Exercise 19B

Q1.

Answer :

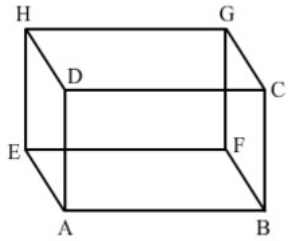
The Euler's relation for a three dimensional figure can be expressed in the following manner:

$F - E + V = 2$
Here,
F – Number of faces
E – Number of edges
V – Number of vertices

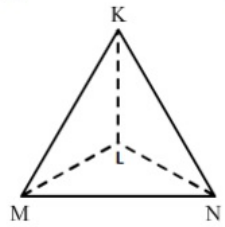
Q2.

Answer :

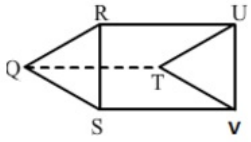
(i) A cuboid has 12 edges, namely *AD, DC, CB, BA, EA, FB, HD, DC, CG, GH, HE,* and *GF.*



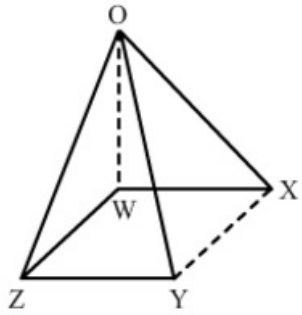
(ii) A tetrahedron has 6 edges, namely *KL, LM, MN, NL , KM* and *KN.*



(iii) A triangular prism has 9 edges, namely *QR, RS, SQ, TU, UV, VT, RU, SV* and *QT.*



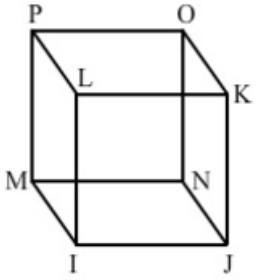
(iv) A square pyramid has 8 edges, namely *OW, OX, OY , OZ , WX, XY, YZ* and *ZW.*



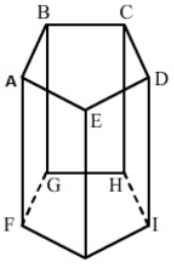
Q3.

Answer :

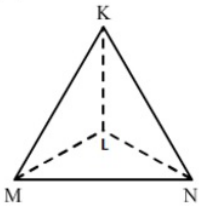
(i) A cube has 6 faces, namely *IJKL, MNOP, PLIM , OKJN, POKL* and *MNJI*.



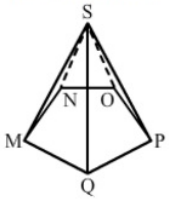
(ii) A pentagonal prism has 7 faces, i.e. 2 pentagons and 5 rectangles, namely *ABCDE, FGHIJ, ABGF, AEJF , EDIJ, DCHI* and *CBGH*.



(iii) A tetrahedron has 4 faces, namely *KLM, KLN, LMN* and *KMN*.



(iv) A pentagonal pyramid has 6 faces, i.e. 1 pentagon and 5 triangles, namely *NOPQM, SNM, SOP, SNO, SMQ* and *SQP*.



********** END **********