

## ANSWERS

## AGRICULTURE AND RURAL DEVELOPMENT

Q.1) (a)

Explanation:

Examples of single nutrient fertilizers Sodium nitrate (contains Nitrogen)

- Urea (contains Nitrogen)
- Muriate of Potash (contains Potassium)
- Ammonium Sulphate (contains Nitrogen)
- SSP
- CAN

Examples of complex fertilizers

- Monoammonium phosphate (MAP)
- Diammonium phosphate (DAP)

A very generic question from Manure and fertilizers. Such composition of nutrient should be learned for major fertilizers.

This is basic in ARD syllabus. Hence cover the important topics in syllabus. These questions are not threat but rather an opportunity. Questions related to these topics for major fertilizers can be learned by memorizing again and any candidate can rote learn which we call “RATTA-FICATION” and such terms indeed should be covered in your syllabus.

Q.2) (c)

Explanation:

- Mineralization- Mineralization is the decomposition of the chemical compounds in organic matter, by which the nutrients in those compounds are released in soluble inorganic forms that may be available to plants.
- Aminization- Aminization is the decomposition of proteins and the release of amines, amino acids and urea.
- Salinization- Salinization is the precipitation of salts in soils.
- Immobilization- Immobilization in soil science is the conversion of inorganic compounds to organic compounds by microorganisms or plants by which the compounds become inaccessible to plants.
- Ammonification- Ammonification refers to any chemical reaction in which  $\text{NH}_2$  groups are converted into ammonia or its ionic form, ammonium ( $\text{NH}_4^+$ ), as an end product.
- This is a simple question that is again testing your conceptual clarity. Again, we cannot let these questions slip out of our hands. These questions are opportunities and not threats. Make sure that you are not leaving out conceptual questions.

Q.3) (a)

Explanation:

| Classification | Electrical Conductivity (mmho/cm) | Soil pH   | *Sodium Adsorption Ratio (SAR) | *Exchangeable Sodium Percent (ESP) |
|----------------|-----------------------------------|-----------|--------------------------------|------------------------------------|
| Optimal        | < 4.0                             | 6.5 – 7.0 | < 13                           | <15                                |
| High pH        | < 4.0                             | >7.8      | < 13                           | <15                                |
| Saline         | > 4.0                             | < 8.5     | < 13                           | <15                                |
| Saline-Sodic   | > 4.0                             | < 8.5     | ≥ 13                           | ≥ 15                               |
| Sodic          | > 4.0                             | >8.5      | ≥ 13                           | ≥ 15                               |

\*Action to remediate sodium problems is recommended before SAR or ESP levels reach 9.0.  
(Adapted from Waskom et al., 2007)

This is a simple and technical question that demands your understanding of Soil science. Understanding deep meaning of classification of soil concepts and terms makes ARD a HARD NUT to crack. The game of clearing government exams is not reliant on you answering everything. It's dependent on you answering ENOUGH NUMBER OF QUESTIONS CORRECTLY. For that concepts are very important, and every student should have edge in technical and concepts related to ARD topics.

Q.4) (a)

Explanation:

The salt concentration in the water extracted from a saturated soil (called saturation extract) defines the salinity of this soil. If this water contains less than 3 grams of salt per litre, the soil is said to be non-saline. If the salt concentration of the saturation extract contains more than 12 g/l, the soil is said to be highly saline.

A technical question which is basic general soil science question which we had read. Surely, it is not “Tough” question. Such concepts are very basic.

I think we should move forward. Let's move forward with other important terms, without wasting us precious time.

Q.5) (c)

Explanation:

- Bench terracing- This is adopted in lands where slopes ranging from 16-33% on steep slopping and undulating land.
- Strip cropping is the system of cropping in which long and narrow strips of erosion resisting crops are alternated with the strips of erosion permitting crops.
- Contour farming is a soil conservation technique used in agriculture to prevent soil erosion on sloping land. It involves cultivating crops parallel to the contour lines of the land, forming natural barriers that slow down the flow of water and reduce soil erosion.
- Vertical mulching is the process of adding nutrients to the soil around a tree to help its roots grow well. This technique involves creating a series of small holes around the base of the tree, filling them with nutrient-rich materials like

compost and fertilizer, and then covering them with a layer of mulch.

- Paddy terracing, also known as rice terracing, is a specialized type of terrace farming for growing rice. It involves creating levelled fields and a complex system of irrigation channels to maintain the necessary water levels for rice cultivation.

