

DETAILS EXPLANATIONS**Paper Code: RPSCEE15 | RPSCCE15 | RPSCME15****[PART : A]**

1. Society is a group of people who lives within some type of boundary territory and who share a common way of life.
2. GNP is an estimated value of the total worth of production and Services, by citizens of a country, on its land or on foreign land. Calculated over the course on one year.
3. Child labour is often defined as work that deprives children of their childhood, their potential and their dignity and that is harmful to physical and mental development.
4. The Govt. of India formed various committees for poverty estimation in India in the past :
 - Alagh committee → (1977)
 - Lakdawala → (1989)
 - Tendulkar → (2005)
 - Rangarajan → (2012)
5. Urbanization means permanent settlement of people in cities. More and More people are moving to cities from villages in search of Job. The rural-urban migration is also partly due to population growth, search of Jobs, opportunities, better facilities and poverty in the villages.
6. The purpose of Quality assurance, by ensuring a level of Quality in its products or services, the business is able to build a positive reputation and consistency.
7. 6 sigma means 99.99997% perfect, only 3.4 defects in a million.
8.
 - Transaction costs are high.
 - Not suitable for smaller projects.
9. Indian Institute of Information technology (IIT's) are a group of institutes of higher education in India focused on information technology. Five of them are established, funded and managed by the ministry of Human Resource development. The rest are setup on the PPP model.
10. Dedicated Fright Corridor (DFC) is a railway route, which is dedicated to fright traffic movement only. DFC has many freight loading terminals and no passenger railway stations/terminals. Only freight train run over DFC, stopping at designated fright loading/unloading terminals. No passenger train is supposed to run on the DFC.

11.
 - Ujjawala Yojana.
 - Animal Energy programme.
12. Soil conservation is the prevention of soil loss from erosion or reduced fertility caused by over usage, acidification, salinization or other chemical soil contamination.
13. Water harvesting means capturing rain where it falls or capturing the runoff from catchment and streams etc. and taking measures to keep that water clean by not allowing polluting activities to take place in the catchment.
14. International Renewable Energy Agency.
15. Biofuels are liquid fuels that have been derived from agricultural crops including conventional food plants and special energy crops. It may also be derived from forestry, agricultural or fishery products or municipal wastes, as well as from agro-industry, food industry and food service by products and wastes.
16. Biosphere is the part of the earth's crust, hydrosphere and atmosphere that supports life. It is formed through the interaction of atmosphere, lithosphere and hydrosphere.
17. Biodiversity hotspot in India :
 - Eastern Himalaya
 - Western Ghat
 - Indo-Burma Region.
18. **Objectives of NGT :**
 - To provide effective disposal of cases relating to environment protection.
 - Giving relief and compensation for damages to persons and property.
 - Other related matters.
19. Project is a unique process, consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objectives conforming to specific requirements, including constraints of time, cost and resources.
20. Profit to volume ratio is known as profit volume ratio, expresses relationship between contribution the value of the sales.

$$\text{Mathematically profit volume ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100.$$

[PART : B]

21. It is the practice of forestry on lands outside the conventional forest area for the benefit of rural and urban communities. It provides fuel wood to divert cowdung from village hearths to village fields, small timber for rural housing and agricultural implements, fodder for the cattle of the rural population living pass away from the forest areas, protect agriculture by the creation of diverse ecosystem and arresting wind and water erosion and creation of recreational forests for the benefits of the rural as well as urban population.
22. **Compressed Natural Gas (CNG) :**
Gaseous fossil fuel consisting primarily of Methane. It is a lead free, non toxic, least polluting and ensures substantial reduction in exhaust polluting and ensures substantial reduction in exhaust pollution and harmful toxins. It also cuts engine noise substantially. In Delhi CNG run buses, automobiles and auto rickshaws can be seen.
23. Major factors responsible for social development :
- Increase in real per capita income that is national income divided by population.
 - The extent to which national income has increased and what is the growth rate of this income.
 - What is the extent of urbanisation, literacy and education rate.
 - To what extent application of science and technology is made and what is the magnitude of research in the various field.
 - There should be multi-dimensional development and people should have scientific temperament and cultural attitude.
24. Afforestation is a process of converting or transforming an area into forests. It has great significance as it counteracts the deforestation and minimise desertification, which has resulted due to deforestation. It further provide plant life which is most needed today to provide oxygen to humans and minimize the effect of air pollution on planet earth. It has great significance in human life and must be encouraged.
25. **Technology Transfer to Rural Sectors :**
- Transfer must involve low capital cost.
 - User local materials in the area must be emphasized.
 - Job opportunities to local people.
 - Technology of rural areas craftman ship must be encouraged.
 - Local energy sources should be enhanced and used.

