**FORM 2 PHYSICS MARKING SCHEME**

a)materials that can gain magnetic qualities and act as magnets

b) materials that cannot be magnetized.

2.thickness=volume/area of the patch.. Area=πrxr=3.142x14x14=615.832cm2

Volume=0.01cm3. t=0.01/615.832 correct to 2s.f

3.weight of ruler at 0cm mark=2N, d=0.22m, 2Nx0.22=0.78xw=0.56N=5.6kg.

4.making compass direction, in radio speakers,tvs,etc any correct three.

5.a)the sum of clockwise moments about a point = sum of anti-clockwise moments when the system is in equilibrium.

b)has both magnitude and direction.

6.main reading=3.1mm, thimble reading=0.26. total reading=3.36-0.15=3.21mm.

7.area of the base, position of C.O.G.

8.trippod stands, luggage buses, racing cars etc

9.F=mg. m=F/g; m=36N/1.7N/kg=21kg.

11a).because of its anomalous expansion.

11b) Sea breeze, ice berg.

12. volume= 360cm3, mass=40g. d=40/360=0.1111g/cm3x1000kg/m3=111.1kg/m3

15.0.2xF1= 0.6x100N=300N

17.soft=easily magnetized, hard=difficult to magnetise

18. maintain the C.O.G

19.mass=constant,kg, scalar. Weight=varies.N, vector

20. movement of bodies. Oiling.

21.mass is constant

22. Area of base, position of C.O G

23. Concentration of magnetic lines of force using soft iron rod and soft iron Ring.

Applications; used in electrical equipments and watches.

24i) principal focus: the point at which all rays parallel and close to the principle axis converge after reflection.

Ii) the centre of the sphere of which the mirror is part.

25.i) 1/f=1/v +1/u, 1/v=1/f -1/u, u=+30cm, f=+20cm, v=+60cm.

ii) m=v/u, m=60/30=2

26. Used in supermarkets, driving. Disadvantages: forms diminished images.