

Q:1

Q)

Introduction

Artificial intelligence (AI) is transforming diagnostic precision and streamlining patient care.

However, its implementation poses both opportunities and challenges that must be carefully addressed.

Benefits:-

1. Accurate Diagnosis:- AI improves disease detection, especially in radiology and pathology.
2. Efficient Services: It automates administrative tasks, saving time and resources.
3. Personalized Treatment: AI tailors treatment plans based on patient-specific data.

Challenges:

1. Data Privacy Risks:- Handling sensitive patient data raises concerns over security.
2. Bias and Reliability Issues:- AI may reflect biases present in training data, affecting fairness.
3. High Costs:- Implementation requires advanced infrastructure and investment.

Dos and Don'ts for the General Science & Ability Paper

Hi there — you've prepared well! Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind.

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.

2. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.

3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.

4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.

5. Mind your spelling and grammar. While CSS doesn't deduct marks for these, your expression leaves an impression.

6. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! 🌟

Impact Patient Care:-

AI enhances early detection, supports decision-making, and allows ~~remote~~ monitoring through smart devices, thus improving overall patient outcomes and reducing human error in diagnosis.

Conclusion:-

While AI offers vast potential in improving healthcare delivery and accuracy, addressing ethical, financial, and technical challenges is ~~crucial~~ crucial to ensure its responsible and equitable use.

(b) part)

Introduction

The Bigbang theory is the most widely significant accepted ~~self~~ scientific explanation for the origin of the universe. It proposes that the universe began from an extremely hot and dense point approximately 13.8 billion years ago and has been expanding ever since.

Significance:-

The theory is crucial for understanding the origin, expansion, and structure of the universe. It explains the formation of galaxies, cosmic background radiation, and the abundance of elements like hydrogen and helium.

Key evidence:-

1. Cosmic Microwave Background (CMB): Discovered in 1965, this faint radiation is a remnant of the early universe, supporting the theory's prediction of a hot origin.
2. Redshift of Galaxies:- Edwin Hubble's observation that galaxies are moving away indicates an expanding universe, consistent with the Big Bang.
3. Elemental Abundance:- The proportions of light elements like hydrogen and helium in the universe match theoretical predictions from the Big Bang.

Conclusion:-

In conclusion, The Big Bang theory remains a foundational concept in cosmology, supported by strong observational evidence. It continues to guide scientific understanding of the universe's past and future.

(Part C)

Introduction:

Global warming refers to the long-term rise in Earth average surface temperature due to highlight buildup of greenhouse gases in the atmosphere. It is a pressing environmental issues with wide-ranging consequences for ecosystems and human societies.

Causes and effect Human Role:

1. Burning of fossil fuels:- Human dependence on Coal, oil, and natural gas releases carbon dioxide (CO_2) the major greenhouse gas.
2. Deforestation: Reduces the Earth's Capacity to absorb (CO_2) and it causes of global warming.
3. Industrial Activities and Agriculture: It emits methane and nitrous oxide, powerful greenhouse gases. These activities significantly enhance the natural greenhouse effect, intensifying global warming.

Effects of Global Warming:-

1. Rising Sea levels:- The global warming increasing impact on the melting of glaciers and thermal expansion of oceans.
2. Extreme Weather Events:- Currently, the situation of weather change impacts in Pakistan that increases frequency of heatwaves, floods, and droughts.
3. Threat to Biodiversity:- It impacts on many species face extinction due to habitual changes.

Mitigation Strategies:-

Shifting to Renewable Energy Sources: Solar, wind, hydro)

Afforestation and Reforestation is essential to absorb Carbon.

Energy Efficiency Measures in industries and home are play vital role to control the global warming.

International Cooperation: It is essential to cooperation international level through the ~~UNGA~~ UN policy of Climate Change Control

Conclusion:-

In conclusion, Global warming is ~~primarily~~ primarily driven by human actions. Immediate and collective ~~mean~~ measures are essential to limit its impacts and protect the planet for the future generations.

(D)(part)

Natural disaster such as floods, earthquakes, cyclones, and drought pose serious threat to life, ~~infrastructure~~ infrastructure, and economic. A well structured Disaster Management Plan (DMP) is essential for reducing these risks and protecting communities. The ~~plan~~ ensures a coordinated and strategic approach ~~are~~ across different phases ~~and~~ preparedness, response, recovery and mitigation.

~~Key Components of a Disaster Management Plan~~
1. Risk Assessment and Hazard Mapping: Identifying
~~vulner~~

2. Prepared Measures

3. ~~F~~

A Disaster Management Plan (DMP) outlines strategies to prevent, prepare for, respond to, and recover from natural disaster. Key components includes risk assessment, early warning system, emergency response coordination, public awareness, and recovery plans.

Preparedness ensure ensures readiness through drills, education, and infrastructure. Response involves timely rescue, relief, and medical support to save lives. Recovery focuses on Rebuilding and restoring normalcy, aiming for long-term resilience.

For example, Bangladeshes Cyclone Shelters and early warning systems have significantly reduced storm relating deaths. In Pakistan, NDMA's early alerts during 2022 flood helped evacuate thousand ~~providing~~ proving the value of structured disaster management approach.

Conclusion:

Inclusion, a strong disaster management plan ensures communities are prepared, protected, and supported before during, and after disaster.

By strengthening preparedness, improving response mechanisms, and focusing on resilient recovery continues countries can significantly reduce the long-term impacts of natural calamities.

