

DETAILS EXPLANATIONS**Paper Code: RPSCEE19 | RPSCCE19 | RPSCME19****[PART : A]**

1. A mixed economic system is just like it sounds (A combination of economic systems) but it primarily refers to a mixture of a market and command economy (For obvious reasons, a traditional economy does not typically mix well).
2. Development (which is different from growth), is the process by which a nation improves its economic, political and social well being of its people.
3. NREGA is national Rural Employment Guarantee act 2005 which was passed in september 2005. Its main objectives are :
 - Provides 100 days assured employment every year to every rural household.
 - One third of the proposed jobs would be reserved for women.
4. The government has introduced Several anti-poverty measures. Some important ones are :
 - National Rural Employment Guarantee Act (NREGA)→2005.
 - National Food for work programme → 2004.
 - Prime Minister Rozgar Yojana → 1993
 - Swarnajayanti Gram Swarozgar Yojana →1999.
5. Quality assurance is a management method that is defined as "All those planned and systematic actions needed to provide adequate confidence that a product, Service or results will satisfy given requirements for quality and be fit for use."
6. A public private partnership (PPP) is a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.
7. Modern solar appliances :
 - Solar calculator
 - Solar car
 - Solar lamp
 - Solar watch
8. It aims at achieving open defecation free nation and a Swach Bharat (Clean India) by 2nd October, 2019, the 150th anniversary of Mahatma Gandhi.

9. NNP is the total money value of all final goods and services produced within an outside the country's citizen minus depreciation.
10. Personal Income refers to the income received by individuals in the form of salaries, bonuses, wages, rent etc. after getting employed or investing in any business.
11. Rural economy is the study of farm and non-farm industry, economic growth, development and change. Size and spatial distribution of production and household units and inter regional trade.
12. E-mitra is an integrated project to facilitate the urban and the rural masses with maximum possible services related to different state government departments through Lokmitra-Janmitra centres/Kiosks.
13. Pro-Active Governance and Timely Implementation.
14. A trademark is a sign by which a business identifies its products or services and distinguishes them from those supplied by competitors. Its purpose is to establish in the mind of the customer, a link between all the different products or services that the company offers and then distinguish them from those supplied by competitors.
15. GAGAN or GPS Aided GEO Augmented Navigation is an implementation of a regional satellite based augmentation system (SBAS) by the Indian government based on GPS of USA. It has been developed by ISRO, Airport Authority of India and Raytheon.
16. The thermal radiation from earth surface is absorbed by atmospheric greenhouse gases and is reradiated. Due to this, the temperature of the body is higher than what it would have been if there was no atmosphere.
17. It is the process of returning the land to some degree of its former state, after some process (Industry, Natural disasters etc) has resulted in its damage.
18. Overpopulation is largely due to trends such as people living longer and enjoying high birth rates.
19. *Examples of green technology :*
 - Energy
 - Green building
 - Green chemistry
 - Green Transport
20. It is the process by which an unstable atomic nucleus loses energy by emitting radiation, such as α -particle (positive (+ve) charged) Beta rays (negative (-ve) charged) and γ -rays (neutral).

[PART : B]

21. There are numerous causes of social tensions. The most important ones are :
- Competitions
 - Crime
 - Unemployment
 - Hetrogeneous population
 - Divorse
 - War
 - Uneven distribution of wealth
 - Rapid social change
 - Racialism
 - Misuse of public power for private profit.
22. Green revolution means a well-marked improvement in agricultural production in short period of time and secondly continuous high level of agricultural production over a fairly long period of time. Green revolution in India occurred in mid-sixties. It is the direct outcome of the new agricultural strategy. Taking out the Indian agriculturist from the whirlpool is the basic significance of green revolution. The major direct effect of the green revolution has been a sharp rise in agricultural production. The green revolution could not continue and found unsuccessful in our country due to institutional and irrigational constraints.
23. The main characteristics of information technology are as follow:
- It is the processed data found handy and useful to arrive at making decisions.
 - Timely information is authentic.
 - Information is worth while when it is relevant.
 - Strategic information is most essential in the event of long range plan.
 - Operational information is most essential in day-to-day's management of organization.
24. Biotechnology is a branch of biological sciences. It means application of biological organisms, systems or processes to manufacturing and service industry. It deals with the patterning of genetic architecture of plants. Biotechnology explain that countries have developed high yielding crops varieties to suit their local environments. It has other characterstics such as high productivity per unit of water, high photo synthetic ability, high response to nutrients and multiple resistance to insects and diseases.

