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PART-A

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)



भारत का नं. 1 संस्थान
कौटिल्य एकेडमी
सफलता का प्रवेश द्वार

| | | |
|-----------------------------|----------------------------|--|
| <input type="checkbox"/> 1. | <input type="checkbox"/> 1 | In a circular motion, centripetal force is the force which works towards the centre. This force is necessary to keep the object moving. e.g. Turning of a car in a turn. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 2 | The capacity of ability to perform a task is called energy. It is measured in <u>Joules</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 3 | Buoyant force is the upward force that is applied by the fluid on the floating object in it. e.g. the force applied by the water on the vessel floating in it. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 4 | Magnification is the process to enlarge an object apparently, but not actually. It is done by using a <u>magnifying glass</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 5 | Cell is the <u>most fundamental unit</u> of an organism. It performs all the necessary functions to keep the organism functioning. |
| | | |

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|-----------------------------|-----------------------------|--|
| <input type="checkbox"/> 1. | <input type="checkbox"/> 6 | Osmosis is the process in which a liquid passes through a <u>semipermeable</u> membrane. |
| <input type="checkbox"/> | <input type="checkbox"/> | In this the <u>solvent</u> dissolved particles are not able to cross through the membrane. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 7 | Vitamins are the <u>micronutrient</u> that are needed for human body to stay healthy & grow. e.g. Vitamin A, B, C etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 8 | A <u>balanced diet</u> is that diet in which all the nutrients are present in a <u>required</u> or <u>sufficient</u> quantity. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 9 | Halogens are <u>Group 17</u> element under <u>block d</u> in the <u>modern periodic table</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | These include Chlorine, Fluorine, Iodine etc. |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 10 | Shagun Portal is related to <u>education</u> . It was launched by Ministry of <u>Human Resource development</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> 1. | <input type="checkbox"/> 11 | High level language is that <u>programming language</u> which is written or programmed to understand easily by the user. e.g. <u>Python</u> , <u>Javascript</u> etc. |

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|----|----|--|
| 1. | 1 | Chemical properties of metals : |
| | | ① <u>Reaction with Oxygen</u> - Metals reacts with oxygen & form <u>oxides</u> . eg. $2\text{Na} + \text{O}_2 \rightarrow 2\text{NaO}$ |
| | | ② <u>Reaction with water</u> - Metals react with water & form <u>hydroxides</u> eg. $2\text{Ca} + 2\text{H}_2\text{O} \rightarrow 2\text{CaOH} + \text{H}_2$ |
| | | ③ Some metals like sodium & potassium are so highly reactive that they are kept in kerosene. |
| 2. | 2. | Atmospheric pressure can be defined as the pressure of a unit ^{volume of} column of air on a unit area. Atmospheric pressure is measured in bar. $1 \text{ bar} = 10^5 \text{ N/m}^2$ which atmospheric pressure is used is determining or predicting the weather phenomena. A sudden fall in mercury is indicator of storm. A slow fall is indicator of rainfall. and a slow rise is indicator of normal weather. Atmospheric pressure is measured with <u>Barometer</u> . |

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|--------------------------|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Viscosity</u> - The relative difference in the motion of a liquid between its different layers is called viscosity. It is symbolized by η . |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Elasticity</u> - The deformation caused by a <u>deforming</u> external <u>force</u> on an object & after removing the force the object comes back to its initial original shape. This characteristic of an object is called <u>elasticity</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>Sulfur</u> is an element in modern periodic table with the <u>atomic number 16</u> . It falls under the <u>group</u> under the <u>block d</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Sulfur is <u>highly</u> <u>reactive</u> element. It is of <u>yellow</u> colour in appearance. It is <u>crystalline</u> in nature. It is generally a by product of <u>petroleum</u> & <u>natural gas</u> . It is found in <u>Gulf of Florida</u> , <u>K-G Basin</u> , etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | It is used in manufacturing <u>fertilizers</u> , <u>pesticides</u> , <u>fungicides</u> etc. |

