Part II
Section I

Faiqa Khalid
Batch 83
Roll no. 41030

Q.NO.2

(i) Data is a new oil

Yes, I agree. Data, like oil, is a valuable and powerful resource that can fuel modern economy and drive innovation. But raw data, just like oil, isn't valuable in itself. It is valuable when it is gathered quickly and accurately, and connected to other relevant data. The value of data is only when, it is refined and used for providing insightful information to different companies.

CamScanner

Example 1: Youtube company. Whatever one sees, skips or repeat becomes one's part of profile on Youtube. Youtube takes the raw data, refined it and starts showing their/one's personalized playlist.

Example 2: In vaccine distribution, authorities use population, age and health data to prioritize who gets vaccinated.

Example 3: In weather forecasting, satellites collects images, weather station ~~co~~tracks wind speed, humidity, etc. and ocean buoys send sea temperature and storm data to accurately predict weather.

(ii) Universe is expanding. How it resembles to balloon?

The universe has been expanding since the Big Bang. Galaxies are moving farther apart from one another, and this expansion is accelerating, a phenomenon likely caused by mysterious force 'dark energy'.

Using balloon analogy to understand this expasion because they both resembles amino acids,

each other. For instance, Imagine a balloon with dots on it. Balloon is universe and dots are galaxies. When it inflates dots (galaxies) moves away from each other. But the dots (galaxies) themselves aren't moving — it is the surface of balloon (space) which is expanding.

(iii) Balanced diet:

Balanced diet is a diet that involves/contains food from the 5 food groups; fruits, vegetables, dairy, grains and proteins, in the correct amount to fulfills all of a person's nutritional needs.

Deficiency of vitamin A

Deficiency of vitamin A causes night blindness, weakened immunity, delayed growth & bone development in children, infertility and miscarriage and anemia.

Deficiency of Vitamin D

Vitamin D deficiency can lead to a loss of bone density, which can

contribute to osteoporosis and fractures. In children, it can cause Rickets.

Deficiency of Vitamin E:

It can cause nerve and muscle damage, leading to symptoms like muscle weakness, poor coordination, difficult walking, vision problems, immune system impairment, dementia and cardiac arrhythmias.

(iv) Working of GPS

GPS is a network of satellites that transmit signals to GPS receivers, allowing them to determine precise geographic location and movement.

Fiber Optic:

A technology that transmits data as pulses of light through thin strands of glass or plastic is called Fiber Optics.

How 2D and 3D locations are measured?

Satellites measure 2D and 3D locations using trialteration, a process that calculates position based on distance from multiple satellites.

Q. NO. 4

(i) Chlorophyll

It is the green pigment essential for photosynthesis in the plant kingdom, allowing plants to convert light energy into chemical energy by absorbing red and blue light and reflecting green light. It is the key molecule for energy production in most plants, algae and cyannobacteria.

(ii) Role of Ribosomes in Protein synthesis

Ribosomes act as the cell's 'factories' for protein synthesis, reading the genetic instructions from messenger RNA and using them to assemble a specific sequence of amino acids into a new protein. They achieve this binding to the mRNA, allowing transfer RNA (tRNA) molecules, which carry specific amino acids, to bind the corresponding

genetic code on the mRNA.

(iii) Different methods of Solid Waste Management

Methods of solid waste management includes landfilling, reduction, recycle and reuse.

Producing less waste in the first place to prevent it from becoming solid waste is Reduction.

using products multiple times for their original purpose or for a new one, such as repairing is reuse.

Collecting waste minerals and processing them to be manufactured into new products is recycling.