26. • NEERI : National Environmental Engineering Research Institute, Nagpur.
- WTO : World Trade Organization.
 - FICCI : Federation of India Chamber of Commerce and Industry.
 - OPEC : Organization of Petroleum Exporting countries.
 - ICAR : India Council of Agricultural Research.
27. ***Main causes for income inequality :***
- Govt. regulations.
 - Lack of opportunity to all.
 - Family problems and other social problems.
 - Land disputes.
 - Lack of education and caste system.
 - Unfair practices by political system.
 - Traditional business methods.
28. Disaster management is a collective term encompassing all aspects of planning for and responding to emergencies and disasters including both pre and post event activities. It refers to the management of resources and responsibilities for dealing with all humanitarian aspects of emergencies in order to lessen the impact of disasters. In essence, disaster management is more than just response and relief, it is a systematic process aimed at reducing the negative impact and consequences of adverse events.
29. ***Advantages of Break even analysis are as follows :***
- It is very helpful for forecasting results.
 - An important tool for decision making in order to accomplish desired objectives.
 - The effect of change in unit sales price and cost of production on profit can be determined.
 - Provide more realistic basic policy making.
 - The situation of dividend payment to start can be determined with the help of B.E.A.
 - B.E.A. can help in giving indications about unit selling price in view of some predetermined policy.
30. Radioactive waste is a byproduct from nuclear reactors, fuel processing plants, hospitals and research facilities. Radioactive waste is also generated while decommissioning and dismantling nuclear reactors and other nuclear facilities.

There are six general categories of Radiocative waste :

- Exempt waste and very low level radioactive waste.
- High level radioactive waste.
- Low level radioactive waste.
- Uranium mill waste.
- Transuranic radioactive waste.
- Naturally occurring radioactive waste.

31. Globalisation can be made fairer in the following ways :
- Policies should be made in such a way that they protect the interests of not only the rich and prosperous producers but also the workers.
 - The government can negotiate with WTO for fairer rules and co-aling with developing countries to stand against the domination of developed countries.
 - Equal space should be provided to both developed and developing economics to explore the market and compete.
32. The central RTI act extends to the whole of India except the state Jammu and Kashmir. All bodies, which are constituted under the constitution or under any law of govt, or all bodies including NGO's which are owned, controlled or substantially financed by the government are covered.

[PART : C]

33. *Discuss the monitorable targets of 12th Five year plan.*

The Twelfth Plan commenced at a time when the global economy was going through a second financial crisis, precipitated by the sovereign debt problems of the Eurozone which erupted in the last year of the Eleventh Plan. The crisis affected all countries including India. Our growth slowed down to 6.2 percent in 2011-12 and the deceleration continued into the first year of the Twelfth Plan, when the economy is estimated to have grown by only 5 percent. The Twelfth Plan therefore emphasizes that our first priority must be to bring the economy back to rapid growth while ensuring that the growth is both inclusive and sustainable. The broad vision and aspirations which the Twelfth Plan seeks to fulfil are reflected in the *Subtitle: 'Faster, Sustainable, and More Inclusive Growth'*. Inclusiveness is to be achieved through poverty reduction, promoting group equality and regional balance, reducing inequality, empowering people etc. whereas sustainability includes ensuring environmental sustainability, development of human capital through improved health, education, skill development, nutrition, information technology etc. and development of institutional capabilities, infrastructure like power telecommunication, roads, transport etc.

Monitorable Targets of the Plan :

Twenty Five core indicators listed below reflect the vision of rapid, sustainable & more Inclusive growth of the twelfth Plan :

(i) Economic Growth :

- Real GDP Growth Rate of 8.0 per cent.
- Agriculture Growth Rate of 4.0 per cent.
- Manufacturing Growth Rate of 10.0 per cent.
- Every State must have an average growth rate in the Twelfth Plan preferably higher than that achieved in the Eleventh Plan.

(ii) Poverty and Employment:

- Head-count ratio of consumption poverty to be reduced by 10 percentage points over the preceding estimates by the end of Twelfth FYP.
- Generate 50 million new work opportunities in the non-farm sector and provide skill certification to equivalent numbers during the Twelfth FYP.