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| 2. | 5 | Nuclear decay is also called <u>radioactive decay</u> , <u>nuclear disintegration</u> or <u>radioactivity</u> of an atom. When an unstable atom releases its nuclei through <u>radiation</u> , this is referred as <u>nuclear decay</u> . In this process huge <u>amount of energy</u> is released. There are <u>different kinds of radioactive decay</u> such as : <u>α decay</u> , <u>β decay</u> & <u>γ decay</u> . (<u>alpha</u> , <u>Beta</u> & <u>Gamma decay</u> .) |
| | | |
| | | |
| | | |
| | | |
| | | |
| 2. | 6 | When an ^{nucleus} atom splits into two ^{nuclei} atoms of nearly equal mass, this is called as <u>nuclear fission</u> . The newly made nuclei further split & thus they start a <u>chain reaction</u> . <u>Nuclear reactors</u> are based on the chain reaction of nuclear fission. <u>U^{235}</u> is generally used as the <u>fissionable material</u> . The <u>controlled chain reaction</u> performed in nuclear reactors generate huge amount of energy, which is called as <u>nuclear power</u> , which a major source of <u>non-renewable energy</u> . |
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| | | |
|--------------------------|--------------------------|---|
| 2. | 7 | Genetic diseases are those diseases which occur due to alteration or modification in the genetic code of an organism. The DNA inside the cell contains the genes which contain the genetic information. Any alteration in the genes causes genetic disorders. These diseases can be hereditary or inherited by the parents such as haemophilia, sickle cell anaemia, or they can be caused due to mutation of genes such as cancer. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. | 8 | Computer virus is a programme designed to alter the way a computer device works. This can be inserted into a computer through a file or document. It can replicate & transfer as well. Just like the living virus it also needs a host that is computer & it can spread through the internet to the other systems. Once inserted in a device it can corrupt the computer, steal information or data theft, & it can be used for cyber crime. Such viruses are Melissa, Nimda etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |

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कौटिल्य एकेडमी
सफलता का प्रवेश द्वार

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| <input type="checkbox"/> | <input type="checkbox"/> | can not be seen with naked eyes. Such as mixture of sugar & water |
| <input type="checkbox"/> | <input type="checkbox"/> | is an example of homogeneous mixture. |
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Heterogeneous mixture</u> - In this type |
| <input type="checkbox"/> | <input type="checkbox"/> | of mixture the components of |
| <input type="checkbox"/> | <input type="checkbox"/> | the mixture can be seen & can |
| <input type="checkbox"/> | <input type="checkbox"/> | can be segregated to manually. |
| <input type="checkbox"/> | <input type="checkbox"/> | Such as <u>Crude oil</u> is a mixture |
| <input type="checkbox"/> | <input type="checkbox"/> | of different <u>hydrocarbons</u> . It can |
| <input type="checkbox"/> | <input type="checkbox"/> | be refined and different petroleum |
| <input type="checkbox"/> | <input type="checkbox"/> | products such as petrol, diesel |
| <input type="checkbox"/> | <input type="checkbox"/> | etc can be segregated from it. |
| <input type="checkbox"/> | <input type="checkbox"/> | If we see around, our daily life |
| <input type="checkbox"/> | <input type="checkbox"/> | is surrounded by the different |
| <input type="checkbox"/> | <input type="checkbox"/> | kind of mixture. In fact, at more |
| <input type="checkbox"/> | <input type="checkbox"/> | or less all the things we see |
| <input type="checkbox"/> | <input type="checkbox"/> | or consume are the mixture of |
| <input type="checkbox"/> | <input type="checkbox"/> | something. Such as the <u>air</u> we |
| <input type="checkbox"/> | <input type="checkbox"/> | breath, is mixture of different |
| <input type="checkbox"/> | <input type="checkbox"/> | gases, the food we eat, is also |
| <input type="checkbox"/> | <input type="checkbox"/> | a mixture of different food items |
| <input type="checkbox"/> | <input type="checkbox"/> | & nutrients. Mixtures are very |
| <input type="checkbox"/> | <input type="checkbox"/> | important part of human's day today |
| <input type="checkbox"/> | <input type="checkbox"/> | life. |

