



PARMAR SSC FATTMANA N

GK/GS THEORY BOOK

ENGLISH MEDIUM

WHO IS THIS BOOK FOR?
FOR THE RESTLESS MINDS PREPARING FOR:

SSC CGL (TIER 1 & 2) | CHSL (TIER 1 & 2) | CPO | MTS | STENO |
SELECTION POST | JE | GD | DEFENCE | RAILWAY | PCS | STATE POLICE
& ALL OTHER ONE DAY COMPETITIVE EXAMINATION

Why 'FATMAN' Is a Must-Have?

- Updated Exam-Specific Content.
- pesigned To Build Strong Conceptual Clarity.
- Clear, Logical Structure for Easy Learning & Fast Revision.
- Powered by Concepts, Backed by Memes, Designed to Make You Smile While You Learn.

SSC GK = PARMAR SSC

BY PARMAR SIR



So Hello Everyone, umeed karta hoon aap sabhi thik honge!

In the realm of knowledge, where words are the architects of understanding, I present to you **FATMAN**—not merely a book, but a testament to the labor of love, effort, and collaboration. This work is the product of long nights, boundless discussions, and the unwavering belief of my cherished family and most profoundly, the entire fellowship of **PARMARians**, whose wisdom and support have been the true catalyst behind this creation.

Each page herein is not just ink on paper, but a story of shared struggles, dreams, and the unrelenting pursuit of excellence. For me it is not only my effort that has birthed this work but the combined energy of minds devoted to a singular cause: to make General Knowledge and General Studies

A Journey, Not a Chore. A Challenge, Not a Burden.

I offer this book to you, my fellow travelers, in the hope that it enriches your minds and strengthens your resolve.

THANKOO:)

PARMAR SIR



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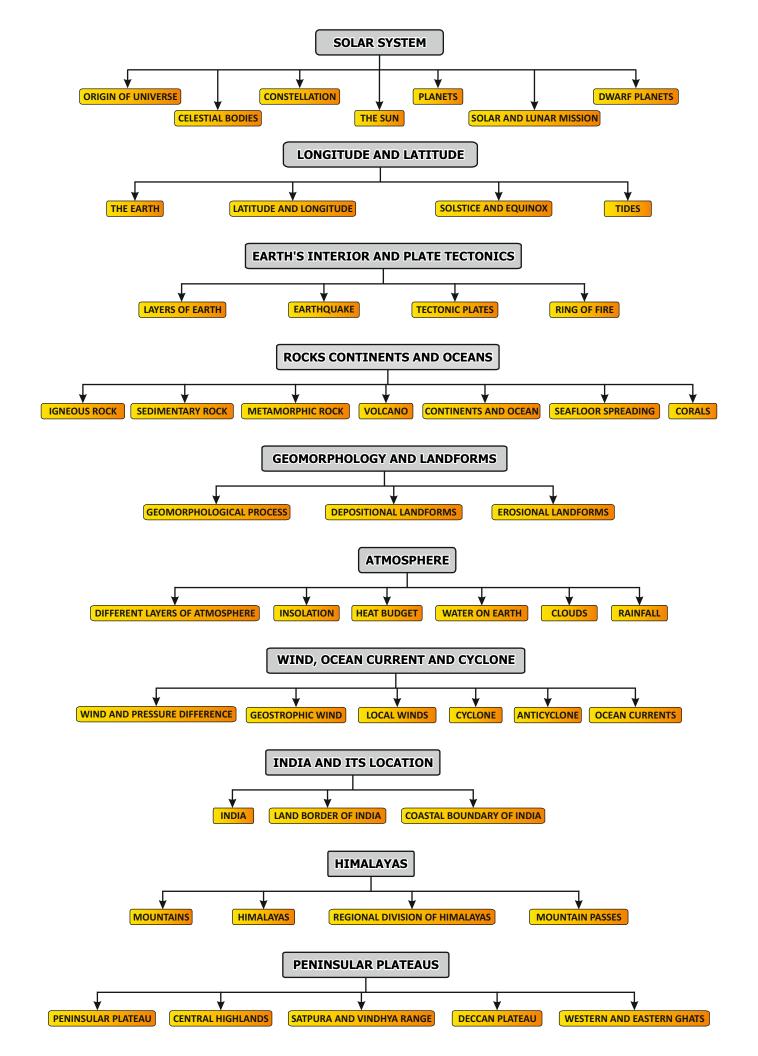
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- Study of Universe is known as: Cosmology.
 Universe Milky → Way Galaxy → Solar System → 8 planets
- Branch of science that deals with celestial bodies: Astronomy.