(iii) Education :

- Mean Years of Schooling to increase to seven years by the end of Twelfth FYP.
- Enhance access to higher education by creating two million additional seats for each cohort aligned to the skill needs of the economy.
- Eliminate gender and social gap in school enrolment (that is, between girls and boys, and between SCs, STs, Muslims and the rest of the population) by the end of Twelfth FYP.

(iv) Health :

- Reduce Infant mortality rate (IMR) to 25 and Mother mortality rate (MMR) to 1 per 1,000 live births, and improve Child Sex Ratio (0–6 years) to 950 by the end of the Twelfth FYP.
- Reduce Total Fertility Rate to 2.1 by the end of Twelfth FYP.
- Reduce under-nutrition among children aged 0–3 years to half of the NFHS-3 levels by the end of Twelfth FYP.

(v) Infrastructure, Including Rural Infrastructure :

- Increase investment in infrastructure as a percentage of GDP to 9 percent by the end of Twelfth FYP.
- Increase the Gross Irrigated Area from 90 million hectare to 103 million hectare by the end of Twelfth FYP.
- Provide electricity to all villages and reduce AT&C losses to 20 per cent by the end of Twelfth FYP.
- Connect all villages with all-weather roads by the end of Twelfth FYP.

- Upgrade national and state highways to the minimum two-lane standard by the end of Twelfth FYP.
- Complete Eastern and Western Dedicated Freight Corridors by the end of Twelfth FYP.
- Increase rural tele-density to 70 per cent by the end of Twelfth FYP.
- Ensure 50 % of rural population has access to 40 lpcd piped drinking water supply, and 50 % gram Panchayats achieve Nirmal Gram Status by the end of Twelfth FYP.

(vi) Environment and Sustainability

- Increase green cover (as measured by satellite imagery) by 1 million hectare every year during the Twelfth FYP.
- Add 30,000 MW of renewable energy capacity in the Twelfth Plan
- Reduce emission intensity of GDP in line with the target of 20 per cent to 25 percent reduction over 2005 levels by 2020.

(vii) Service Delivery

- Provide access to banking services to 90 percent Indian households by the end of Twelfth FYP.
- Major subsidies and welfare related beneficiary payments to be shifted to a direct cash transfer by the end of the Twelfth Plan, using the Adhar platform with linked bank accounts.

34. Poverty Gap :

According to the World Bank, poverty gap is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. Poverty gap measures the intensity of poverty. It shows the extent to which individuals on average fall below the poverty line. The concept of poverty gap was developed by the World Bank and is extensively used to measure the incidence of poverty in different countries, As per the World Bank, India's poverty gap was 4.8 per cent in 2011.

Causes of Poverty

• ***Underdevelopment of the Indian Economy :***

The root cause of poverty is the under development of the Indian economy. The under development is manifested by the relative backwardness of agriculture and industrial sector. Widespread infrastructural bottle necks are result of slow pace of development. Nearly 20% of the population is still living below the poverty line. Rapid growth of population, particularly among the poor, is responsible for the problem of poverty in the country.

- ***High Level of Unemployment :***

Poverty is caused by unemployment or unemployment coupled with a low rates of wages. More than six decades economic planning has failed to generate adequate employment opportunities in the industrial and service sector. Large unemployment has resulted in low levels of income and a large share of population lies below the minimum subsistence levels.

- ***Inequalities of Income :***

An important cause of poverty in India is the existence of large inequalities in distribution of national income and concentration of economic power (both in rural and urban sectors of the economics). Efforts to reduce inequalities have been ineffective. The benefits of growth have been appropriated by the rich section and have not reached the poorest of the poor. So the rich become richer as their income rise and assets expanded.

- ***Political Factors :***

Before Independence, India was exploited under the British rule. After Independence other political factors have adversely affected economic progress. Economic policies are formulated to promote the interest of the richer section of the society & poor people are suffers in the process.

- ***Inflation:***

The steep and continuous rise in price, particularly of essential commodities has added to the miseries of the poor.

- ***High Illiteracy Rate :***

Lower education result in lower income as there is a positive correlation between the two.

- ***Underutilization of Resource:***

Due to the unexploitation natural resources of the country, poverty spreads throughout the country. Labour and land productivity continue to be low in India. Consequently, most of the farmers live in a state of poverty.