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| | | |
|-----------------------------|----------------------------|---|
| <input type="checkbox"/> 3. | <input type="checkbox"/> 2 | An electric cell is a device that converts the <u>chemical energy</u> into <u>electric energy</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | liquid |
| <input type="checkbox"/> | <input type="checkbox"/> | Electric cell uses a chemical that contains two rods which work as electrode. These are connected to an external electric circuit or power source. When the system is activated negatively charged ions which flow towards the positively charged rod & thus the electricity starts or the electric current is generated. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | Such electrical cell based on liquid chemicals are known as <u>voltair</u> or <u>galvanic</u> cell as well. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | In this, the positively charged <u>zinc rod</u> & negatively charged <u>copper rod</u> are placed in the <u>chemical solution</u> of diluted <u>sulphuric acid</u> (H_2SO_4) |



| | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | And thus when this is connected through a electric circuit, the electric currents start generating. |
| <input type="checkbox"/> | <input type="checkbox"/> | There are different types of electric cells. such as: |
| <input type="checkbox"/> | <input type="checkbox"/> | ① <u>Primary cell</u> - These are non-rechargeable electric cell. The chemical reaction happens inside the cell. and once discharged they can't be recharged. e.g. <u>Daniel cell</u> etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Secondary cell</u> - These are rechargeable cell. Once discharged they can be recharged & thus they are long lasting. all modern day batteries are these type of cell only. |
| <input type="checkbox"/> | <input type="checkbox"/> | The electric cell's discovery was an event in itself. It brought revolutionary changes in the modern man's life. & it continuous to be evolving. The modern <u>Lithium-ion</u> batteries are example of modern day rechargeable batteries. |

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| | | |
|-----------------------------|----------------------------|---|
| <input type="checkbox"/> 3. | <input type="checkbox"/> 3 | <p>Infectious diseases are those diseases that are caused by pathogens such as bacteria, fungi, virus, worms etc.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Some of the infectious diseases are more deadly as they can be transmitted from human to human or from animal to human.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Generally, these diseases are caused by the consumption of contaminated water or food, living in unhygienic conditions etc.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>The major infectious diseases can be described as follows :</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>① <u>Malaria</u> - It is caused by protozoa. It is characterised by high fever & fatigue. Female anophiles mosquito is its carrier.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>② <u>Dengue</u> - It is caused by virus. It is also characterised by high fever, body shivering & fatigue. <u>Aedes</u> mosquito is carrier of this.</p> |

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| | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Tuberculosis</u> - It is caused by virus. In this <u>lungs</u> are affected & constant <u>coughing</u> can be experienced. |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Tetanus</u> - It is caused by bacteria. |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>AIDS</u> - It is caused by HIV virus. It weakens the <u>immune system</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑥ <u>Whooping cough</u> - It is caused by <u>Pertussis virus</u> . Continuous cough is major symptom of it. |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑦ <u>Corona-19</u> - It is caused by <u>SARS-CoV-2</u> virus. It spreads very rapidly. It is characterized by respiratory problems, fever & fatigue. |
| <input type="checkbox"/> | <input type="checkbox"/> | Infectious diseases are very easy to catch by the human. But, by maintaining cleanliness, hygiene, & proper life- style it can be prevented to a great extent. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |

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| | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <p>③ <u>Big data analytics</u> - With the help of new age computers the big data analysis has become a simple task. This big data analytics is useful in making policy decisions, in business & marketing.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>④ <u>Mobile applications</u> - Different mobile applications with the changing needs of the society are made. These apps are proven to be very helpful in education, travel, health sector etc.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>As the man evolves, the technology evolve his needs evolve. And to fulfill those needs the technology evolves. The new computer technology is an example of it. This has made the things possible which were once unimaginable.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>The advent of <u>super-computer</u> & <u>Quantum-computer</u> has been proven to be revolutionary change in the history of mankind. And it is serving its purpose very well.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |

PART - B

प्रश्न
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मुख्य परीक्षा उत्तर पुस्तिका
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भारत का नं. 1 संरक्षक
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|--------------------------|--------------------------|----|---|---|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. | 2 | 'Mission Parivar Vikas' is launched by Ministry of Health & Family Welfare. |
| <input type="checkbox"/> | <input type="checkbox"/> | | | It is focused on family planning. It aims at bringing down the Total Fertility Rate to 2.1. |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 1. | 3 | Ladasha or Labour Room Quality Services delivery Programme is an initiative of Ministry of Health & Family Welfare to provide better health services to expecting mothers. |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 1. | 4 | RRCAT stands for Raja Ramanna Centre for Atomic Research. It is a research unit of Department of Atomic Energy. It is headquartered in Indore, Madhya Pradesh. |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | 1. | 5 | NRSC stands for National Remote Sensing Centre. It is headquartered in Bengaluru, Hyderabad. It comes under Indian Space Research Organization (ISRO). It monitors the remote sensing satellites. |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | | | |

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| | | |
|--------------------------|--------------------------|--|
| 9. | 6 | Clones are identical organisms produced from ^a single cell of ^a mother. e.g. <u>sheep Dolly</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| 1. | 7 | Ocean thermal energy or Ocean thermal energy conversion is energy produced through the ^{temperature} difference between the different layers of ocean water. The turbine is moved using ^{such} the steam & energy is generated. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| 1. | 8 | Earth overshoot day is the day when the human demands ^{of} surpasses the ecological resources surpass the resource generation capacity of the earth for a given year. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| | | $\text{Earth overshoot day} = \frac{\text{Earth's capacity}}{\text{Ecological footprint}}$ |
| 1. | 9 | Erosion of rocks done by the stream channel is known as stream channel erosion. This is of two types :- ① Vertical erosion - valleys are formed ② Lateral erosion - widening of flood plains. |
| <input type="checkbox"/> | <input type="checkbox"/> | |

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| | | |
|-----------------------------|-----------------------------|---|
| <input type="checkbox"/> 10 | <input type="checkbox"/> 10 | The carbon stored in coastal ecosystem & ocean is known as blue carbon. e.g. Carbon stored in mangroves, marshes etc |
| <input type="checkbox"/> 11 | <input type="checkbox"/> 11 | Use of organisms such as <u>bacteria</u> & <u>fungi</u> to degrade the pollutants is called <u>bioremediation</u> . It is used in removing <u>oil</u> from ocean during <u>oil spill situation</u> . |
| <input type="checkbox"/> 12 | <input type="checkbox"/> 12 | The <u>specific</u> or <u>unique function</u> or <u>position</u> of species in the ecosystem is called is ecological niche. |
| <input type="checkbox"/> 13 | <input type="checkbox"/> 13 | Denudation can be referred as to <u>strip</u> off or to <u>uncover</u> . Erosion & weathering are example of denudation. In this the layers of rocks are uncovered by the different agents such as water, wind etc. |
| <input type="checkbox"/> 14 | <input type="checkbox"/> 14 | The water stored between the rocks below the earth surface is known as groundwater. It is stored in a <u>reservoir</u> called <u>aquifers</u> . |

