

Comprehension Test for SBI Clerk Pre, IBPS Clerk Pre, LIC Assistant Pre and EPFO SSA Pre Exams.

Passage No. 124

Directions: Read the following passage carefully and answer the questions given beside.

Remote sensing and GIS are promising tools for handling spatial and temporal data and help in integrating them for successful planning of natural resources. It is the science of measuring the earth using sensors mounted on high-flying aircrafts or satellites. These sensors collect data in the form of images and provide insights for manipulating, analyzing and visualizing those images. Since natural resources are not uniformly distributed and are spatially varied, it is challenging to capture the correct picture. Management of natural resources calls for scientific tools for timely and accurate dissemination of information. In natural resource management, remote sensing and GIS are mainly used in the mapping process. These techniques are useful in management of land, soil, coastal, watershed, urban and many more.

In India, the agriculture sector alone sustains the livelihood of around 50 percent of the population. Therefore, increase in crop productivity has been a major concern. Since, the scope for increasing area under agriculture is limited, advanced crop production forecasting is required for better policymaking. Indian Space Research Agency (ISRO) and Indian Council of Agricultural Research (ICAR) successful experiment-Agricultural Resource Inventory and Survey Experiment (ARISE) used aerial color photographs to estimate crop acreage in many states of India. Other Important uses of remote sensing include crop identification, stress detection, and crop yield modeling, drought monitoring, land degradation mapping and more. Urbanization is important and inevitable for development, but its proper planning and management is crucial for sustenance. One of the important features of GIS is multilayered mapping. This kind of mapping helps municipal corporations, town planning boards to build cities that are better organized. The information systems with socio-economic data overlaid upon satellite data makes urban planning cost-effective and accurate.

Coastal ecosystems have high ecological significance. GIS and remote sensing data are used to study coastal ecosystem and marine living resources which include habitats like mangroves, coral reefs and more. Apart from this, suspended shoreline **dynamics** can be studied and climatic changes leading to cyclone and sea level rise may be of special interest too. Geospatial data is effective in the analysis and determination of factors that affect the utilization of these resources. The technologies provide a platform through which we can generate information that can be used to make sound decisions for sustainable development of the natural resources of India.

Questions: 1. What can be the most appropriate title for the passage? A. GIS and remote sensing in natural resource management. B. Use of GIS and remote sensing in land management. C. Use of GIS and remote sensing in urban management. D. Use of GIS and remote sensing in coastal ecosystem management E. Success of ISRO. 2. What is the tone of the author? A. Ridiculing B. Critical C. Informative D. Pessimistic E. Dogmatic 3. Why, according to the passage, are GIS and remote sensing considered as promising tools? I. They collect data in the form of graphs. II. They provide scope for manipulating, analyzing and visualizing the images. III. They disseminate data's more accurately. B. Only II and III C. Only I and III A. Only I and II D. Only II E. All of the above In the given context of the passage, why are GIS and remote sensing tools crucial in 4. the agriculture sector? I. This sector alone sustains the livelihood of around 50 percent of the population. II. GIS and remote sensing would help in advanced crop production forecasting. III. Drought monitoring can be done using GIS and remote sensing tools. B. Only I and III C. Only II and III A. Only I D. All I, II and III E. None of the above 5. How effective are remote sensing and GIS in managing urban growth? I. GIS and remote sensing are helpful in building cities that are better organized. II. The system makes urban planning cost-effective and accurate. III. They help the government disseminate people living in extremely densed areas to less populated ones. A. Only II and III B. Only I and II C. Only III D. Only I and III E. All of the above

6. Which of the following statements is/are not true?

I. Agricultural Resource Inventory and Survey Experiment (ARISE) is carried out by Indian Space Research Agency (ISRO) and Indian Council of Agricultural Research (ICAR)

II. Coastal ecosystems have less ecological significance hence GIS and remote sensing are of not much use to study their ecosystems.

III. GIS and remote sensing provide information that can be used to make sound decisions for sustainable development of the natural resources of India.

7. What is the synonym of the word 'dynamics' used in the passage?

A	A. Properties	B. Virtues	C. Growth	D. Immobility
E	. None of the above			
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Explanations:

1. Refer to:

... These techniques are useful in management of land, soil, coastal, watershed, urban and many more.

The whole passage mentions the uses of remote sensing and GIS in various areas for planning and effective management and this can be inferred from the highlighted part above.

Evidently, option A suits best as the title of the passage and therefore is the correct answer.