25. The energy obtained by sun is called solar energy. Sun is the largest source of energy. the annual amount of solar energy reaches the earth surface is about ten thousand times more than the annual global primary energy demand. Solar energy can be used by both direct and Indirect form.
26. *Some important effects of soil pollution are :*
- Soil pollution decreases soil fertility. Loss of soil fertility makes it inhabitable for plants and other organisms.
 - Soil pollution has adverse effect on soil microbial population that plays important role in soil formation and keeping it fertile.
 - Indiscriminate use of agro chemical destroys the soil flora and fauna and soil properties.
 - SO_2 , SO_3 and oxides of nitrogen of the atmosphere are washed down by rain in the form of H_2SO_4 (sulphuric acid) and HNO_3 (Nitric acid) which reach the soil and increase the acidity. Increased acidity develops unhealthy conditions for plant growth.
 - Dumping of radioactive wastes on to the soil is lethal to plants and microbial life. Such pollution has far reaching effects and even human beings are not spared.
27. The objectives are the milestones in reaching the project aim. These are generic objectives, create ones that are specific to your project:
- Analyses the process of implementation
 - Focusing on participation of the community
 - Assure quality of project management
 - Assure Quality of products and Services
 - Asses and Enhence project performance
 - Provide learning opportunities
 - Identify problems
 - To improvement
 - Planning for future
 - Decision making
28. *Disadvantages to adopting Green Technologies :*
- It requires high implementing cost
 - Lack of information
 - Lack of human resources and skills
 - No known about alternate chemical or raw material inputs and alternate process technology.
 - Uncertainty about performance impacts

29. ***Following are Advantages of Critical path Methods :***

- Offers a visual representation of the project activities.
- Helps reduce the risk and costs of complex projects.
- Presents the time to complete the tasks and the overall project.
- Tracking of critical activities.
- It identifies key tasks which could cause delay to the project if not completed on time.
- It identifies any project steps which can be completed faster in order to complete the project on time.

30. ***The following schemes will be implemented under PM Kisan Sampada Yojana :***

- Mega Food Parks
- Integrated cold chain and value addition infrastructure
- Expansion of food processing and preservation capacities
- Infrastructure for Agro processing clusters
- Creation of backward and forward linkage
- Human resources and institutions

31. ***The world Trade organization (WTO) has 6 key objectives:***

- To set and enforce rules for international trade
- To provide a forum for negotiating and monitoring further trade liberalization
- To resolve trade disputes
- To increase the transparency of decision-making process.
- To co-operate with other major international economic institutions involved in global economic management.
- To help developing countries benefit fully from the global trading system.

32. **Special economic zone is a specified delineated and duty-free geographical region that has different economic laws from those of the country in which it is situated. In some countries, such a region is even treated as a deemed foreign territory. SEZ is an instrument of capacity development with the goal to promote rapid economic growth by using fiscal and business incentives to magnetize foreign as well as domestic investments and Technology.**

[PART : C]

33. **Unemployment is defined as a situation where someone of working age is not able to get a job but would like to be in full-time employment. Unemployment is often used as a measure of the health of the economy. The most frequent measure of unemployment is the unemployment rate, which is the number of unemployed people divided by the number of people in the labour force.**

Types of Unemployment in India :

(i) Cyclical Unemployment :

Cyclical unemployment is when workers lose their jobs because of downturns in the business cycle. Cyclical unemployment exists when individuals lose their jobs as a result of a downturn in Aggregate Demand (AD). If the economy contracts for two quarters or more, it's in a recession. Cyclical unemployment is usually the main cause of high unemployment.

(ii) Demand Deficient Unemployment :

Demand deficient unemployment occurs when there is insufficient demand in the economy to maintain full employment. In a recession (a period of negative economic growth) consumers will be buying fewer goods and services. Selling fewer goods, firms sell less and so reduce production. If firms are producing less, this leads to lower demand for workers - either workers are fired, or a firm cuts back on employing new workers. In the worst case scenario, the fall in demand may be so great a firm goes bankrupt, and everyone is made redundant.

(iii) Structural Unemployment :

Structural unemployment occurs when certain industries decline because of long term changes in market conditions. This is unemployment due to occupational or geographical immobilities. E.g. closure of mines, left many miners struggling to find suitable work. There may be jobs available in the service sector, but unemployed miners don't have the relevant skills to be able to take the jobs.

(iv) Seasonal Unemployment :

Seasonal unemployment exists because certain industries only produce or distribute their products at certain times of the year. Industries where seasonal unemployment is common include farming, tourism, and construction.

