

General Studies Paper III

Science-Tech, Disaster Management & Rest

Time Allowed: 180 mins

Max Marks: 250

There are twenty questions. All Questions are compulsory.
The questions carry equal marks

Answer questions in NOT MORE than 200 words each. Content of the answer is more important than its length.

Answer the questions *in seriatim*. Use A-4 size sheets for your answers. Keep sufficient margins on at least three sides of the answer sheets. Any blank page / portion of the page should be clearly struck off.

1. "Competition for surface water rights, and overdrafting (depletion) of underground aquifers are certain problems which irrigation can lead to." Critically analyse
2. "Public distribution of foodgrains was retained as a deliberate social policy by India, when it embarked on the path of a planned economic development in 1951. It was, in fact, an important component of the policy of growth with justice." Comment
3. Most of Indian food processing unit are small sized, i.e. have poor economies of scale. What are the problems this leads to?
4. "Ebola, previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus species." Elaborate on the spread and containment of Ebola virus.
5. "A significant part of the existing NH consists of single-lane roads, which have suffered from a prolonged neglect." Do you agree?
6. "Also known as Mangalyaan, or Mars-Craft, this program by our very own space research organisation has been lauded as one of the most low cost but high functioning space missions till date." Evaluate the Mangalyaan project.
7. Present briefs about the works of the following:
 - a. Vijay P. Bhatkar
 - b. Subhash Mukhopadhyay
 - c. Narinder Singh Kapany
 - d. U R Rao
8. "Much of the research in robotics focuses not on specific industrial tasks, but on investigations into new types of robots, alternative ways to think about or design robots,

and new ways to manufacture them but other investigations." Examine

9. How does 'mechanochemistry' work? Explain the concept of "grey goo".
 10. What is an industrial design? What was the aim of the Diplomatic Conference - Lisbon Agreement 2015?
 11. "Layla, a one-year-old girl with leukaemia, is in remission; thanks to gene-editing technology that allowed her to receive modified immune cells from another person." Explain.
 12. "Environmental Impact Assessment (EIA) is an important management tool for ensuring optimal use of natural resources for sustainable development." In light of this statement, state the Environmental Appraisal Procedure adopted by the Ministry of Forest, Environment and Climate Change.
 13. "Today's supply chains operate in an era of a 'new normal,' characterized by unprecedented volatility, uncertainty and complexity. These are a result of changing macroeconomic, geo-political, and climatic conditions." Critically evaluate.
 14. Elucidate the various types and models of Public Private Partnership.
 15. What are Special Purpose Vehicles (SPVs)? Explain the significance in Indian context.
 16. "From equity and livelihood perspectives, livestock rearing must be at the centre stage of poverty alleviation programmes" Opine.
 17. Why the House-sparrow population is declining? Discuss
 18. "The Technology Mission was started as an offshoot of the Seventh Plan in the fields of literacy, immunization, oilseeds, drinking water, dairy products and telecommunication." State and explain the objectives of the mission.
 19. What are the generic advantages of Consolidation of Land Holdings?
 20. "Indian Meteorological Department (IMD) is mandated to monitor and give warnings regarding Tropical Cyclone (TC). Monitoring process has been revolutionized by the advent of remote sensing techniques." Explain.
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