Q.6) (a)

Explanation:

A pure conceptual question which is easy. Topics related to cultivation practices of different agronomic crops are frequently asked in the exam. Now looking at this question, if you know the cultivation practices then one can solve this easily. But if you are reading this first time then this is a “Back breaking” question which most of the student will avoid. So, you all should understand that just plain reading is NOT enough. Don’t you think that examiner expects that a serious candidate should at least read such facts from important topics and chapters? Off course YES!

Q.7) (d)

Explanation:

As, apart from puddler, rest all are horticultural and garden implements.

Q.8) (e)

Explanation:

Some objectives of tillage:

- Obtain conditions that would guarantee a better yield
- Better soil aeration for better gaseous exchange both in soil and root area
- Improvement of soil structure and permeability
- Demolition of pests
- Preparing soil for more water absorption, seedbed preparation
- Uniform distribution of manure and fertilizers.
- Create a setting where the seedling gets maximum sunlight necessary for growth (Through weed control)
- Provide efficient seed-soil contact in a way the seeds and seedling gets adequate water.
- Increase soil depth

This is again a factual question and expected one. It’s easy to cover these kinds of facts, because there is NO END to such facts. But, only expected facts from “IMPORTANT TOPICS” are asked in exam. Indeed, this is a EASY question. Such facts and learning objectives are easy and also important from exam point of view. These are important topics.

Q.9) (d)

Explanation:

A very generic question from Horticulture. Such scientific

names should be learned for major crops. This is basic in ARD syllabus. Hence cover the important topics in syllabus. These questions are not threat but rather an opportunity. Terms related to scientific name and family of all the crops can be learned by memorizing again and any candidate can rote learn which we call “RATTA-FICATION” and such terms indeed should be covered in your syllabus.

Litchi- *Litchi chinensis*

Guava- *Psidium guajava*

Amla- *Emblica officinalis*

Strawberry- *Fragaria ananassa*

Pomegranate- *Punica granatum*

Q.10) (d)

Explanation:

- You can answer such technical questions only if you regularly go through Current Affairs as well. Even then, being able to read, remember and recall such facts is a remote possibility. Do not worry. Majority students don’t remember such facts. Yet it is easy question.
- You DON’T HAVE TO try to answer what everyone else can also not answer. The game of clearing government exams is not reliant on you answering everything. It’s dependent on you answering ENOUGH NUMBER OF QUESTIONS CORRECTLY.

For that to happen, focus on the important facts and you will be through. We will be able to better understand this conclusion when we analyse all questions below.

Q.11) (b)

Explanation:

Primary Agricultural Cooperative Society.

It was a simple definition-based question that can be attempted very easily if you are aware of each term

Q.12) (e)

Explanation:

- Gajendra Gadkar- This committee was constituted to review the recruitment and personal policies of ICAR.
- Marthandam project by Spencer Hatch.
- Shriniketan project by R.N Tagore.
- Gurgoan project by F L Brayne.
- KVK was established on the recommendation of Mohan Singh Mehta committee.

Q.13) (d)

Explanation:

This is a straight question that is again testing your conceptual clarity. Again, we cannot let these questions slip out of our hands. These questions are opportunities and not threats. Make sure that you are not leaving out conceptual questions. Facts, terms, breeds, definitions and statements with conceptual touch should be revised regularly. This will help you to retain such

static knowledge in exam hall.

In ARD subject, every serious candidate has to read a lot of conceptual content and also revise it regularly. Often students have “FEAR PSYCHOSIS” related to ARD subject because of lot of static and facts bombarded on them.

But let me give you a different perspective, now NO ONE knows which questions are asked regarding facts, schemes in ESI and ARD subjects. But every year conceptual questions are “SURELY” asked in NABARD exam.

Both in Phase 1 and 2, concepts from ARD will be the “GAME CHANGERS”. Even toppers confirm this. So “IF CONCEPTS ARE CLEAR, NO FEAR”. I hope you got the strategy here.

Q.14) (a)

Explanation:

- Relay intercropping is the practice of growing two or more crops simultaneously as a natural part of each one's life cycle, i.e., a second crop is sown after the first crop has become well-established but before it is ready for harvest. Growing soybean and wheat under relay intercropping is the best example.
- **Mixed intercropping-** Growing two or more crops simultaneously on the same piece of land with no distinct row arrangement.
- **Strip cropping-** In this method, we will grow more than one crop in strips to allow independent cultivation in the same piece of land.
- **Alley cropping-** Alley cropping is a kind of agroforestry system where intercrops are grown in the alleys of trees and hedges, etc.
- **Trap cropping-** Traps crops like marigolds and mustard, etc., are intercropped in between the main crop to trap various insect pests.
- It was a simple definition-based question that can be attempted very easily if you are aware of each term.
- It was a simple definition-based question that can be attempted very easily if you are aware of each term.