2. Option A is wrong as the author is not making a mockery of the successful work of GIS and remote sensing.

Option D is wrong as the author is optimistic about GIS and supports its usage.

Option B is also wrong as the author is nowhere seen criticizing GIS and remote sensing technique.

Option E is also incorrect as author is not asserting opinions in an arrogant manner.

The author supplements the entire passage with various examples and successful works of ISRO and ICAR. Evidently, the tone of the passage is 'informative'.

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Hence, option C is the correct answer.

3. Statement I. They collect data in the form of graphs.

Refer to:

These sensors collect data in the form of images and provide insights for manipulating, analyzing and visualizing those images.

From the highlighted sentence above, it's clear that Statement A is wrong as GIS and remote sensing tools collect data in the form of images and not graphs. Statement I is hence invalid

Statement II. They provide scope for manipulating, analyzing and visualizing the images.

From the same sentence as taken above for reference, we can infer that the mentioned tools are indeed helpful for manipulating, analyzing and visualizing the images. Statement III is hence true.

Statement III. They disseminate data's more accurately.

Refer to:

Management of natural resources calls for scientific tools for timely and **accurate dissemination of information**. In natural resource management, remote sensing and GIS are mainly used in the mapping process. We can infer from the highlighted part above that GIS and remote sensing disseminate data's more accurately.

Statement III is hence valid too.

Option B is hence the correct answer.

4. Statement I. This sector alone sustains the livelihood of around 50 percent of the population.

The above statement doesn't mention significance of GIS and remote sensing tools with respect to agriculture sector in India. Had the question been "Why is agriculture sector important for India?", the statement would have been correct. Hence, statement I is invalid.

Statement II. GIS and remote sensing would help in advanced crop production forecasting.

Refer to:

Remote sensing and GIS are promising tools for handling spatial and temporal data and help in integrating them for successful planning of natural resources.

Since, the scope for increasing area under agriculture is limited, advanced crop production forecasting is required for better policymaking.

The highlighted parts above confirm what's been stated in statement II. Hence, statement II is valid.

Statement III. Drought monitoring can be done using GIS and remote sensing tools.

Refer to:

Other Important uses of remote sensing include crop identification, stress detection, and crop yield modeling, **drought monitoring**, land degradation mapping and more.

Clearly, the highlighted part above validates what's been stated in statement III. Hence, statement III is also valid.

Option C is hence the correct answer.

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5. Statement I. Helps municipal corporations, town planning boards to build cities that better organized.

Refer to:

One of the important features of GIS is multilayered mapping. This kind of mapping helps municipal corporations, town planning boards to build cities that better organized.

The highlighted parts above confirm what's been stated in statement I. Hence, statement I is valid

Statement II. The system makes urban planning cost-effective and accurate.

Refer to:

The information systems with socio-economic data overlaid upon satellite data **makes urban planning cost-effective and accurate.**

From the highlighted part in the sentence above, it's clear that Statement II is true. Hence, statement II is valid too.

Statement III. They help the government disseminate people living in extremely densed areas to less populated ones.

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Nothing about the population is mentioned in the passage. Clearly, statement III is not true.

Option B is hence the correct answer.

6. Statement I. Agricultural Resource Inventory and Survey Experiment (ARISE) is carried out by Indian Space Research Agency (ISRO) and Indian Council of Agricultural Research (ICAR)

Refer to: Indian Space Research Agency (ISRO) and Indian Council of Agricultural Research (ICAR) successful experiment-Agricultural Resource Inventory and Survey Experiment (ARISE) used aerial color photographs to estimate crop acreage in many states of India.

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From the highlighted sentence above, it's clear that Statement (I) is true. Hence, statement I is valid

Statement II. Coastal ecosystems have less ecological significance hence GIS and remote sensing are of not much use to study their ecosystems.

Refer to:

Coastal ecosystems are of high ecological significance and hence GIS and remote sensing are of much use to study their ecosystems.

The statement states exactly opposite to what's been said in the passage as clear by the sentence taken as reference. Hence, statement II is not true.

Statement III. GIS and remote sensing provide information that can be used to make sound decisions for sustainable development of the natural resources of India.

Refer to:

The technologies provide a platform through which we can generate information that can be used to make sound decisions for sustainable development of the natural resources of India.

This inference can be made directly from the last sentence of the passage. Hence, statement III is valid.

Option D is hence the correct answer.

7. Dynamics (Noun): The forces or properties which stimulate growth, development, or change within a system or process.

Ex. "the dynamics of changing social relations"

Clearly, option A is the correct answer.



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