

**PSCSCC MAIN EXAMINATION, 2013**  
**GENERAL STUDIES (PAPER-IV)**

Time Allowed: Three Hours

Maximum Marks: 250

**INSTRUCTIONS**

Please read the following instructions carefully before attempting questions:

- a) There are SEVENTEEN (17) questions.
- b) All questions are compulsory.
- c) There are TEN (10) questions of 12 marks each. Word limit for each question is 200 words (maximum).
- d) There are FIVE (5) questions with two sub-parts, each sub-part of 7 marks i.e. each question is of 14 marks. Word limit for each sub-part is 100 words (maximum).
- e) There shall be two questions on Problem Solving and Decision Making and each shall be of 30 Marks. Word limit for each answer shall be 400 words (maximum).
- f) Word limit in questions should be adhered to.
- g) Answers must be written in the medium authorized in the Admission Certificate which must be stated clearly on the cover of the answer sheet. No marks will be given for answers written in medium other than the authorized one.
- h) Any page or portion of the page left blank in the answer booklet must be clearly struck off.

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- Q.1 Discuss the payload associated with Indian Mars orbital mission to determine physical characteristics of Mars. (200 words)
- Q.2 What are the main goals of Plant Biotechnology? List various kinds of transgenic plants which have been generated using the knowledge of biotechnological principles. (200 words)
- Q.3 What are stem cells, and why are they important? What are the potential uses of human stem cells and the obstacles that must be overcome to use them successfully? (200 words)
- Q.4 What is first and second generation biofuels? How agricultural biotechnology helps to produce biofuels? (200 words)
- Q.5 Define artificial intelligence and how artificial intelligence helps in medical clinics? (200 words)
- Q.6 Give a detailed account on international initiatives in forest conservation. (200 words)
- Q.7 An African diplomat once told the delegates of rich countries, "If you do not share your wealth with us, we will share our poverty with you." How should rich countries support poor countries? (200 words)
- Q.8 "Kodankulam Nuclear Power Plant is unsafe and Indian Fukushima cannot be ruled out". In view of this statement, discuss the controversy regarding the establishment of Nuclear power plant? (200 words)
- Q.9 When did Uttarkhand (Kedarnath) Floods happen? List the major causes and possible mitigation measures. (200 words)
- Q.10 As an Environmental Impact Assessment (EIA) consultant, discuss issues and challenges before you. (200 words)

- Q.11 a) What are natural killer cells? What role they play in the defense of the body? (100 words)  
b) Write a note on biopharmaceutical and pharmacogenomics. (100 words)

- Q.12 a) Enumerate the applications of bio-technology in health care. (100 words)  
b) Is it better to be naturally infected than vaccination? Discuss. (100 words)

- Q.13 a) What do you understand by Vector borne diseases? (100 words)  
b) What are the challenges in the control of Vector borne diseases? (100 words)

- Q.14 Explain the following:  
a) Rain water harvesting and watershed management. (100 words)  
b) Carbon Sink. (100 words)

- Q.15 Explain the following:  
a) La-Nina and El Nino (100 words)  
b) Carbon Credits (100 words)

- Q.16 Tax evasion is a serious crime. As an Income Tax Commissioner, it has been brought to your notice about the tax evasion by a big and reputed businessman. The information is received from reliable and honest officers. The businessman carries a very good image in the society and is known for his charity and social works. He doesn't have any past record of tax evasion. But the complaints made by the honest officers against the businessman cannot be totally ignored. You are in a dilemma to initiate an appropriate action. You can neither discard the information passed by the honest officers nor thrust allegation against the reputed businessman.

In the given situation, what would be the probable options? State the viable option giving proper justification. (400 words)

- Q.17 Many factors impact the price of a product. You are the owner of an agro based sugar industry. The industry is not faring well and the shares are on all time low. Besides, the price of sugar cane had risen sharply creating further complications. What will you do in such a situation?

- a) Find out an alternative source of sugar cane and somehow manage to run the unit.  
b) Increase the price of sugar due to high manufacturing cost.  
c) Stop manufacturing sugar till the prices of sugarcane come down.  
Is there other option better than those stated above? If so, justify with reasons. (400 words)

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