Q.15) (e)

Explanation:

- Monoculture is the culture of single species of fish in a pond or tank.
- Ornamental fish culture is the culture of the attractive, colourful fishes of various characteristics, which are reared in a confined aquatic system.
- In culture fisheries, the commercial production of certain aquatic species by managing the major part of their life history under strict control.
- Biofloc fish culture technique involves creating a controlled environment that stimulates the growth of beneficial bacteria, which convert organic waste produced by fish into protein-rich feed.
- Polyculture is the practice of culturing more than one species of aquatic organism in the same pond.

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## Economic and Social Issues

Q.16) (e)

Q.17) (c)

Q.18) (a)

Q.19) (e)

Explanation:

These MNREGA Scheme based four questions (Q.16 to Q.19) were quite tricky but were easily attemptable as this scheme has been covered in PIB 247 and Government Schemes Sessions by Manish sir. This scheme has been covered in detail many times along with discussion on eligibility criteria.

Q16 and Q17 were easily attemptable as they were straight forward questions. Q18 and Q19 were little bit twisted questions. To answer this question there is need to have in-depth knowledge and understanding of the scheme. But don't worry Government Schemes are covered and discussed by Manish Sir before the exam. You just have to be thorough with these sessions.

Q.20) (c)

Q.21) (e)

Q.22) (a)

Q.23) (d)

This passage is based on the National Sickle Cell Anaemia Elimination Mission which was launched few months before exam. It is one of the most important government interventions to address health issues of tribal people.

These four questions based on this mission were in medium difficulty level. Q20 and Q21 can be easily attemptable as they were fact-based questions. Q22 and Q23 were little but tricky and twisted, but through in-depth revision of this scheme would suffice the answerability of these questions. This scheme has been covered extensively in PIB 247 session by Manish sir. Below is the explanation of the scheme.

National Sickle Cell Anaemia Elimination Mission launched from Shahdol, Madhya Pradesh in 2023 aims to eliminate Sickle Cell Anaemia by 2047. It targets screening approximately 7.0 crore people under 40 years of age in the next 3 years

It is being implemented in 17 high-focus states across the country, this program aims to improve the care and prospects of all sickle cell disease patients while reducing the prevalence of the disease. The 17 states are- Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, Jharkhand, Chhattisgarh, West Bengal, Odisha, Tamil Nadu, Telangana, Andhra Pradesh, Karnataka, Assam, Uttar Pradesh, Kerala, Bihar, and Uttarakhand.

The program is executed in a mission mode as part of the National Health Mission (NHM), aims to eliminate sickle cell genetic transmission by the year 2047, showing a long-term commitment to eradicating the disease.

Over a period of three years, spanning from the fiscal year 2023-24 to 2025-26, the program targets screening approximately 7.0 crore people.

Q.24) (a)

Explanation:

New sub-scheme named Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY): Central Sector Sub-scheme under PMMSY with targeted investment of Rs. 6,000 crore with the objective to enhance further the earnings and incomes of fishermen, fish vendors and micro & small enterprises engaged in fisheries sector.

It was simple and easily attemptable question. This scheme was covered in details in Budget 2023-24 video session of Manish sir. It was also covered in PIB 247 sessions.

Q.25) (a)

Explanation:

This Scheme-based question is quite tricky but was easily attemptable as it has been covered in PIB 247 and Government Schemes

Sessions by Manish sir. This scheme has been covered in detail many times along with discussion on eligibility criteria. Here is an explanation of this scheme

PM Vishwakarma Yojana aims to extend financial assistance to individuals engaged in traditional crafts and skills. Under this scheme, an artisan or craftsperson working with hands and tools and engaged in one of the 18 family-based traditional trades, in the unorganized sector is eligible for benefits. Wood rubber artisans and wooden toy-making are amongst the eligible 18 traditional trades under this scheme. A person in government service and their family members shall not be eligible under the Scheme.

