



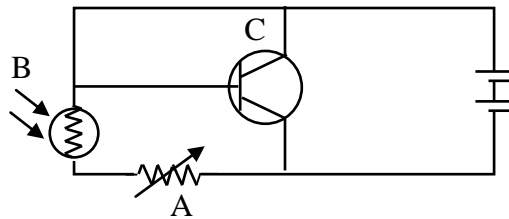
Grade 11

SCIENCE

Unit : 11

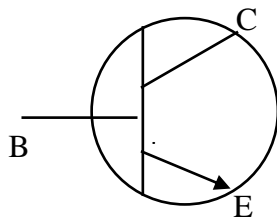
ELECTRONICS

01) A part of an electronics circuit with many devices are given below. What are the devices A, B and C respectively.



- i) A – Variable resistor, B – light dependent resistor, C - transistor
- ii) A – Variable resistor, B – light dependent resistor, C – diode
- iii) A – light dependent resistor, B – Variable resistor, C - diode
- iv) A – light depended resistor, B – Variable resistor, C - diode

02)



The diagram illustrate an essential device in electronic circuits.

- A → This is npn transistor
- B → Terminal C should be connected to the positive terminal of the electric supply
- C → It can be used as diode though terminal C is damaged.

Correct statements out of above a, b and c are,

- i) A and B 2) B and C 3) C and A 4) A, B and C

03) Information relating to three elements named A, B and C are given below.

- A → Used to make transistors and diodes.
- B → When heated burns with a blue flame.
- C → When heated burns with a bright flame.

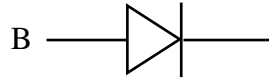
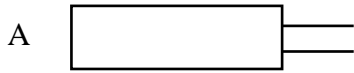
The elements A, B, C respectively are,

- i) Silicon, Sulphur, Magnesium
- ii) Boron, Sodium, Sulphur
- iii) Sodium, Boron, Magnesium
- iv) Silicon, Magnesium, Sulphur

04) Which of the following device cannot be found in a power pack.

- i) Step down transformer
- ii) Electrolytic capacitor
- iii) Transistor
- iv) Rectifier diode.

05)

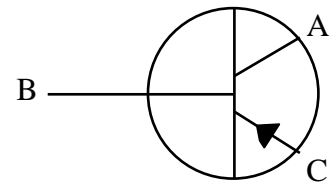


Select the correct statement about A and B.

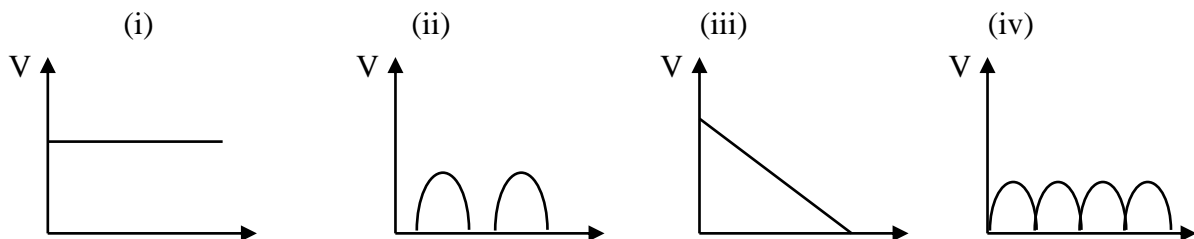
- i) A – diode, B – symbol
- ii) A – capacitor, B – Symbol
- iii) A – diode, B – symbol of a capacitor
- iv) A – capautor, B – Symbol of a diode

06) Which of the following is through about the transistor shown in the figure.

- i) A positive potential should be applied to the terminal C.
- ii) In the internal circuit, base is connected to as P – type semiconductor.
- iii) It belongs to NPN type.
- iv) A is the emitter.



07) An alternating voltage was subjected to half wave rectification. Which of the following graphs illustrate the variation of the output voltage (V).



08) Of the following statements, which is false about a silicon pnp junction transistor,

- i) If can be used to store electric charges.
- ii) It can be used to amplify signals.
- iii) If can be used to amplify current.
- iv) It can be used as a switch.

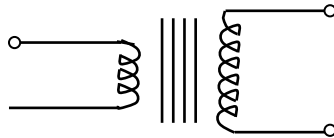
09) Which is the element can be doped with a place of pure silicon to convert it into a p – type semiconductor.

- i) Germanium
- ii) Boron
- iii) Phosphorous
- iv) Magnesium

- 10) This is not an example for an instance where we use LED s in day to day life.
- i) Use as indicators.
 - ii) Use as heat regulators
 - iii) Use in the construction of television screen.
 - iv) Use for lighting up streets.

ELECTRONICS

01)



The above diagram shows a sketch of a transformer.

- i) What type of a transformer is it? Give reasons for your answer.

- ii) Give an example for an instance where this transformer is used.

- iii) Write the relationship of the number of turns of primary and secondary coils and the voltage of the primary and secondary coil.

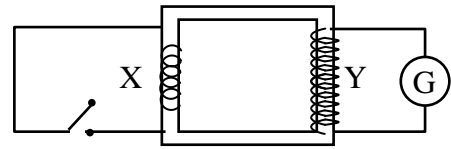
- iv) Calculate the voltage can be taken from the secondary coil when 230V current is supplied to the primary coil.

- v) Find the current flow through the secondary coil 1F 10A current is flown through the primary coil.

- vi) Write the ratio between the current flow through the primary and secondary coils.

02) A) X and Y are two coils wound around soft iron core.

i) What is the observation you can see in the galvanometer when the switch went on?



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ii) If you continuously keep the switch on what is the observation you may get in the galvanometer.

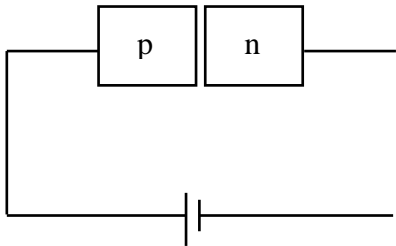
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iii) Number of turns in the X and Y coils are respectively are 20 and 500. 15V if recurring voltage is supplied to the X coil. Find the out – put voltage of Y.

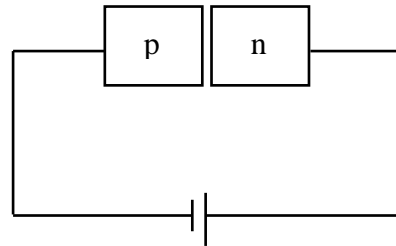
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B) i) What is a p-n junction.

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(a)



(b)

ii) Which circuit is in the condition of forward biased?

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iii) Give two uses of diodes.

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ESSAY

- 01) The transistor is considered as the appliance that showed the way for the development of modern technology.
- i) Name the two types of transistors and draw their arrangement of the semi conductors.
 - ii) Draw the symbols that denote the two types of transistors and mark their terminals.
 - iii) In the standard symbol of transistor mention at which terminals do the arrow heads are drawn.
 - iv) What does the arrow head represent in a standard symbol of a transistor.
 - v) Write down how the positive and negative terminals obtain the potential difference in the two types of transistors.
- 02) i) Write down the effect caused by the conductors and semi –conductors when conducting electricity separately.
- ii) What is the electronic appliance which is made using only one p – n junction.
 - iii) What is the task of this above mentioned appliance in a circuit.
 - iv) Draw the circuit when the above (ii) mentioned appliance, dry cell, 2.5W bulb, switch and connecting wires are given.