(Q:7)

(A)

$$A = 5\%$$

$$B = (2/3) \times (6\% \text{ of } A) + (8\% \text{ of } B)$$

$$\frac{5}{100} A + \frac{4}{100} = \frac{2}{3} \left(\frac{6}{100} + \frac{8}{100} \right)$$

$$5A + 4B = \frac{2}{3} (6A + 8B)$$

$$15A + 12 = 2(6A + 8B) = 12A + 16$$

$$15A + 12B = 12 + 16A \Rightarrow 3A = 4B \Rightarrow \frac{A}{B} = \frac{4}{3}$$

4:3 Ans.

(B)

$$10x + (x+2) = 11x + 2$$

$$x + (x+2) = 2x + 2$$

$$(11x+2)(2x+2) = 1044$$

$$(11x+2)(2x+2) = 22x^2$$

C) Ratio A:B:C:D = 5:2:4:3

$$C = 4x \quad D = 3x$$

$$4x - 3x = \text{Rs } 1000$$

$$2x = 2x \cdot 1000 = 2000$$

Answer:- 2000

Son's

D) Son's current age = x

$$\text{Father's age } x + x = 2x$$

$$\text{Current age} = 38$$

$$2x = 38 \quad x = 19$$

$$19 - 5 = 14$$

14 years Answer

①:3

(Part (A))

The Introduction

The human heart is one of the most important organs in body. it works like pump that keeps blood moving throughout the body. This helps in supplying ~~oxy~~ oxygen and nutrients to all parts and removing waste.

Structure and Function of Human heart

The heart is a four-chambered organ located in the chest. it has:

Two upper Chambers called atria (right and left)

Two lower Chambers called ventricles (right and left)

Main parts of the heart:

Right ~~and left~~ side of the heart: receives used blood from the body and sends it to the lungs to get oxygen.

Left side of the heart:- gets ~~oxy~~ oxygen-rich blood from the lungs and sends it to the body.

Important blood vessels:

Veins: bring ~~blood~~ blood to the heart.

Arteries: carry blood away from the heart.

Valves: in the heart keep the blood flowing in one direction and prevent it from going backward.

The Cardiac Cycle:

The Cardiac Cycle is the process of one complete heartbeat. It has two main phases.

1. Diastole (Relaxing phase)

The heart muscles relax.

Blood fills the atria and then flows into the ventricles.

2. Systole (Contracting Phase)

The heart muscles contract

Blood is pushed from the ventricles to the lungs and the rest of the body.

This cycle takes about 0.8 seconds in normal resting adults, and it keeps repeating to maintain blood flow.

How the Heart Regulates Blood Pressure

The heart controls blood pressure in several ways:

1. By controlling how fast and strongly it pumps:

- Faster or stronger beats increase blood pressure.

- Slower or weaker beats reduce blood pressure.

2. With help from the brain:

Special sensors in blood vessels send signals to the brain.

The brain then tells the heart to adjust the speed of beating.

3. Through hormones:

Hormones like adrenaline make the heart beat faster.

Other hormones help control blood volume and blood pressure.

4. With the nervous system:

The sympathetic system increases heart rate and pressure.

The parasympathetic system slows the heart and lowers pressure.

Conclusion:

The heart is the powerful organ that keeps blood flowing and supplies the body with oxygen and nutrients. Its structure and rhythm make sure blood moves correctly.

The cardiac cycle keeps the heart working.

Small Smoothly, and the heart control blood pressure to match the needs of the body.

(Part B)

Biofuels are fuels made from plants and animals waste. They are used as an alternatives to oil, gas and coal. Biofuels are cleaner and renewable, which means they do not run out easily.

What Are Biofuels and How Are they Made?

Biofuels means are made from natural things like Crops, (Corn, sugarcane); Vegetable oil, animal fat and waste.

Main types of biofuels:

1. Ethanol — Made from Sugar or Corn
2. Biodiesel — Made from oil (like soybean oil or cooking oil)
3. Biogas — Made from waste like animals dung or food leftovers.

How they are made

- Ethanol is made by fermenting sugar from plants
- Biodiesel is made by mixing oil with alcohol.
- Biogas is made when bacteria break down waste without oxygen.

Advantages of Biofuels

1. Renewable We can grow plants again and again
2. less pollution They give off less harmful gases than petrol and diesel
3. Better for the environment They are safer if spilled and break down easily.
4. Helps Farmers: Farmers can grow crops to make fuel
5. less dependence on oil Countries do not need to buy as much oil.

Disadvantage of Biofuels

1. less food: Crops used for fuel causes food shortage
2. land and water use Growing fuel crops takes up land and water.
3. Not Always Clean Making biofuels can still use energy from oil or gas.
4. Can Cause Deforestation Forests be cut down to grow fuel crops
5. less Energy: Some ~~fuels~~ biofuels do not produce as much power as petrol.

How to ~~Biofuels~~ Help Reduce Greenhouse Gases:

Plant take in CO_2 : when growing. When the fuel is burned, the CO_2 is released.

Cleaner Burning: Biofuels cause less air pollution

Use of ~~water~~ waste:- Using waste for fuels stops it from creating harmful gases like methane.

Conclusion

Biofuels are a cleaner and renewable ~~form~~ ^{form} of energy. They can reduce pollution and help the environment. But they also have some problem like using food crops and land. If wisely, biofuels can be a good way to fight climate change and reduce the use of oil and gas.