35. **CHALLENGES IN SOLAR POWER :**

The solar energy is the least efficient but easily accessible of all the renewable energies. Here are some challenges faced by solar energy:

- ***Initial High Capital Cost :*** Solar parks are capital intensive to setup.
- ***Lack of Cheap Financing :*** Innovative financial solutions required. e.g. Indian government launched green bonds to finance renewable energy projects.

- **Require Large Area** : Lack of adequate land is problem. Solution: rooftop solar energy, offshore solar energy plants, vertical solar plants.
- **Intermittent Nature of Electricity** : Works in daytime and varies with solar insolation.
- **Grid Stability** : When solar energy becomes significant proportion of total electricity mix then grid stability is a concern because of its intermittent nature. Investments in new technological solutions to maintain grid stability required.
- **Lack of Trained Manpower** : Shortage of skilled manpower in R & D, manufacturing, construction and maintenance sector of solar energy.

INDIA'S SOLAR ENERGY CHALLENGES & ASSOCIATED ISSUES

- About 70% of India's electricity generation capacity is from fossil fuels. India is largely dependent on fossil fuel imports to meet its energy demands.
 - By 2030, India's dependence on energy imports is expected to exceed 53% of the country's total energy consumption. Greater import dependence is a threat to India's energy security as it introduces global market volatility into the mix.
 - It also adds to a huge import bill leading to a loss of valuable foreign capital. We need to shift our focus towards the renewable energy sources.
 - After the recently concluded Paris talks, wherein countries agreed to limit their emissions so as to contain the global temperature rise to CO₂, the need to develop renewable energy sector gains even more importance.
 - There are various sources of renewable energy like wind, nuclear, solar, tidal, geothermal etc. But, in this article, we shall mainly talk about the solar energy and various policy initiatives of India in this sector.
36. Rural industries play very important role in any economy. Rural industries help in the proper utilization of local resources like raw materials and labour for productive purposes and thus increase productivity. Employment generating capacity of the rural industrial sector is much greater than that of the large scale sector so it is labour- intensive and are capable of generating more employment per unit of capital employed.

PROBLEMS OF RURAL INDUSTRIES :

- **Lack of Infrastructural Facilities** : Rural areas are characterized by poor infrastructural facilities in the field of roads, electricity, street lighting, road transport etc. which hampers the smooth movement of various industrial activities. This is a major problem faced by rural entrepreneurs.

- ***Lack of Technical Knowledge:***

As rural industries are labour intensive, they cannot afford to introduce sophisticated techniques and methods of production which is very expensive. Lack of technical knowledge, appropriate technology and training create immense problem in the growth of rural industries.

- ***Marketing Problems :***

Marketing of rural products has not been well developed. Promotion and distribution is lacking. Lack of proper communication facilities and marketing information adds to the problem to large extent.

- ***Lack of Adequate Knowledge and Information :***

Though information technology has developed in the modern world, rural people hardly availed its benefits. They are not knowledgeable, trained and motivated to achieve more and more in their own sphere.

SOLUTION OF THE PROBLEMS OF RURAL INDUSTRIES:

- A solution for the problem lies in **rural industrialisation** through which productive employment may be provided for excess rural population. Rural industrialization serves as an effective means of reducing rural-urban disparities and stops migration of people from rural to urban areas and accelerates the process of rural development. Rural industrialization plays an effective role in rural transformation, generation of balanced socio-economic development through an increase in gainful employment and a rise in income levels in the region.
- To develop the Rural Industries different initiatives should be started for particularly in rural areas. The main objectives of these initiatives should be to ameliorate the supply chain management, upgrade skills, introduce innovative technologies and expand markets of the entrepreneurs and artisans. A wide range of programs, schemes, projects and policies are also formulate to carry out various activities in the rural sectors.
- The State Government should also ensured employment generation program in the rural regions under Rural Employment Generation Program (REGP) and the Prime Minister's Rozgar Yojana (PMRY) in association with Reserve Bank of India (RBI) and other banks.

37. LEADERSHIP :

Leadership is the ability of a company's management to set and achieve challenging goals, take swift and decisive action, outperform the competition, and inspire others to perform well. Leadership is a process by which an executive can direct, guide and influence the behaviour and work of others towards accomplishment of specific goals in a given situation. Leadership

is the ability of influence the subordinates to work with confidence and zeal. Leaders are required to develop future visions, and to motivate the organizational members to want to achieve the visions. Leadership provides direction for a company. Employees need to know the direction in which they are headed and who to follow to reach the destination. Leadership involves showing workers how to effectively perform their responsibilities and regularly supervising the completion of their tasks. Leadership is also about setting a positive example for staff to follow, by being excited about the work, being motivated to learn new things, and helping out as needed in both individual and team activities.

