

Asteroids

(ارٹاھیرٹا ہیاڈ)

Attempt and upload proper questions for evaluation..... not notes.

Definition:

Asteroids are rocky and metallic in nature (e.g. gold, platinum, palladium etc) and consists of metals like gold, platinum, palladium, clay, silicate, and many more.

Size:

In size, they may range from being as big as a dwarf planet or being as small as pebbles, and any size in between.

Theories About Origin: (How They Were formed?)

Theory No: 1 ⇒ When the Nebulae advanced to form our sun, it threw out a large amount of nebulaer debris, which was intended to make the bodies of planets, dwarf planets, satellites, etc.

plausible / palatable / appeal more ^{to} human
intelligent

(Both theories can be correct) **M T W T F S**

DATE: _____

However, some debris remain
out of the reach of gravity
and never become a
part of any planets,
dwarf planets, or satellites
body, and have been
revolving around the sun
ever since,

e.g. → Asteroid Belt

Theory No: 2 ⇒ A/c to some

scientists, initially nebular debris
became part of celestial bodies.

However in the early chaotic
solar system, the orbits
were not fix, so when
planetesimals ()
would collide with one
another. The huge collisions
of these planetesimals
would pulverize (تفتت) them
and big chunks would
break off which can be
seen in the form of
asteroids.

diff. →
planet
(chaotic system)

try writing your notes in phrases form using bullets instead of long paragraphs.....

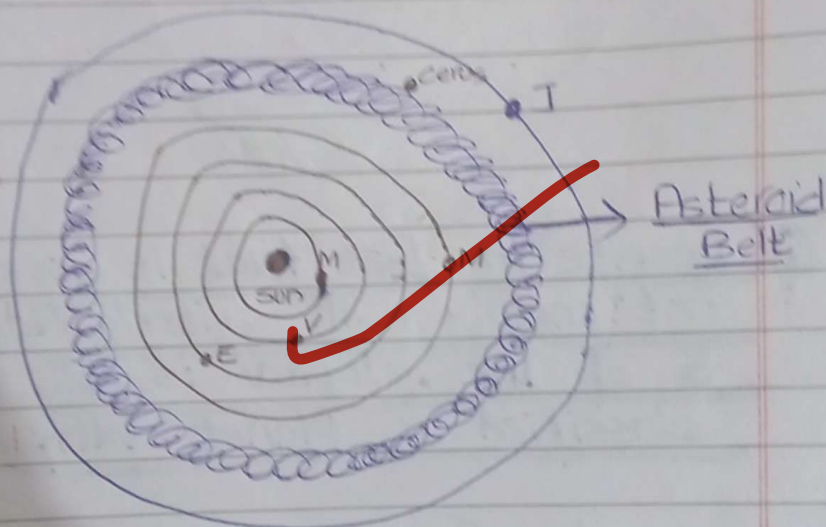
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MTWTFSS

Types & Locations:

① Asteroid Belt ⇒ Asteroids can be present in this belt, b/w Mars and Jupiter.

⇒ Containing as many as 2 million asteroids



② Trojans:

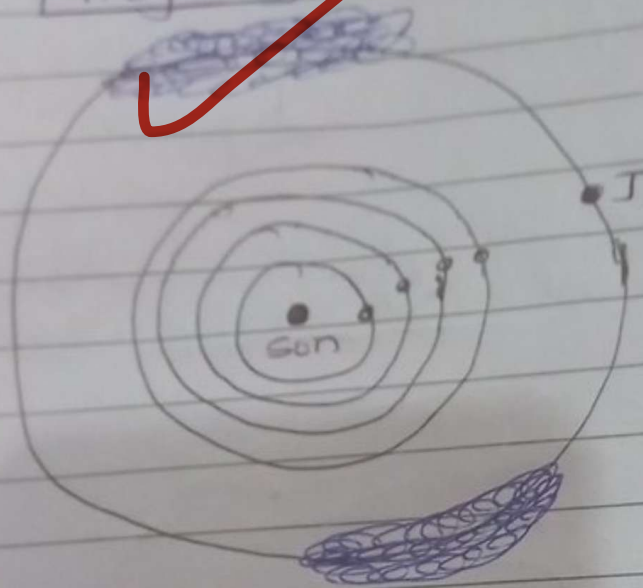
Criteria no= 3 for Planets of IAU is that, they must have cleared the neighborhood around their orbit from debris.

