

Qa- Describe hepatitis - Its symptoms and types.

Answer

J-hepatitis

Hepatitis is an inflammatory condition of liver. In fact, hepatitis is a viral disease that affects liver of a person.

Sci
ca
type

a) Hep
type

Symptoms of Hepatitis

A hepatitis patient often feel muscular pain and hard joints and stiffness. Moreover, he also suffers from a very high temperature of 38°C or 100.4°F . Not only this, but also feel sick, headache, and his eyes and skin look yellowish.

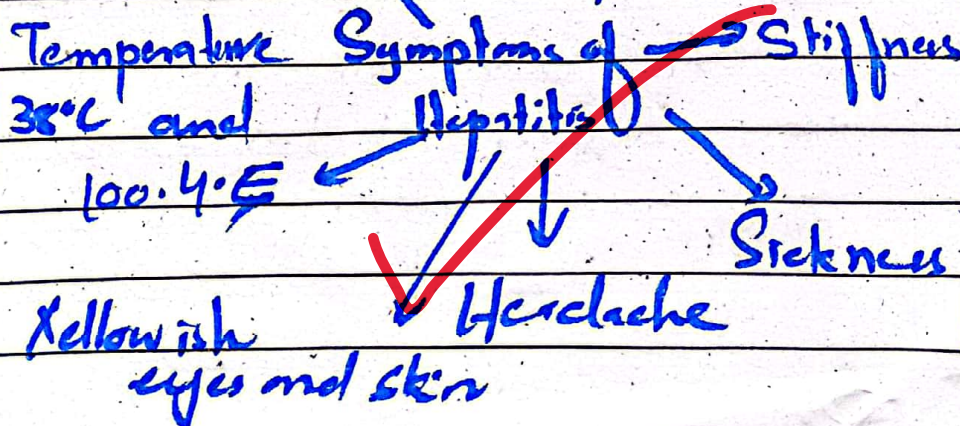
b) em
type

Pen Numb

c) EMR
em
type

Joint Pain

Muscular Pain



Types of Hepatitis

Following are types:

i) Hepatitis A

It is a viral infection caused by HAV virus. It is transmitted through food and water. However, a safe vaccine can prevent from it.

ii) Hepatitis B

It is also a viral infection. It attacks on liver and cause acute-chronic diseases. It is transmitted through fluid and blood of an infected person. However, a safe vaccine can prevent from it.

iii) Hepatitis C

A viral infection and most dangerous often is hepatitis C. A person can die even because of having no vaccine yet.

DIE?

Q b) Describe semi-conductor and its types.

Answer Semiconductor

"A semi-conductor is a material that contains properties in between conductors and insulators."

OR

"A semi-conductor is a material that have properties of both metals and non-metals"
 For Example: Silica and Germanium

Types of Semiconductors

Two types of semi-conductors are as:

Semiconductors

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graph TD
    A[Semiconductors] --> B[Intrinsic semiconductors]
    A --> C[Extrinsic semiconductors]
  
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1) Intrinsic Semiconductors

A conductor in its pure form is known as intrinsic semi-conductor.

For Example: Silicon

b) Extrinsic Semiconductor

When impurity is added in pure form it is known as ~~intrinsic~~ and semi-conductor is known as extrinsic semi-conductor

For example N-Type and p-type semiconductors

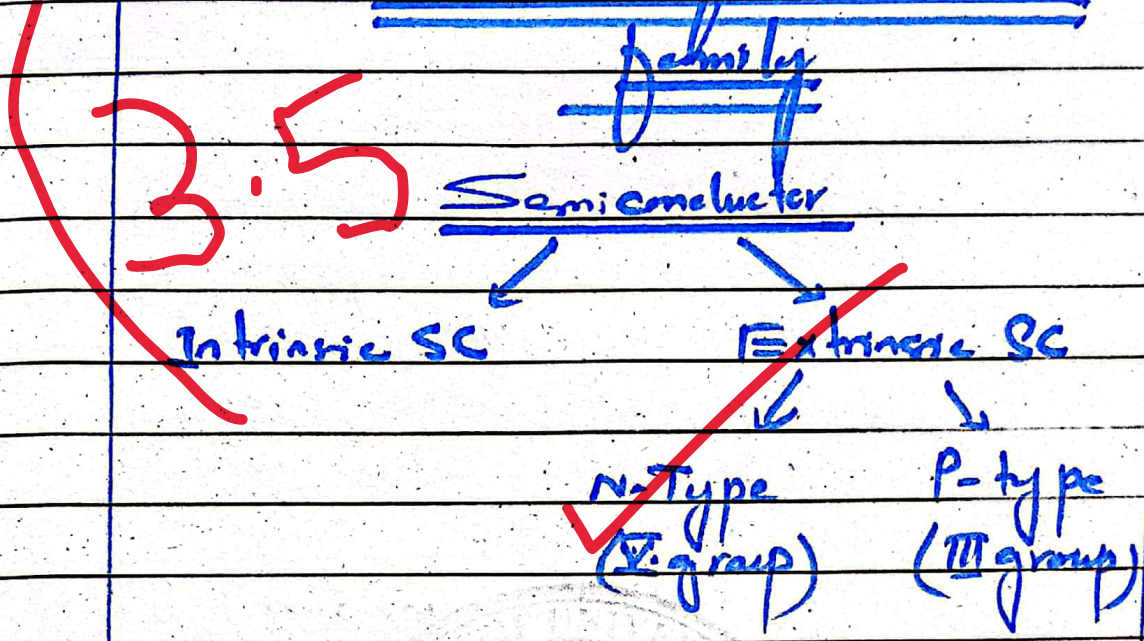
i) N-Type extrinsic semiconductor

When impurity is added from group V.
 i.e. Phosphorus and nitrogen

ii) P-Type extrinsic semiconductor

When impurity is added from group III.
 i.e. Aluminium and

Flow Chart of Semi-conductor



Q c) Describe energy and its types. Differentiate renewable and non-renewable energy sources.