ROLE OF A LEADER :

Following are the main roles of a leader in an organization:

(i) *Setting Goals :*

A leader is expected to perform creative function of laying out goals and policies to persuade the subordinates to work with zeal and confidence.

(ii) *Organizing:*

In order for the group to effectively perform their task, the leader must ensure that the group is properly organized. A leader is to create and shape the organization on scientific lines by assigning roles appropriate to individual abilities with the view to make its various components to operate sensitively towards the achievement of enterprise goals. Not only should each member have a clear understanding of what is expected of them, but the group itself should be properly structured to facilitate their actions.

(iii) *Initiating Action:*

A leader is to take the initiative in all matters of interest to the group. He should not depend upon others for decision and judgment. He should float new ideas and his decisions should reflect original thinking.

(iv) *Direction and Motivation:*

It is the important function of a leader to guide and direct his group and motivate people to do their best in the achievement of desired goals, he should build up confidence and zeal in the work group. The functional leader must ensure that every individual in the group feels sufficiently appreciated for their efforts and actions.

(v) *Link between Management and Workers:*

A leader works as a necessary link between the management and the workers. He interprets the policies and programmes of the management to his subordinates and represents the subordinates' interests before the management. He can prove effective only when he can act as the true guardian of the interests of his subordinates.

(vi) ***Integrates and Reconciles the Personal Goals with Organizational Goals:***

A leader through leadership traits helps in reconciling/ integrating the personal goals of the employees with the organizational goals. He is trying to co-ordinate the efforts of people towards a common purpose and thereby achieves objectives. This can be done only if he can influence and get willing co-operation and urge to accomplish the objectives.

(vii) ***Required at all levels :***

Leadership is a function which is important at all levels of management. In the top level, it is important for getting co-operation in formulation of plans and policies. In the middle and lower level, it is required for interpretation and execution of plans and programmes framed by the top management. Leadership can be exercised through guidance and counselling of the subordinates at the time of execution of plans.

38. MAIN IMPACTS OF INTENSE AGRICULTURE ON ENVIRONMENT :

The following points highlight the main impacts of intense agriculture on environment. The impacts are:

(i) ***Degradation of Land :***

The degradation of land is matter of serious concern endangering sustainability of agriculture. Faulty cultural practices in the forest and other plain areas expose the soil to water and wind erosions. The water logging due to rising water table, particularly along the rivers, rendering soil unfit for cultivation. Increased dependence on intensive agriculture and irrigation also resulted in salination, alkalination and water logging in the some irrigated area of the country.

Therefore apart from soils erosion problem the following are the kinds of land degradations taking place:

- Deficiency of soil nutrients due to intensive cultivation.
- Imbalance in soil nutrients particularly the deficiency of micro-nutrients.
- Decline in the organic matter in the soil.
- Deforestation and overgrazing causing exposure of soil to water and wind erosion.
- Decline in underground water due to over exhaustion for high water using crops, increase in cropping intensity and increase in cultivated area.
- Increase in water level in the cotton belt of north-western part of the country endangering cultivation of cotton crop due to pumping out of brackish water resulting in accumulation of salts on earth surface.

- High uses of nitrogen and water have caused percolation of nitrogen up to water table thus polluting it even for human consumption.

(ii) **Health Related Issues :**

Agricultural pollution is the main source of pollution in water and lakes. Chemicals from fertilizers and pesticides make their way into the groundwater that end up in drinking water. Health related problems may occur as it contributes to blue baby syndrome which causes death in infants. Oil, degreasing agents, metals and toxins from farm equipment cause health problems when they get into drinking water.

(iii) **Biodiversity :**

India is a country with wide variety of agro-climatic conditions which includes a wide variety of animals and plants. As agriculture is becoming more and more commercialized, a number of plant and animal species are becoming extinct. Fertilizers, manure, waste and ammonia turns into nitrate that reduces the amount of oxygen present in water which results in the death of many aquatic animals. The depletion of vegetative cover such as grass lands and forest tree species and similarly extinction of wild animals, birds and insects is matter of concern.

