notin \overrightarrow{PQ}$, $\overrightarrow{PQ} \cap \overrightarrow{RS} = \{R\}$.

5. For distinct lines ℓ_1, ℓ_2, ℓ_3; $\ell_1 \cap \ell_2 = \phi$ and $\ell_1 \cap \ell_3 = \{X\}$.

6. $\overleftrightarrow{AB} = \overleftrightarrow{CD} \neq \overleftrightarrow{CE}$.

7. X,Y and Z are collinear, ℓ is a line, X$\notin \ell$, ,Y$\in \ell$, Z$\notin \ell$.

8. P,Q,R & P,S,T are non-collinear triplets; but P,Q,S & P,R,T are collinear points.

9. $\overleftrightarrow{PQ} \subset \overleftrightarrow{AB} \neq \overleftrightarrow{PR}$.

10. A, O, B are 3 non-collinear points and $\overrightarrow{AO} \cap \overrightarrow{OB} = \{O\}$.

11. ℓ_1, ℓ_2 and ℓ_3 are three distinct lines and $\ell_1 \cap \ell_2 \cap \ell_3 = \{P\}$.

12. $A \notin \overrightarrow{PQ}$ but $B \in \overrightarrow{AQ}$.

13. X, Y and Z are non-collinear points and ℓ is a line, $X \in \ell$, $Y \in \ell$ and $Z \notin \ell$.

14. $\overline{RQ} \subset \ell_1$ and $S \in \ell_1$, S-R-Q.

15. $\overrightarrow{PQ} \cap \ell_1 \cap \ell_2 = \{P\}$; $Q \notin \ell_1$, $Q \notin \ell_2$.