Answer Energy A capacity of doing work is known as energy.

Types of Energy Mainly two types of energy are as below:

a) Kinetic Energy (K.E) Energy that produces as a result of motion is

known as kinetic energy.
Equation of K.E:

$$K = mv^2$$

i.e. 'energy produced by moving car may hit another car.'

Therefore, energy produced by motion is known as kinetic energy.

b) **Potential Energy (P.E)**

Energy that is stored in a body is known as potential energy.

i.e. i) energy produced in stored water of tank,

or
ii) energy produced by a loading heavy mass in a pulley

or
iii) a fruit (ripe) fall down

Hence, potential energy is stored.

Difference between renewable and non-renewable energy

Comparison	Renewable energy	Non-Renewable energy
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Origin	Energy produced from natural sources	Energy produced from fossil fuel.
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examples	wind, solar, hydro, and biomass	oil, gas, and coal
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nature	It can be reused.	It cannot be reused.
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Source	It is ^{low} high carbon containing source.	It is high carbon source
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Outcome	It is environmentally friendly	It is hazardous to environment.
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Qd)

Describe EMR, its energy and its types.

Answer

Electromagnetic Radiation (EMR)

A stream of photons in a vacuum travel with speed of light is known as EMR.

Energy of EMR

According to Planck's Quantum of energy

$$E = hf$$

$$E = h\nu \quad (h = \text{Planck's constant})$$

where;

speed of light

$$c = \frac{f\lambda}{\lambda}$$

$$f = \frac{hc}{\lambda}$$

$$\text{now } E = hf$$

$$\therefore \frac{hc}{\lambda}$$

Types of EMR

follows:

Types are as

a) Gamma Rays

Gamma rays are highly penetrating and energy possessing.

Use: identify cracks and used in surgery ✓

b) X-rays (Roentgen rays)

X-rays are also energy possessing but less than gamma rays.

Use: visualize internal structure

c) Ultraviolet rays

UV rays are also energetic.

Use: UV rays helps in converting sunlight into vitamin D form. ✓

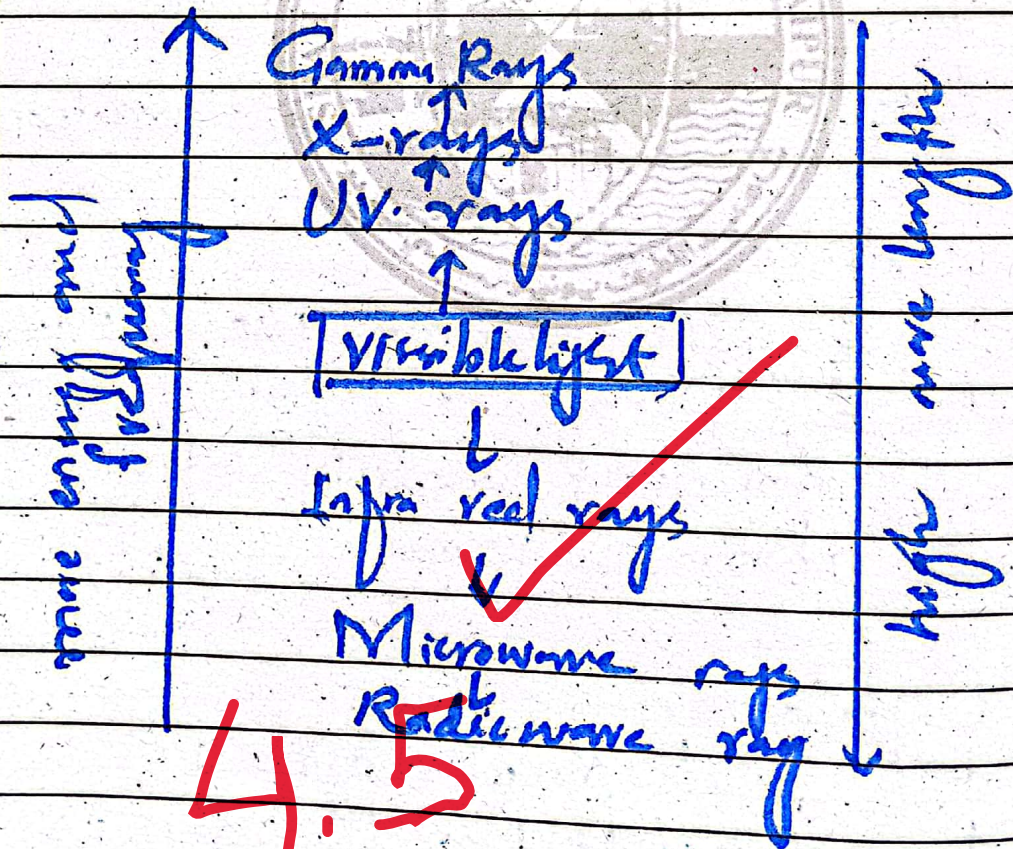
d) Infrared rays

Infrared rays are less energetic than UV rays.

Use: remote substance like TV-remote. ✓

e) Microwave Rays
 Microwave are less energetic than infra red rays.
 Use: microwave oven, air radar

f) Radiowave Rays
 Radiowave are high wavelength and least energetic.
 Use: TV remotes, satellites, radar etc.



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