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| | | |
|--------------------------|--------------------------|---|
| 2. | 6 | India always has been a country where environment protection has cultural significance. This can be seen through various practices we follow: |
| <input type="checkbox"/> | <input type="checkbox"/> | ① <u>Natural forces</u> such as <u>fire & water</u> are have been <u>worshipped</u> as <u>gods</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Trees</u> such as <u>peepal, neem, talsi</u> are considered <u>sacred</u> & <u>preserved</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Sacred graves</u> are <u>worshipped</u> & <u>protected</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Animals</u> such as <u>snakes</u> are <u>worshipped</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>Nature</u> itself called <u>mother</u> , hence <u>respected</u> & <u>protected</u> . |
| 2. | 7. | Chandrasekhar Venkat Raman was an Indian Physicist & scientist. |
| <input type="checkbox"/> | <input type="checkbox"/> | He was born in Tamil Nadu. |
| <input type="checkbox"/> | <input type="checkbox"/> | He is known for his <u>light scattering experiment</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | It was later popularised as <u>Raman Effect</u> . |
| <input type="checkbox"/> | <input type="checkbox"/> | He got <u>Nobel prize</u> for this also. |
| <input type="checkbox"/> | <input type="checkbox"/> | He is remembered as <u>revered scientist</u> who contributed his whole life to science. |

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)



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| | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Surakshit Matritva Yojna</u> — under this pregnant women & lactating women ^{mothers} are taken care of. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Janani Suraksha Yojna</u> — under this institutional delivery is promoted. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Integrated Child & Women Development</u> — under this anganwadi food services are provided. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>SABIA scheme</u> — under this adolescent girls are targeted. Their nutrition need is taken care of through anganwadis. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | Government is making continuous efforts to bring the family health conditions at par with other nations. By |
| <input type="checkbox"/> | <input type="checkbox"/> | implementing the above schemes more |
| <input type="checkbox"/> | <input type="checkbox"/> | vigourously the manpower or the |
| <input type="checkbox"/> | <input type="checkbox"/> | human resources can be converted |
| <input type="checkbox"/> | <input type="checkbox"/> | into <u>human capital</u> & could |
| <input type="checkbox"/> | <input type="checkbox"/> | contribute more efficiently in |
| <input type="checkbox"/> | <input type="checkbox"/> | the development of the nation. |

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| | | |
|-----------------------------|----------------------------|---|
| <input type="checkbox"/> 3. | <input type="checkbox"/> 2 | <p><u>Geostationary satellite</u>, are those satellite which are placed in the <u>Geostationary orbit</u> of the earth.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Geostationary orbit is that orbit of the earth which is at the height of about 36,000 km.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>This is also called as <u>geo-synchronous orbit</u> as it is in sync with the equatorial plane of the earth. The satellite placed in it <u>appears to be stationary</u> as the rot rotation of the satellite is in sync with the rotation of the earth. hence, They appear as if they are stationary in one place, hence, are called <u>geostationary satellite</u>.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Indian satellite as <u>INSAT</u> by ISRO is such an example.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Geostationary satellites are usually placed to monitor & predict</p> |

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| | | |
|-------------------------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | With the growing prices of conventional energy sources such as fossil fuels, |
| <input type="checkbox"/> | <input type="checkbox"/> | the need to develop the non-conventional energy sources has been risen in recent |
| <input type="checkbox"/> | <input type="checkbox"/> | past. |
| <input type="checkbox"/> | <input type="checkbox"/> | Moreover India has been at the forefront of developing and harnessing |
| <input type="checkbox"/> | <input type="checkbox"/> | non-conventional or renewable energy sources. There are various |
| <input type="checkbox"/> | <input type="checkbox"/> | sources that India has been utilizing. They are: |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ① <u>Solar Energy</u> - India being a tropical country has immense potential utilize its solar power. India is at forefront of harnessing the solar power as alternative. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Wind Power</u> - India at Tarifaadu has the Asia's largest wind farm. India produces both onshore & offshore wind energy using the wind mills farm. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |

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मुख्य परीक्षा उत्तर पुस्तिका
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| | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Tidal wave energy</u> - Using the tidal waves turbines are moved & energy is produced. <u>Gulf of Kambhat</u> is leading in this. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Biomass energy</u> - Biomass energy such as <u>gobar gas</u> is one of such source which is highly used in remote area to cook food & for other activities. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>Geothermal energy</u> - Energy that is produced using the heat trapped by earth in hot springs, geysers, rocks above magma etc. <u>Manikaran plant of Himachal Pradesh</u> is one such example where hot springs are used to produce energy. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | Non-conventional energy are the new norm now. India intends to produce <u>175GW</u> of renewable energy by 2022 under its Internationally determined contribution. which can be achieved if more focus can be given. |
| <input type="checkbox"/> | <input type="checkbox"/> | |

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| | | |
|-----------------------------|----------------------------|--|
| <input type="checkbox"/> 3. | <input type="checkbox"/> 4 | India is one of the leading countries in the world which has taken various steps at different levels towards environmental protection. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | The major steps can be described as follows: |
| <input type="checkbox"/> | <input type="checkbox"/> | ① <u>Legal steps</u> |
| <input type="checkbox"/> | <input type="checkbox"/> | ① <u>Environment Protection Act, 1986</u> - |
| <input type="checkbox"/> | <input type="checkbox"/> | It was enacted to formulate policy guidelines to deal with all the issues regarding environment protection. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ② <u>Air (Pollution & Protection) Act, 1981</u> - |
| <input type="checkbox"/> | <input type="checkbox"/> | to deal with air pollution. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Water (Pollution & Protection) Act, 1974</u> - |
| <input type="checkbox"/> | <input type="checkbox"/> | to check on the water pollution. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Wildlife Protection Act, 1972</u> - To |
| <input type="checkbox"/> | <input type="checkbox"/> | conserve the natural environment & habitat of the wildlife. |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>International treaties</u> - |
| <input type="checkbox"/> | <input type="checkbox"/> | India has signed multiple treaties & convention regarding environment |



| | | |
|--------------------------|--------------------------|--|
| 3- | 5 | <p>Soils are formed due to denudation of rocks. The parent material of soil that is rock plays a vital role to determine the characteristic of any soil.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>There are various kinds of soil are found in India. These can be classified as:</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>① <u>Alluvial soil</u> - These are found in the terai belt of lower Himalayas.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>Spreading across, Uttar Pradesh, Bihar, West Bengal along the</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>gangetic belt. This soil is very</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>fertile & support crops such as paddy, wheat, sugarcane etc.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>② <u>Black soil</u> - It is also called regur soil. This soil is <u>basaltic</u></p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>in origin. This is confined in the Peninsular plateau & Kothriwar</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>plateau of Gujrat. It is known for its <u>cotton</u> cultivation. It is highly</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <p><u>water retentive</u> & <u>acidic</u> in nature.</p> |

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| | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | ③ <u>Red & Yellow soil</u> - It is found in Central India, Eastern part of MP, Chattisgarh etc. Major crops are paddy, wheat, pulses etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | ④ <u>Laterite soil</u> - This is found in the areas of heavy rainfall. Western Ghats & North-east have this soil. This soil supports tea & coffee cultivation & cashew nuts |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑤ <u>Desert soil</u> - Low rainfall areas such as <u>Ra Western Rajasthan</u> has such soil. |
| <input type="checkbox"/> | <input type="checkbox"/> | ⑥ <u>Mountain-forest soil</u> - It is found in Himalayan region. |
| <input type="checkbox"/> | <input type="checkbox"/> | <p>A hand-drawn map of India with various soil types indicated by different patterns and colors. Labels with arrows point to specific regions: 'Mountain-forest soil' in the Himalayas, 'Desert soil' in Rajasthan, 'Alluvial soil' in the Indo-Gangetic plains, 'Black soil' in the Deccan trap region, 'Red yellow soil' in the eastern and southern parts, and 'Laterite soil' in the Western Ghats and Northeast India.</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |
| <input type="checkbox"/> | <input type="checkbox"/> | |

Fig:- Soil distribution in India