**Alternators**

1 List TWO examples of prime movers used to drive large alternators.

2 Name the TWO types of rotors that are used in alternators.

3 Name the two factors that determine the frequency of the generated emf.

4 Calculate the frequency of the e.m.f. generated in each phase of a 3 phase 4 pole turbo-alternator when it is running at:

a) 1500 rev/min.

b) 2000 rev/min.

5 Explain the basic principles of AC generation.

6 How is the output frequency of an AC generator increased?

7 A 4-pole alternator rotates at a speed of 500rpm. Calculate the frequency it will produce.

8 A 230v 50Hz alternator has 8 poles.

a) What must the speed be to maintain 50Hz?

b) If the frequency had to be changed to 75Hz what must the speed be now?

9 A 230v 50Hz alternator rotates at 1500 RPM. How many poles must this alternator have to maintain the speed and to maintain the same frequency?

Note: Question asked how many poles thus, pole pairs x 2 = **4 poles**