(v) Frictional Unemployment :

Frictional unemployment, also called search unemployment, occurs when workers lose their current job and are in the process of searching another one. Frictional unemployment also occurs when students are looking for their first job or when mothers are returning to the workforce. It also happens when workers are fired or, In some cases, laid off due to business-specific reasons, such as a plant closure.

(vi) *Classical Unemployment* :

Classical unemployment is also known as “real wage unemployment” or “induced unemployment.” Classical unemployment is caused when wages are ‘too’ high. It’s when wages are higher than the laws of supply and demand would normally dictate.

(vii) *Voluntary Unemployment* :

Voluntary unemployment is defined as a situation when workers choose not to work at the current equilibrium wage rate. For one reason or another, workers may elect not to participate in the labour market. There are several reasons for the existence of voluntary unemployment including excessively generous welfare benefits and high rates of income tax.

34. ISO 9001 is an international Standard that gives requirements for an organization’s quality management system (QMS). It is part of a family of standards published by the International Organization for Standardization (ISO) and often referred to collectively as the “ISO 9000 series” or “ISO 9000 family”. ISO 9000 family that can be used for the purpose of conformity assessment. It is important to understand, however, that ISO is the body that develops and publishes the standard - ISO does not “certify” organizations. The objective of ISO 9001 is to provide a set of requirements that, if effectively implemented, will give you confidence that your supplier can consistently provide products and services that :

- Meet your needs and expectations
- Comply with applicable regulations

ISO 9001 adopts a risk-based (“preventive”) approach to quality that covers a wide range of topics, including your supplier’s top management commitment to quality, its customer focus, the adequacy of its resources, employee competence, process management (for production, service delivery and relevant administrative and support processes), quality planning, design of the products and services it provides, review of incoming orders, purchasing, the appropriate monitoring and measurement of its processes, products and services needed to ensure conformity, its processes to resolve customer complaints, corrective actions, and a requirement to drive improvement. Last but not least, there is a requirement for your supplier to monitor your perceptions about the quality of the products and services it provides to you. ISO 9001 does not define specific requirements for the products or services you are purchasing. It is up to you to make your own needs and expectations clear to your

supplier. You might, for example, refer to product or service specifications, drawings, national or international standards, supplier's catalogues, or other documents as appropriate.

ISO 9001 can be combined with other industry-specific audits for quality management systems as well as other management systems. Combined certifications of ISO 9001 are usually combined with the following certifications (a selection): Quality standard ISO / TS 16949 for the automotive industry, the standards EMAS and ISO 14001 for environmental management and the ISO 50001 for energy management. Furthermore, a combination with an AZAV certification is also conceivable for institutions concerned with training and further education. An ISQ29990 certified quality management system for learning service providers can also benefit from an ISO 9001 certification.

35. Desertification is defined by the United Nations as 'land degradation in arid, semi-arid and sub-humid areas resulting from various factors including climatic variations and human activities'.

Arid, semi-arid and sub-humid areas are referred to as dry lands and are defined by :

- Low rainfall that is infrequent, irregular and unpredictable
- Soil that is low in organic matter
- Lack of water for consumption

These characteristics make drylands vulnerable to erosion. The agents of erosion are water and wind and these remove the topsoil first. Once this nutrient-rich layer of topsoil is gone, few plants grow in the soil. This loss of the biological potential of land is called desertification.

Consequences of desertification :

The consequences of desertification are mostly borne by the world's poorest and most vulnerable people. Desertification contributes to food insecurity, water scarcity, economic hardship and social and political unrest.

- ***Loss of topsoil*** results in a decline in food. A decline in food production results in Hunger, Poverty and Migration. The persistence of Hunger, Poverty and Migration is an obstacle to the attainment of the Millennium Goals -the first one being the eradication of extreme hunger and hunger.
- ***Loss of water*** without trees and vegetation occasional flash floods carry the soil away leading to downstream flooding. The surface water is then rapidly lost through evaporation and rivers and lakes disappear. The evaporation combined with sedimentation in lakes, rivers, and reservoirs means a loss of water as well as a loss of the soil displaced there.

- **Economic Loss** At the global level, it is estimated that the annual income foregone in the “ ” areas immediately affected by desertification amounts to approximately US\$ 42 billion each year.
- **Loss of cultural identity** and difficult living conditions for migrants undermines social stability. In Africa, many people have become internally displaced or forced to migrate to other countries.

36. Rural India faces a severe technology deficit. There are serious shortages of power, water, health facilities, roads, etc. these problems are known and recognized. Geographical application of new technologies is still limited in rural areas. Many farmers remain unaware of these advances technologies.