ORIGIN OF UNIVERSE

• Various theories have been given on how the universe came into existence.

Big Bang Theory

- Big Bang was an explosion of concentrated matter in the universe that occurred 13.8 billion years ago, leading to the formation of galaxies of stars and other heavenly bodies.
- Origin of Big Bang Theory (also known as Big Bang Explosion) was given by *George Lemaitre* in 1931.



Infinitely hot and dense single point exploded

Fig 1: Accelerated expansion of the Universe

Steady State Theory

- It was given by Fred Hoyle, Hermann Bondi, and Thomas Gold.
- This theory proposes that the *universe* is constantly expanding, but its average properties remain unchanged.

Galaxy

- A galaxy is a massive collection of stars, gas, dust, and dark matter held together by gravity.
- Our galaxy is *Milky Way Galaxy (or the Akash Ganga)* formed after the Big Bang.
- *Andromeda* is the nearest galaxy to the Milky Way.

The state of the s

Orion arm/Orion spur where our Solar System is located

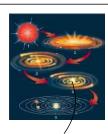
Fig 2: Milky Way galaxy

Origin of Solar System

- The formation of Solar System began 4.8 Billion years ago.
- The process started when a cloud of gas and dust collapsed, forming a spinning disk called the solar *Nebula*.
- Gravity pulled material to the center, forming
 the Sun, while the rest flattened into a spinning
 disk. Dust and gas clumped into planetesimals,
 which merged to form planets. The
 Sun formed in the center, and the planets formed
 in a thin disk orbiting around it → It is the
 most widely accepted hypothesis.

Planetesimal Theory of Origin of Solar System

• Proposed by: Thomas Chowder Chamberlin and Forest Ray Moulton in 1905



Fusion of Hydrogen nuclei

Fig 3: Solar System formation from Nebula

Nebular Hypothesis

- First proposed by *Immanuel Kant in* 1755 and independently expanded upon by *Pierre-Simon Laplace in* 1796.
- The age of Earth: 4.5 Billion years old



Fig 4: Solar System

Solar System

- Our Solar System has 8 planets and 5 Dwarf planets.
- The Sun is at the centre, the brightest and nearest star of Earth (only star of our Solar System).
- It makes up for about 99.86 % of the total mass of the Solar System.

Copernicus Theory (1543)

• It predicted that the *Sun is at the center* of the universe, with the Earth and other planets orbiting around it.

CELESTIAL BODIES

• Celestial bodies are objects in space that *glow in the night sky*, such as planets, stars, moons, asteroids, comets, and galaxies.

They are classified into:

<u>**Luminous:**</u> Those celestial bodies that emit their own light.

E.g. Stars

-<u>Non-luminous:</u> Those celestial bodies that do not emit their own light.

E.g. Moon, Comets, Asteroids, Meteorites, Meteor, Meteoroid

Comets

- Comets are *large, icy objects* that orbit the Sun. They are made of dust, rock, and frozen gases like water, carbon dioxide, ammonia, and methane.
- *Halley's Comet*: It is *seen every 76 years*. It was last seen in 1986 and is expected to return in 2061.

Asteroid

• An asteroid is a *rocky, metallic, or icy object* that orbits the Sun.

Meteoroid

• A meteoroid is a *small, rocky or metallic space rock* that orbits the sun. Meteoroids are *much smaller than asteroids*, ranging in size from dust grains to objects up to a meter wide.

Meteor

• When a meteoroid enters Earth's atmosphere (in Mesosphere), *it burns up and creates a streak of light* called a meteor (also known as Shooting Star).

• Meteor shower name Quadrantids is visible in the early month of January.

Meteorite

• If the meteoroid survives its trip through the atmosphere, it hits the ground and is called a meteorite.