

**ENTRANCE EXAMINATION, 2015**

M.Phil./Ph.D.

**STUDIES IN SCIENCE POLICY**

[ Field of Study Code : SSPP (148) ]

Time Allowed : 3 hours

Maximum Marks : 70

- Note :** (i) This question paper has **four** Parts. Read the instructions given in each Part.  
(ii) All Parts are to be answered in the answer-script.  
(iii) The figures in the right-hand margin indicate marks for the questions.

**PART—I**

Choose the correct option/Answer all the following :

1×10=10

1. The book entitled, *The Technological Society* was authored by
  - (a) Robert K. Merton
  - (b) Jacques Ellul
  - (c) Adam Smith
  - (d) Max Weber
  
2. Which of the following is not correctly matched?
  - (a) Scientific Policy Resolution, 1955
  - (b) Technology Policy Statement, 1983
  - (c) Science and Technology and Innovation Policy, 2013
  - (d) All of the above
  
3. The 'Lima Call for Climate Action' asks
  - (a) all countries to cut down their greenhouse gas emission
  - (b) only all developed countries to cut down their greenhouse gas emission
  - (c) to exclude the developing countries from any emission reduction commitment
  - (d) None of the above

4. The Food Safety and Standards Act, 2006 came into effect from
- (a) 2006
  - (b) 2010
  - (c) 2011
  - (d) None of the above
5. Who among the following is not a recipient of Bharat Ratna?
- (a) A. P. J. Abdul Kalam
  - (b) C. N. R. Rao
  - (c) Homi Jehangir Bhabha
  - (d) C. V. Raman
6. Which of the following is correctly matched?
- (a) The Golden Quadrilateral—A highway network
  - (b) North-South Corridor—A railways network
  - (c) JNNURM—Rural employment
  - (d) All of the above
7. Which of the following Indian States is famous for the 'living root bridges'?
- (a) Nagaland
  - (b) Meghalaya
  - (c) Mizoram
  - (d) Manipur
8. Narendra Dabholkar was primarily known for opposing
- (a) magic and superstitions
  - (b) scientific temper
  - (c) illiteracy
  - (d) industrialization
9. Which of the following is not true about India's Mars Orbiter Mission?
- (a) India has become the first country to send its spacecraft in Mars orbit in its first attempt
  - (b) It was launched in November, 2013 and entered into Mars orbit in September, 2014
  - (c) India has become the second Asian country to successfully send spacecraft in Mars orbit
  - (d) None of the above
10. Expand the following abbreviations :
- (a) AMUL
  - (b) BRAI
  - (c) INSA
  - (d) ISAC

PART—II

Explain any *five* of the following in 50 words each :

2×5=10

11. Chi square
12. Non-parametric test
13. Frugal innovation
14. Bibliometrics
15. Surplus value
16. Lotka's law
17. Photovoltaic cells
18. Greenhouse
19. 3-D printer
20. Technological lock-in

PART—III

Answer any *four* of the following in not more than 200 words each :

5×4=20

21. Analyze the socioeconomic impact of India-based neutrino observatory located in Tamil Nadu.
22. What is graphene? Discuss its socioeconomic significance.
23. Does the existing 'rewards system' promote excellence and innovation in science in India?
24. What is responsible innovation?
25. Discuss the concept of 'scientific temper' and its relevance in contemporary India.
26. What are the basic challenges related to the diffusion of drip irrigation technology in India?

27. Discuss the technological significance of 'Iron Pillar' located near the Qutb Minar.
28. Discuss the importance of 'Drone Technology' in civilian sector.
29. What is 'traceability' in agro-processing industry? Discuss its significance for consumers.
30. Discuss the merit and benefits of 'Open Science' vis-à-vis 'Secrecy in Science'.
31. Do you agree that biometric technology will bring efficiency in governance? Illustrate.
32. What is 'multiple discovery'? Discuss its significance in the context of the controversies surrounding the discovery of 'Pythagoras theorem'.
33. Discuss the role of public participation in S&T policy making in India.

#### PART—IV

Answer any *two* of the following in 1500 words each :

15×2=30

34. S&T revolution is leading towards a 'risk society'. Discuss.
35. Do you think 'technological foresight' is different from 'technological forecasting'? Explain.
36. Do you think that self-reliance is an obsolete policy goal in the era of globalization? Critically discuss.
37. Explain the new forms of innovations, which are different from the Schumpeterian notion of entrepreneur-based innovation.
38. Discuss the Science, Technology and Innovation Policy, 2013 and critically evaluate how this policy will meet the challenges of development in India.
39. Critically examine the role of Aadhar Card in minimizing corruption and bringing transparency in governance.
40. What are the challenges in forging the relations between university and industry in India? Discuss the latest policies and programme for increasing the university-industry relations.
41. What do you understand by 'Make in India' programme? Discuss its relevance for innovation and technology development in India.

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