Insufficient connectivity in rural areas along with a lack of basic computer knowledge and literacy hinder development. Substantial investment is needed in physical infrastructure, power, broadband, transportation and education, particularly in rural regions and among the poorest populations in order to truly reap the benefits of the technologies.

Efforts or the strategies for improving rural technologies :

- To facilitate communications, Digital India is implementing plans to connect 2.5 million Gram Panchayats (local governments) with high-speed internet by 2018, with hundreds of thousands already internet-enabled.
- New technologies enable small farmers to shift from input-intensive to knowledge-intensive agriculture. Precision agriculture can improve the timeliness of planting, secure the best market prices through market information and e-market reforms, provide fertilizer subsidies via direct bank transfers that eliminate or reduce the cost of financial intermediaries, and improve agricultural extension.
- Digitised land registration, mobile phones all are contributing to improved farm management. Digital India Land Records Modernisation Programme (DILRMP) is updating millions of land records, providing title guarantees and increased security of land tenure to farmers.
- Digital India’s strategic cornerstones, the Common Services Centres, are meant to provide access points for delivery of various electronic services to villages, to promote digital and financial inclusion, encourage rural entrepreneurship, and build rural capacities and livelihoods, offering a bottom-up approach to social change, particularly among India’s rural citizens.

- The Public Distribution System (PDS), the world's largest safety net of its kind, distributes food grains and essential commodities via a network of over 521,000 Fair Price Shops (FPSs). More recently, the government has focused on reforming PDS using new technologies.
 - The Mahatma Gandhi National Rural Employment Guarantee Scheme, (MGNREGS), the largest in the world, guarantees up to 100 days of rural employment for those in need of employment at Rs100/day. Using DBTs to pay beneficiaries has reduced transfer costs, waste and corruption -and sidestepping any possible misallocation of funds transferred from central to state to district to panchayats for distribution.
 - GOI launched eNAM (National Agriculture Market), an online platform for farmers that integrates agricultural markets online, allowing farmers and traders alike to view all Agriculture Produce Market Committee-related information and services, commodity arrivals and prices, and buy and sell trade offers, thus helping farmers bid for the best prices across markets.
 - With only 27% of villages having banking services within 5 kilometres, the government is licensing new banks and using mobile phone payment technology to an increasing extent.
37. Though the achievements of the programme in terms of its impact on rural demand, political participation, women's empowerment and improvement in rural infrastructure are hard to quantify, these have been crucial in sustaining the demand for the programme.
- The scheme forces the Government to offer work, but so far does not measure productivity or durability of the work done. One of the complaints is about the slow pace of work. Then, there are some administrative glitches. Panchayat Samitis don't meet for months. It results in work sanctioning getting delayed. Only 10 per cent of 4.8 crore households managed to fully benefit with 100 days of work in 2015-16.
 - Employees appointed under the popular job scheme of MGNREGA are frequently not paid in full or compelled to pay bribes to get tasks and are not learning any new abilities that could enhance their long-term leads.
 - There are also some fake workers and job cards resulting in so-called leak in system. The reports have found rampant corruption and swindling of public funds which raises doubt on the amount of money spent and the scheme's claim of improving rural wages.

- Multi-crore frauds have also been alleged where many people who have been released the NREGA cards either are employed with other Government Jobs or are not even aware that they have a Job Card.
- Another important challenges are uneven implementation across states, Low funds available with the government, the average work days generated is much less than stipulated 100 days and the low excellent of public performs schemes' finished product.
- The labourers learn no new expertise and that the lakes, streets, empties, public works and other resources designed with guide work are often of wretched excellent. The idea behind MGNREGA system is to create as many tasks as possible for inexperienced workers. No one understands new abilities, only primary tasks get finished and the inadequate stay inadequate. The efficiency of workers engaged under NREGA is regarded to be lower because of the fact that workers consider it as a better alternative to operating under considerable tasks.

The focus for the upcoming years will be on simplification and strengthening of procedures for the implementation of the MGNREGA as an employment guarantee. A Master Circular is being issued which consolidates all key instructions from the Central Government on the implementation of the Act. Beyond this, states are encouraged to innovate with flexibility.

The convergent planning exercise currently underway in backward blocks in the country will be consolidated in the State Rural Development Plan (SRDP) which will be the basis of implementation and monitoring for the coming year. Concurrent social audits and community monitoring will be undertaken. There will be a renewed focus on sustainable individual assets to benefit the poor and vulnerable households.

