

Q

What is galaxy? The earth belongs to which galaxy?

Galaxy:

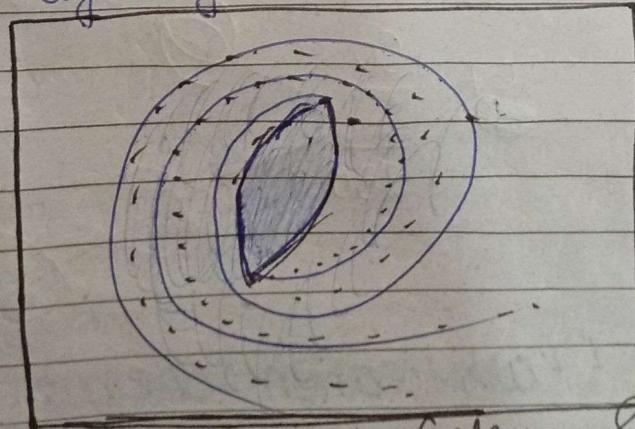
A galaxy is a gravitationally bound system consisting of a black hole, stars, stellar remnants, interstellar dust and gas (nebulae), planets, dwarf planets, smaller solar system bodies, satellites - all are contained within a galaxy.

Earth - belongs to Milky Way Galaxy:

Our earth belongs to Milky Way galaxy. Milky Way galaxy is a spiral galaxy. Its diameter is 100,000 to 180,000 light years. It contains 300-400 billion stars.

A 5 MARKS ANSWER NEEDS ATLEAST 2.5 SIDES

Milky Way galaxy contains a black hole known as Sagittarius A*. Our solar system is located in the Orion Sagittarius arm of the Milky Way galaxy. The distance between our solar system and black hole is 26,000 - 27,200 light years.



THIS ANS IS TOO SHORT FOR 5 MARKS
GIVE A MORE DETAILED ANSWER
3/5

(Milky Way Galaxy - Spiral galaxy)

Date: _____

Q

What is a galaxy? What are types of galaxy?

(a) 8

Galaxy:-

A galaxy is a gravitationally bound system consisting of a black hole, stars, stellar remnants, interstellar dust and gas (nebulae), planets, dwarf planets, small solar system bodies, ^{satellite} and contained within a galaxy."

(b) 8

Classification of Galaxy:

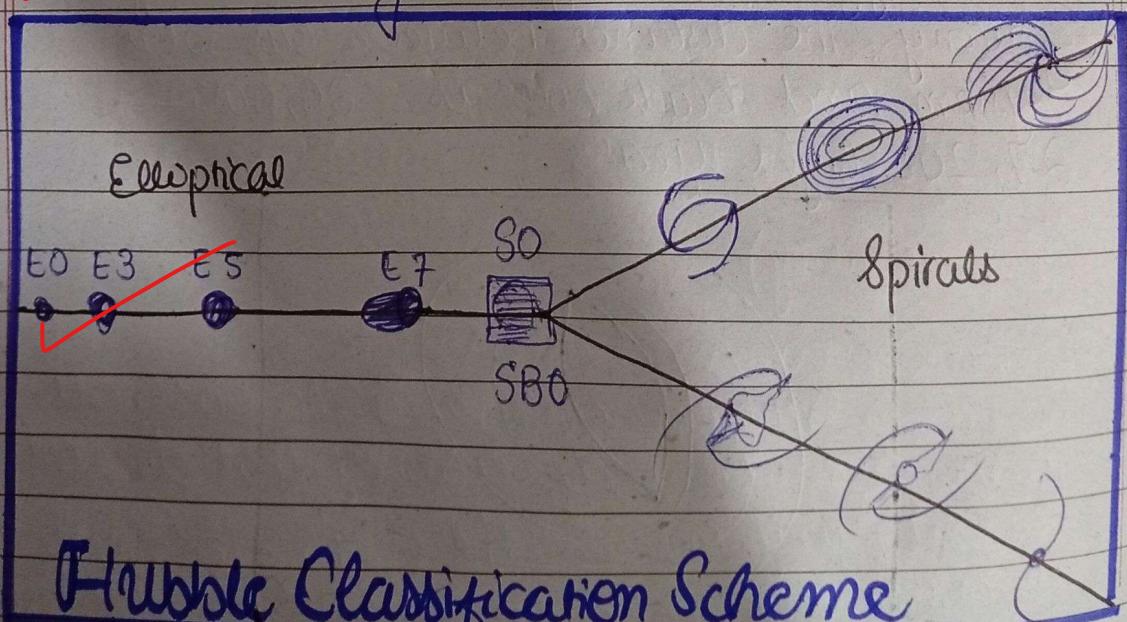
According to Hubble Classification

Scheme, galaxies have been classified as:-

- (a) Spiral galaxy
- (b) Elliptical galaxy
- (c) ~~Irregular galaxy~~
- (d) Lenticular