Q.26) (e)

Explanation:

- Under this scheme financial assistance is provided to the selected students from SCs; De-notified, Nomadic, and Semi-Nomadic Tribes; landless agricultural labourers and traditional artisan categories, for pursuing masters and Ph.D. level courses abroad.
- Such students can benefit under the scheme whose total family income including the candidate is less than Rs. 8 lakhs per annum, who have more than 60% marks in the qualifying examination, below 35 years of age, and who secured admission in the top 500 QS ranking foreign Institutes/ Universities.
- From the above information, statements (1) and (3) are correct. Thus option (e) is the correct answer.

This Scheme-based question is quite tricky but was easily attemptable as it has been covered many times in PIB 247 and Government Schemes Sessions. This scheme has been covered in detail many times along with discussion on eligibility criteria.

Q.27) (b)

Explanation:

The Scheme mentioned in the above question is Survey of Villages Abadi & Mapping with Improvised Technology in Village Areas (SVAMITVA) Scheme. It is a Central Sector scheme launched on National Panchayat Day in 2020. It is being implemented by Ministry of Panchayati Raj. It aims to provide an integrated property validation solution for rural India. This would provide the 'record of rights' to village household owners possessing houses in inhabited rural areas in villages which, in turn, would enable them to use their property as a financial asset for taking loans and other financial benefits from Bank.

It was easy, straight forward question based on Government Schemes. This question did not require extra efforts or knowledge to attempt it. This scheme has been covered too many times in PIB 247 Sessions, Government Schemes sessions by Manish sir.

Q.28) (d)

Explanation:

This ICAR institute mentioned in above question is Indian Institute of Millets Research (ICAR-IIMR), Hyderabad. It was declared as the Global Centre of Excellence on Millets (Shree Anna) for sharing best practices, research and technologies at the international level.

This question was pretty sure to be asked in this exam as 2023 is being observed International Year of Millets. Government of India has taken lead initiative to increase awareness of millets at international level. It was covered in PIB 247 Session by Manish sir.

IMR is a premier agricultural research institute engaged in basic and strategic research on sorghum and other millets under Indian Council of Agricultural Research (ICAR). It coordinates and facilitates Millets research at national level through All India Coordinated Research Projects on Millets, Pearl Millet and Small Millets and provides linkages with various national and international agencies.

Q.29) (c)

Explanation:

The above program mentioned in the above question is Atmanirbhar Clean Plant Program. It was covered in the Union Budget 2023-24 Session by Manish Sir. It was easy factual question, that can be easily attemptable. This program is being launched with an outlay of Rs. 2,200 crores to boost availability of disease-free, quality planting material for high value horticultural crops

Q.30) (d)

Explanation:

The above scheme asked in question is PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi). This question was easy and doable as this scheme has been covered many times in PIB Session and Government Schemes revision sessions by Manish sir. Still here are some facts about the Scheme.

PM SVANidhi has been launched by Ministry of Housing & Urban Affairs to empower Street Vendors by extending to them loans for

their holistic development and economic upliftment.

The scheme intends to facilitate collateral free working capital loans of up to Rs. 10,000/- of one-year tenure to help resume their businesses in the urban areas, including surrounding peri-urban/rural areas.



## DESCRIPTIVE

**Q.1)**

- (a) What are the objectives of extension education? (3 marks).**  
**(b) Discuss the different methods employed for extension education? (6 marks)**  
**(c) Also, discuss the role of extension education in Indian agriculture. (6 marks) (Compulsory – 15 Marks)**

Ans.)

(a) Agricultural extension is a professional method of non-formal education aimed at inducing behavioural changes in the farmers for increasing their income through increased production and productivity by establishing firm linkages with research for solving farmer's problems ensuring adequate and timely supply of inputs and usage proven methods of communication for speeding of the process of diffusion and adoption of innovations.

Objectives of extension education –

- To provide the farmers knowledge and help that will enable them to farm more efficiently,
- To provide facilities for better family living,
- To promote better social, natural environment,
- To create recreational, intellectual and spiritual life among the people,
- To train rural people youth for development works,
- To open up new opportunities for rural people so that they develop all the talent and leadership.

(b) Extension teaching methods are the tools and techniques that are used to disseminate useful agricultural information where communication can take place between the rural people and the extension professionals. These are the methods of imparting new knowledge and skills to the rural people.