(iv) **Pest Problem :**

With the shift in crop pattern, increase in area under irrigation and higher cropping intensity the pest problem has become very severe. The seriousness of pests has further increased by way of indiscriminate and increased use of pesticides. Once they have been sprayed, it does not disappear completely. Some of it mixes with the water and seeps into the ground. The rest of is absorbed by the plant itself. As a result, the local streams that are supplied water from the ground become contaminated, as do the animals that eat these crops and plants.

The predatory birds and insect population has dwindled at a sharp rate causing lack of natural control of pests. The direct effects of high use of dangerous pesticides have created health hazards on human & animal.

(v) **Disposal of Agricultural Wastes :**

The use of by-products such as paddy straw and rice husk has not been made properly. The burning of such by-products creates increase in carbon dioxide and carbon-monoxide in the atmosphere resulting in respiratory problems for animals and human beings. There is need for recycling the agricultural wastes by having enterprises like dairy, poultry, fishery etc. processing of by-products and ploughing in the field as organic matter. The mechanisation of agriculture requires various energy resources such as diesel, electricity, petrol and higher use of fertilizers as well, has negative impact on the ecology of the country by air pollution, water pollution and soil pollution.

Intense agriculture is good at feeding populations but it is not sustainable. Over the last decade governments have become stricter about enforcing regulations. Farmers are also becoming more aware of the damage and are looking for solutions. Many farms are moving back to traditional manure, direct irrigation from local water bodies and organic means of keeping pest populations in check. Big Ag farmers are also seeking ways to scale preventative measures without widespread business disruption. Governments emphasise the need to use land and resources more efficiently, creating more produce from the same amount and making the agricultural process more cost-effective.

Organic farming is a sustainable agriculture set of practices that can have a lower impact on the environment at the small scale. Organic farms tended to have higher soil organic matter content and lower nutrient losses (nitrogen leaching, nitrous oxide emissions and ammonia emissions) per unit of field area. Organic farming has shown to have on average 30% higher species richness than conventional farming.

39. OBJECTIVES OF GREEN TECHNOLOGIES :

- To meet the needs of society in ways without damaging or depleting natural resources on earth.
- Adopt the technologies which make products that can be **reused** and **reduce** waste and pollution.
- To reduce the rate of growth of energy consumption while enhancing economic development.
- To ensure sustainable development and preserve the environment for future generations.
- To increase public awareness and education of products of green technologies and enhance its contribution to the national economy.

EXAMPLES OF GREEN TECHNOLOGY :

(i) *Energy Sector* :

Green Technologies depend on the development of alternative fuels. Clean, renewable and efficient new energy sources are being developed and implemented, including wind turbines, solar cells, and bioreactors. These sources produce power without releasing toxic wastes into the environment as conventional fossil fuels.

(ii) *Green Building*:

Green building also known as green construction or sustainable building refers to both a structure and the application of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from planning to design, construction, operation, maintenance, renovation, and demolition.

(iii) **Green Transport:**

Green Transport also known as sustainable Transport and it is any form of transport that does not depend on dwindling natural resources. Instead it depend on renewable or regenerated energy rather than fossil fuels that have a finite life expectancy. For this reason it is said to have a low or a negative effect on the environment since it makes use of energy sources that are sustainable.

(iv) **Renewable Energy:**

Green technology includes the conversion of renewable resources such the sun's light, wind and water to energy that we can use. Solar panels, wind turbines and geothermal wells are all examples of technological innovations that can replace the need for coal and oil. A solar cell directly converts the energy in light into electrical energy through the process of photovoltaic. Generating electricity from solar energy means less consumption of fossil fuels, reducing pollution and greenhouse gas emissions.

(v) **Environmental Cleaning and Remediation:**

Another aspect of green technology involves removing contaminates from the soil, air and water. Detoxifying hazardous wastes by chemical and biological methods to reduce their toxicity.

Bioremediation is the process in which a living organism (plant/animal/bacteria) is deployed to make hazardous wastes harmless. For example bacteria and enzymes help to destroy toxic and hazardous substances or convert them in harmless compounds.

Various plants have been identified which can help to clean up soil and water contaminated with chemicals such as pesticides, organic solvents, radioactive matter and toxic metals such as lead, mercury and arsenic

(vi) **Wastewater Management :**

Wastewater treatment refers to the process of removing contaminants and undesirable components from domestic, industrial and polluted waters to safely return it to the environment for drinking, irrigation, industrial, and other uses. Numbers of green technologies methods are tested and used for wastewater treatment either alone or in combination with other conventional methods.

