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Assignment	DC Machines and Transformers

Q1 a) How can a machine multiply the effect of human effort?

Ans) Machine can make human life comfortable.

For Example:

if we want to walk 10km on foot it is very difficult for us. But if we use cycle (which is machine) then we can move easily.

Q1) Part (b)

Q) Why a transformer is considered as static electrical machine while motors and generators are considered as dynamic electrical machines?

Ans) Transform is static electrical machine because flux changes in a transform in the

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rest state. it mean that
no coil move in the
transform but produce
flux in the rest. that's
why transform is
static. electrical machine.
while motor and Generator
are called dynamic electrical
machine because flux
produce in both of
them in motion form
coil rotate (move) and
fluxes produce so
motor and Generator are
Dynamics electrical
machine.

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Q2 a) How can permeability and relative permeability be differentiated from each other?

Ans) Permeability is the tendency of vacuum to allow magnetic field, and force permeate.

And.

Relative permeability is just a neat way to say that it is the permeability of some object with respect to vacuum.

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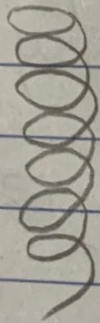
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Q) Part (b)

Q) If we have a circular wire, then explain, with the help of diagram, the direction of current and magnetic flux both of the cases.

Ans)

Diagram ::



If we use our right hand then our four fingers, shows direction of current (it is in right to left) while flux is upward.

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Q³ a) The Force produced between two poles of a magnet is inversely proportional to the square of the distance between the poles. Justify this statement with the help of a law or mathematical relation.

Ans) The force between two poles of a magnet is inversely proportional to the square of the distance between the poles.

Then the statement mathematical relation will be

$$F \propto \frac{1}{r^2}$$

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Q Part (b)

Q) When a material is placed near a magnet, it will be attracted towards this magnet. Explain the phenomena which is responsible for this attraction.

Ans) When plate is placed near magnet. The magnet attracts the pole. Actually magnet having south and north pole.

Suppose if the north poles is exposes to the plate then negative charge in plate come across toward north pole and hence attracted and vice versa.