Classification of Extension Teaching Methods

The extension teaching method is classified as following :

According to use

- [i] Individual-contact method: This method provides opportunities for face-to-face contact between the rural people and the extension professionals. This method is very effective in teaching new skills and creating goodwill between farmers and extension professionals.
- [ii] Group-contact method: The rural people are contacted in a group which usually consists of 20-25 persons. These groups are usually formed around a common interest and provides an opportunity for the exchange of ideas, discussions on problems.
- [iii] Community-contact method: This method has approach to reach a large number of people for disseminating information and helping them to use it. This method is more useful for making people aware of the new technologies.

According to form

Extension teaching methods are classified according to their forms such as written, spoken and audio-visual.

[i] Written:

- Bulletin: A bulletin is a publication of around 20 pages with the primary objective of giving complete information which the intended readers can apply to their own situation.
- Booklet: When the extension material exceeds 20 pages and is less than 50 pages, it is called booklet.
- Folder: A folder is a single piece of paper folded once or twice and when opened, the material is presented in sequence.
- Leaflets: It is a single sheet of paper used to present information on only one developmental idea in a concise manner.
- Pamphlets: A pamphlet is an unbound single sheet of paper that is printed on both sides, printed in colours with action photographs.

[ii] Spoken:

- Farm and home visits: During these visits, information is exchanged or discussed in a two-way communication. It constitutes the

direct interaction by an extension professional with the farmers.

Radio: It is a mass medium of communication and can reach a large number of people at any given time. Extension professionals use the radio for communicating information on new methods and techniques, giving timely information about control of animal disease, weather, and market news.

- Television: It combines both audio and visual impact and is very suitable for the dissemination of agriculture and dairy information. It is more useful in teaching to-do a specific job.

[iii] Audio-visual:

- Result demonstration: It is meant for proving the advantages of recommended practices and to demonstrate their applicability to the local conditions. It is conducted by a farmer under the direct supervision of an extension professional. Eg: Dahi culture, hygienic handling of animals etc.
- Exhibition: It is a systematic display of information, actual specimens, models, posters, charts in a logical sequence. It is organized for arousing the interest of the clientele in the things displayed. Exhibitions are used for a wide range of topics such as planning a model village showing high-yielding breeds of cattle and buffaloes.
- Campaign: It is used to focus the attention of the people on a particular problem. Eg milk adulteration, vaccination and prevention of animal diseases.

### (c) Role of Extension education in Indian agriculture

- Agricultural extension is critical to improve farm productivity and to translate the same into increased income. However, the agricultural extension system in India is facing a multitude of challenges. The support, in terms of policies and promotion, received by the agricultural sector even before the green revolution is gradually weakening.
- Agriculture extension system bridges the gap between research labs to a farmer's field. Agricultural research, education and extension are said to be the most critical for promoting farm productivity and enhancing farmer's income.

Extension education in the hands of worker is important for transfer of new technology. A whole range of extension teaching methods are available, that can serve different purposes. Therefore, a proper understanding of role of extension education in agriculture, its different teaching methods and their selection for a particular type of work is necessary that will be helpful in transferring the knowledge to the target audience i.e., farmers.

### **Q.2) What is agroforestry? Discuss the benefits and constraints associated with it. (10 Marks)**

Ans.)

Agroforestry is a land use management system in which combinations of trees or shrubs are grown around or among crops or pastureland. Agroforestry combines agricultural and forestry technologies to create more diverse, productive, profitable, healthy, and sustainable land use system. It is a practical and low-cost means of implementing many forms of integrated land management which seeks to reduce human impacts on land, and it contributes to a green economy by promoting long-term, sustainable, and renewable forest management, especially for small-scale producers.

#### **Benefits of Agroforestry**

- **Biodiversity Conservation** – Agroforestry promotes biodiversity conservation by creating diverse ecosystems that support a variety of plants, animals, and microorganisms.
- **Soil Health and Fertility** – Trees in agroforestry systems improve soil structure and fertility by enhancing nutrient cycling, reducing erosion, and providing organic matter through leaf litter. This leads to increased crop productivity and resilience to environmental stress.
- **Water Quality and Quantity** – Agroforestry helps maintain and improve water quality by reducing runoff and filtering pollutants. Trees and shrubs' roots help prevent soil erosion and stabilize streambanks, resulting in healthier aquatic ecosystems.
- **Mitigation of Climate Change** – Agroforestry trees act as carbon sinks, absorbing and storing carbon dioxide from the atmosphere. Furthermore, trees' shade can help mitigate extreme temperatures and reduce the need for irrigation, thereby conserving water resources.
- **Enhanced Resilience** – Agroforestry systems are often more resilient to climate fluctuations and extreme weather events. The diversity of crops and vegetation layers can help buffer against crop failures and income losses
- **Agroforestry and Sustainable Agriculture** – Agroforestry contributes to sustainable food production while minimizing negative environmental impacts by combining trees with agricultural practices. It adheres to sustainability principles by optimizing resource use, increasing ecological resilience, and promoting community well-being.