38. ***Project Monitoring :***

Project Monitoring refers to the process of keeping track of all project-related metrics including team performance and task duration, identifying potential problems and taking corrective actions necessary to ensure that the project is within scope, on budget and meets the specified deadlines. To simply put, project monitoring is overseeing all tasks and keeping an eye on project activities to make sure you're implementing the project as planned.

Importance of Project Monitoring :

When project managers make important decisions without verified data, it is like taking a stab in the dark. Your decisions will be based on very little to no evidence, so the action may not be very efficient and could only be a waste of time and resources.

That's why it is important to monitor projects diligently and use the data you gathered to come up with intelligent decisions. Here are some questions answered through project monitoring :

- Are tasks being carried out as planned?
- Are there any unforeseen consequences that arise as a result of these tasks?
- How is your team performing at a given period of time?
- What are the elements of the project that needs changing?
- What is the impact of these changes?
- Will these actions lead you to your expected results?

Automated tools and technologies can simplify the tedious process of project monitoring. Most project managers have already adopted project management tools to delegate tasks and monitor their projects. However, project monitoring is a complex process and there are only a few project management apps out there that can support the project manager's requirement to have laser-focus on individual tasks and team efficiency.

39. *The various issues and Challenges in Wind power Generation:*

(i) *Technical and Location Issues :*

Wind power started years back and has been popular in coastal areas and south. The main limitation is location – there are vast areas where wind turbines cannot work. The main issue of wind power is lower Plant Load Factor (PLF) in comparison to fossil fuel, nuclear and hydropower plants and it is also low if we compare it with international standards. The core reason of this issue is because most of wind power farms in India have been reached up to its commissioned period and requires repowering. Repowering will not only helps them to remain productive but also could create a possibility of power generation capacity enhancement to their best performing sites. As per studies repowering of old wind farms could increase the wind energy PLF percentage significantly from 15 percent to 30 percent. It has been observed that in the absence of proper government policies framework and subsidies, many wind power companies are not willing to repower their plants which is essential to overcome this obstacle. MNRE must need to motivate such old wind farms for repowering their capacity by supporting with good and long terms policies.

(ii) *Grid Connection :*

Variations in voltage and grid frequency create difficulties in wind farm operations and reduce the chances for successful wind energy

grid penetration. Due to the limitation of grid infrastructure, it has been found that the amount of energy produced from wind farms could not be effectively transmitted throughout to consumers cause wastage of energy. High borrowing costs in India creates obstacle for wind energy sector growth. The project financing methodology applied for majority of wind power projects are conceived with 70 : 30 debt equity ratio, that also with high interest rates which creates an expensive debt under difficult macro-economics conditions of India. The wind is variable resources, meaning that their availability as an energy source fluctuates due to weather patterns, clouds, and cycles of day and night.

The electricity output from power plants dependent on these variable resources varies accordingly. The demand for electricity, however, does not follow the same pattern. In the case of wind electricity, electricity generation is sometimes greatest at night when electricity demand is lowest.

(iii) Cost Issues :

Estimating the incremental impacts and costs of wind energy power plant is difficult due to complexity of electric systems. The most challenges in executing these studies are simulating wind power data at high time resolutions. The costs insurance, land payments and routine maintenance are relatively easy to estimate but variable costs such as repairs and spare parts are more difficult to predict. So operation and maintenance costs can vary by wind power plants. There is a high initial unit cost of equipment and maintenance, as a result of small initial order sizes, novel equipment, and the small number of units in the field to maintain. The industry could be kick started with funding for the necessary equipment, working capital, and initial overheads. Experienced management would be needed.

(iv) Environmental Challenges and Sound Issues :

The environmental issues which arise when a wind farm is developed on land include how the turbines appear in a (usually rural) landscape, the sound they make and their effect on birds and other wildlife. A considerable amount of misinformation and myths have been created around local impacts, including such claims as that individual turbines will kill thousands of birds or that tourism will suffer, and often based on little more than a local community's initial concern that their view of the surrounding countryside will be changed.

On the issue of birds for example, the interaction between wind farms and birds is highly site specific. Sound is likely to be one of the most important sitting constraints for small wind turbines. Small wind turbines are in many cases louder than large turbines. Small wind turbines may also operate at higher tip speeds or turned partially out of the wind.

(v) ***Landscape and Land Use :***

Wind turbines are tall structures which ideally need to operate in an exposed site where they can make best use of the prevailing wind. This means they are likely to be visible over a relatively wide area. Whether this has a detrimental effect is highly subjective. Being visible is not the same as being intrusive. While some people express concern about the effect wind turbines have on the beauty of our landscape, others see them as elegant and graceful, symbols of a better, less polluted future.

(vi) ***Variable Power :***

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