(c) 8

An irregular galaxy has also been added recently



Hubble Classification Scheme

Date: _____

(a) Spiral galaxy:

“Spiral galaxy is a galaxy which contains flat, fast rotating, spiral structures.”

Example:

Our galaxy Milky Way and its neighbouring galaxy Andromeda are spiral galaxies.

(b) Elliptical galaxy:

“Elliptical galaxy is a galaxy which have ellipsoidal appearance regardless of the angle.”

Example:

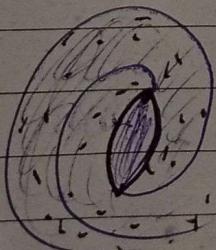
Galaxy M-49 and Galaxy M-59 are examples of elliptical galaxy

(c) Lenticular galaxy:

“Lenticular galaxy is an intermediate galaxy which has the properties of both spiral and elliptical galaxy.”

Example:

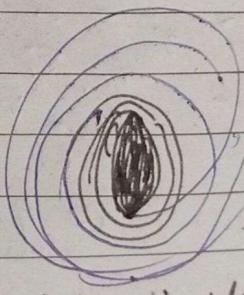
Cartwheel galaxy



(Spiral galaxy)



(elliptical galaxy)



(lenticular galaxy)

(d) Irregular galaxy:

“Irregular galaxy is the catchall name given to any galaxy that does not fit into any one of the categories of Hubble Classification Scheme.”

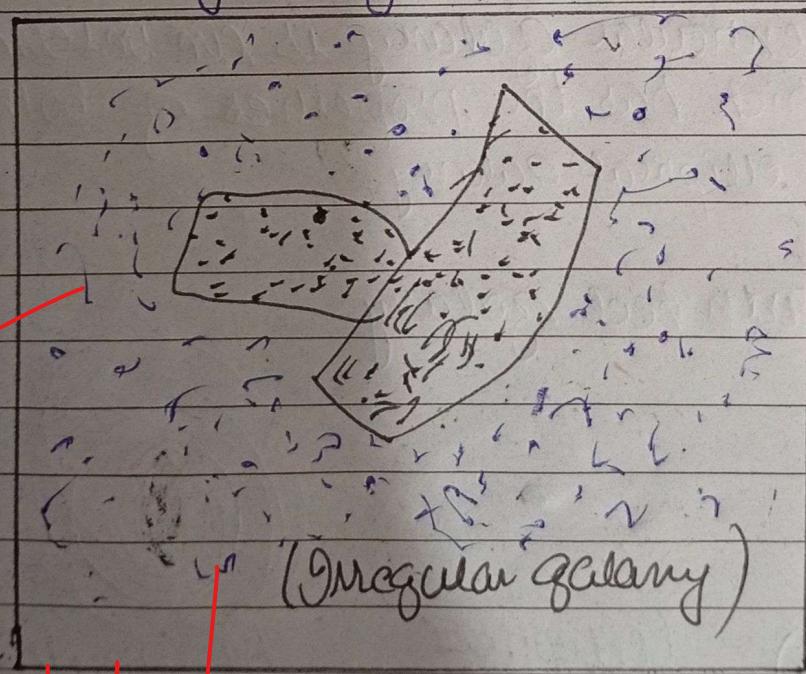
Date: _____

Irregular galaxy cannot be categorised as spiral, elliptical or lenticular as it does not have definite shape and pattern. It has no strong black hole which can produce gravity strong enough to keep it in definite pattern.

In irregular, more than one small holes are present which ^{does not} produce enough gravity. It produces gravity which does not let them disperse but not strong enough to give them definite shape.

Example:-

Small megllanic clouds and large megllanic clouds



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