**Challenges for agroforestry:**

- Adverse effects on agricultural land
- In the fields along which trees have been planted, the productivity per unit area decreases, as in at least about two meters from the trees the moisture content in the soil is significantly reduced.
- Unscientific planning can also negatively impact the agricultural productivity of the land.
- With increased diversity, the risks of pests and diseases may also increase.

**Lack of knowledge in farmers:**

- Many farmers are not keen to take it up because of a lack of information on tree rotation and also the legal aspects involved in the trade of matured trees.
- The tendency of farmers to opt for market-oriented trees rather than the trees which are more ecologically suited or are locally needed (fuelwood/fodder).
- Agroforestry has benefitted the big farmers more than the marginal and small farmers.

**Effect on the food industry:**

- The diversion of good agricultural land from cereal and commercial crops may create a scarcity of food and industrial raw material.
- Possible negative impact on crop production because of planting trees on fertile lands.

***Agroforestry is a holistic and sustainable land-use management system that embodies the principles of conservation, productivity, and community well-being. By integrating trees and shrubs into agricultural practices, agroforestry offers many benefits, from biodiversity conservation and climate change mitigation to enhanced soil fertility and economic diversification.***

**Q.3) Mention the problems associated with the marketing of agriculture. (10 marks)**

**Ans.)**

Agricultural marketing is the study of all the activities, agencies, and policies involved in farmers procuring farm inputs and agricultural products moving from farms to consumers. The Indian system of agricultural marketing suffers from a number of defects. As a consequence, the Indian farmer is deprived of a fair price for his produce. The main defects of the agricultural marketing system are discussed here.

There are several problems associated with the agriculture marketing :

1. **Improper Warehouses:** There is an absence of proper warehousing facilities in the villages. Therefore, the farmer is compelled to store his products in pits, mud-vessels, “Kutchra” storehouses, etc. These unscientific methods of storing lead to considerable wastage. Approximately 1.5% of the produce gets rotten and becomes unfit for human consumption. Due to this reason supply in the village market increases substantially and the farmers are not able to get a fair price for their produce. The setting up of Central Warehousing Corporation and State Warehousing Corporation has improved the situation to some extent
2. **Lack of Grading and Standardization:** Different varieties of agricultural produce are not graded properly. The practice usually prevalent is the one known as “dara” sales wherein heap of all qualities of produce are sold in one common lot. Thus, the farmer producing better qualities is not assured of a better price. Hence there is no incentive to use better seeds and produce better varieties.
3. **Inadequate Transport Facilities:** Transport facilities are highly inadequate in India. Only a small number of villages are joined by railways and pucca roads to mandies. Produce has to be carried on slow moving transport vehicles like bullock carts. Obviously, such means of transport cannot be used to carry produce too far-off places and the farmer has to dump his produce in nearby markets even if the price obtained in these markets is considerably low. This is even truer with perishable commodities.
4. **Presence of a Large Number of Middlemen:** The chain of middlemen in the agricultural market is so large that the share of farmers is reduced substantially.
5. **Malpractices in Unregulated Markets:** Even now the number of unregulated markets in the country is substantially large. Arhatiyas and brokers, taking advantage of the ignorance, and illiteracy of the farmers, use unfair means to cheat them. The farmers are required to pay arhat (pledging charge) to the arhatiyas, “tulaii” (weight charge) for weighing the produce, “palledari”

to unload the bullock-carts and for doing other miscellaneous types of allied works, “garda” for impurities in the produce, and a number of other undefined and unspecified charges.

6. **Inadequate Market Information:** It is often not possible for the farmers to obtain information on exact market prices in different markets. So, they accept whatever price the traders offer to them. With a view to tackle this problem the government is using the radio and television media to broadcast market prices regularly. The newspapers also keep the farmers posted with the latest changes in prices.
7. **Inadequate Credit Facilities:** Indian farmer, being poor, tries to sell off the produce immediately after the crop is harvested though prices at that time are very low.