⇒ However, Jupiter happens to be exceptions to this.

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↳ Thousands of asteroids revolve around the sun near / on Jupitars' orbits.

↳ These asteroids are called Trojans



Q Despite the fact, that it does not comply with criteria No-3 of IAU, Jupiter is still classified as planet. Why?

⇒ b/c Jupiter is so damn big, that about 11300 planets Earths can fit it.

⇒ Might is Right

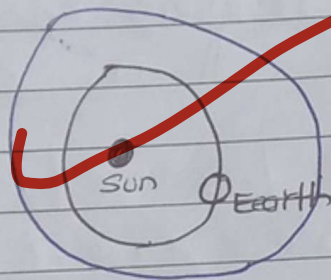
③

Some asteroids that they don't want to be a part of flock (like asteroid belt or the trojans)

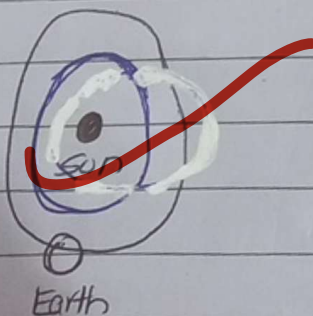
⇒ So, they set their own orbit around the sun (individual orbits)

① OEO:

If its orbit is bigger than Earth's orbit around the sun, then it is called outer earth object.

② IEO:

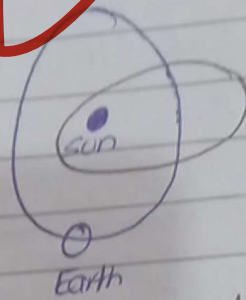
~~However~~ if its orbit around the sun is smaller than Earth's orbit ⇒ inner earth object



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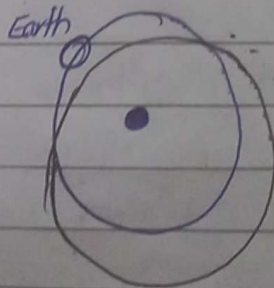
③ Earth Crossing

If ^{asteroid's} ~~earth's~~ orbit around the sun intersects ^{cut through} the earth's orbit \Rightarrow Earth crosser



\hookrightarrow It become destructive dangerous, when they are bigger than 140 meters in size, and closer than 0.05 AU, in

then it become Potentially Hazardous Object (PHO)



یہ ایک earth اس
 کہ لیب کے
 140m (140m) سے
 excersis کرے اور
 اس کے لئے اولیہ
 ہلے اس
 مدار میں
 PHO ہے
 جانے

Notable Mentions:

② → Asteroid Bennu ⇒ asteroid containing such precious metals than all of the worlds GDP.

(that's why state took interest in this)

⇒ Due to this, it started space race, that who sent space craft there, that state can claim this asteroid Bennu.

③ → PTS or Mini Moon ⇒ For the

very brief period of time, earth has two moons. for atleast two months (last year 2025 ⇒ Oct + Nov)

asteroid
earth
month
orbit
final
191

④ → Asteroid Apophis

(named after the Egyptian God for death/darkness/destruction)

⇒ It is an asteroid which pass near the earth for every 7 years

DATE: _____

⇒ It means that in April, Friday 2029, it will pass near the earth, and there is a high chance of hitting the planet earth.

⇒ However, if it missed in 2029 and not strike the earth, it will come back in 2036, with an even higher probability to strike planet Earth.

⇒ This is the real threat.

Comets:

(مذنبات - كواكب زائفة)