COVID-19 triggered supply and demand challenges — and highlighted several problems of agricultural marketing for farmers. Farmer’s distress is due to low prices and low productivity. Limited procurement, measures to improve low productivity, and consolidation of land holdings to gain the benefits of market size, can help in reducing agrarian distress. Farmer need to be empowered to decide when, where, to whom and at what prices to sell in accurate market.

**Q.4) Despite the growth in institutional credit availability within the country, numerous farmers continue to rely on moneylenders. Discuss the factors contributing to this ongoing dependence. (Compulsory- 15 marks)**

Ans.)

Despite the expansion of institutional credit facilities in the country, a significant portion of farmers persist in relying on moneylenders for their financial needs. This persistent dependence on moneylenders can be attributed to several interrelated factors.

**Accessibility and Convenience:** Despite the expansion of institutional credit facilities, many farmers persist in relying on moneylenders due to accessibility issues. While formal credit is theoretically available, it often remains out of reach for rural farmers due to inadequate infrastructure and outreach. Moneylenders, being physically present in local communities, offer quick disbursements without the bureaucratic procedures associated with banks, making them a more convenient option.

**Flexibility and Informality:** Moneylenders provide loans without collateral or credit history checks, unlike traditional banks. This flexibility is particularly appealing to smallholder farmers who may lack assets or creditworthiness. Moreover, moneylenders often offer customized repayment schedules tailored to the seasonal cash flows of agricultural activities. This informality and flexibility make them a preferred choice for many farmers despite the availability of institutional credit.

**Social Dynamics and Trust:** Moneylenders often have longstanding relationships with farmers, serving not just as lenders but also as informal advisors and mediators. This relational aspect fosters trust and dependency, making it challenging for farmers to transition to formal financial institutions. The social ties and trust built over time play a significant role in perpetuating reliance on moneylenders within rural communities.

**Risk Mitigation and Quick Access:** Moneylenders are often perceived as offering faster and easier access to funds compared to banks, which may involve lengthy approval processes. Additionally, moneylenders may be more lenient in assessing risk, making it easier for farmers to obtain loans, especially during emergencies or urgent needs. This quick access to funds and reduced bureaucratic hassle further incentivizes farmers to opt for moneylenders.

**Lack Awareness and Financial Literacy:** Many farmers, particularly those in remote rural areas, may lack awareness of formal banking services and their benefits. Limited financial literacy compounds this issue, as farmers may not fully understand the advantages of institutional credit over informal lending. Without adequate knowledge of available options, farmers are more likely to default to the familiar and accessible option of moneylenders.

**Market Imperfections and Informal Networks:** In some cases, market imperfections and lack of competition in the banking sector may contribute to farmers’ reliance on moneylenders. Limited competition among banks can lead to higher interest rates or stricter lending criteria, driving farmers towards informal sources of credit. Additionally, informal networks and community norms may perpetuate the reliance on moneylenders as the preferred source of financing.

**Way forward:** To reduce farmers’ dependency on moneylenders, efforts should focus on enhancing rural banking infrastructure, increasing financial literacy, and promoting the benefits of formal financial services. Implementing accessible banking services, providing tailored financial products, and conducting outreach programs can empower farmers to make informed financial decisions and access institutional credit effectively.

**Q.5) Examine the significant demographic shifts in India since Independence. (10 marks)**

Ans.)

India’s demography has undergone major changes since independence. Demography refers to the study of human population. It studies the size, structure, movement etc of human population over a period of time. The major demographic trends in India since independence are-

High Density of population:

- Density of population implies the average number of persons living per sq. Km. of area within the territory of the country.
- India has a High density due to having 2.4% of world land area with 17.7% of world population.
- According to the United nations (2020), population density of India is estimated as 464 persons per sq. km (it was 382 persons per sq. km in 2011).
- Because of this rapid growth of population, per capita cultivable land is decreasing which leads to tremendous pressure on agricultural productivity. Such condition is unfavourable for economic growth.

Increasing Life expectancy:

- It is an estimate of the average number of additional years that a person of a given age can expect to live.
- The most common measure of life expectancy is life expectancy at birth.
- India's life expectancy (for a child born in 2021) which is 69 years and 4 months is less than the world's average lifespan of 72.81 years.
- India's life expectancy was just 19.4 years in 1941, increased to 59 years in 1991.

Declining Fertility Rate:

- The Total Fertility Rate (TFR) is a standard demographic indicator used internationally to estimate the average number of children that a woman would have over her childbearing years (i.e., age 15-49), based on current birth trends.
- If, on average, women give birth to 2.1 children and these children survive to the age of 15, any given woman will have replaced herself and her partner upon death. A TFR of 2.1 is known as the replacement rate.
- From 1880 until 1970, India's fertility rate was very consistent, and women of this time had an average of 5.7 to six children over the course of their lifetime.
- In the second half of the twentieth century, the fertility rate dropped considerably, and has continued to drop in the 2000s.
- This decrease in the rate of fertility follows a common correlation between quality of life and fertility, where the fertility rate decreases as the standard of living improves.

Declining Child Sex Ratio (CSR) (ages 0- 6 years):

- It is defined as the number of girls per 1000 boys in the age group of 0- 6 years.
- Child sex ratio in the country has shown a declining trend since Census 1951.
- It was 983 in 1951 declined to 919 in 2011.
- In India there was a sharp decline in child sex ratio between 2001 and 2011. In 2001, it was 927 and by 2011, it declined to 919.
- The decline in CSR reflects a low status of women in our country and is an indication of disempowerment. This is a matter of grave concern.
- However, in maintaining the CSR, southern states of India have repeatedly performed well, specifically Karnataka and Kerala.

Sex Ratio (females per 1,000 males):

- Sex ratio is defined as the number of females per 1000 males in the population.
- The ratio is expressed as in the form of 990:1000, wherein this example there would be 990 females for every 1000 males in a population
- It is an important social indicator to measure the extent of prevailing equity between males and females in a society at a given point of time.
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- Since decades India has seen a decrease in the sex ratio 2011, but since the last two of the decades there has been in slight increase in the sex ratio.
- Since the last five decades the sex ratio has been moving around 930 of females to that of 1000 of males.

Dependency ratio:

- The dependency ratio is a measure of the number of dependents aged zero to 14 and over the age of 65, compared with the total population aged 15 to 64. This demographic indicator gives insight into the number of people of non-working age, compared with the number of those of working age.
- In 2020, total dependency ratio for India was 48.7. Total dependency ratio of India fell gradually from 79 ratio in 1971 to 48.7

ratio in 2020.

- This decrease in dependency ratio is a good indicator.

**Q.6) What is Financial Inclusion? Discuss its impact on the conduct of the Monetary policy.**

Ans.)

Financial inclusion refers to the accessibility and availability of financial services to all individuals and businesses, regardless of their economic status or location. It aims to ensure that everyone has access to affordable financial products and services, such as banking, credit, insurance, and investment opportunities. Financial inclusion is crucial for promoting economic growth, reducing poverty, and fostering social development.

Financial inclusion has several implications for the conduct of monetary policy:

- **Improved transmission mechanism:** Financial inclusion enhances the effectiveness of monetary policy transmission by ensuring that changes in monetary policy actions, such as interest rate adjustments, are transmitted efficiently throughout the financial system.
- **Enhanced data availability:** With increased financial inclusion, the RBI has access to more comprehensive and accurate data on economic activities, financial transactions, and the behavior of various market segments. This allows policymakers to make more informed decisions when formulating and implementing monetary policy measures.
- **Increased financial stability:** Financial inclusion can contribute to financial stability by reducing the prevalence of informal financial channels and mitigating systemic risks associated with the exclusion of certain segments of the population from the formal financial system. By bringing more individuals and businesses into the formal financial sector, financial inclusion helps to broaden and diversify the financial base, making the system more resilient to shocks.
- **Addressing economic inequalities:** Greater financial inclusion can help monetary policymakers in addressing economic inequalities. By ensuring that marginalized and underserved populations have access to financial services, monetary policy measures, such as interest rate adjustments or liquidity injections, can have a more direct and equitable impact on various segments of society, fostering more inclusive economic growth.
- **Enhanced liquidity management:** Financial inclusion can facilitate more effective liquidity management for central banks. With a broader network of banks and financial institutions serving a larger portion of the population, central banks may have more channels through which they can manage liquidity in the financial system, thereby improving their ability to stabilize markets and manage monetary conditions.

In conclusion, financial inclusion plays a vital role in promoting inclusive growth, reducing poverty, and enhancing the effectiveness of monetary policy. By ensuring that all individuals and businesses have access to essential financial services, financial inclusion contributes to economic development and stability. Therefore, policymakers should continue to prioritize efforts to promote financial inclusion and address the barriers that hinder access to financial services for marginalized populations.

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