



200673

प्रश्नपुस्तिका-II

संच क्र.



K10

GENERAL SCIENCE AND  
NATURE CONSERVATION

एकूण प्रश्न : 100  
एकूण गुण : 200

वेळ : 1 (एक) तास

### सूचना

- (1) सदर प्रश्नपुस्तिकेत 100 अनिवार्य प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे लिहित्यास सुरुवात करण्यापूर्वी या प्रश्नपुस्तिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून घ्यावी. तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.
- (2) आपला परीक्षा-क्रमांक ह्या चौकोनात न विसरता बॉलपेनने लिहावा.
 

परीक्षा-क्रमांक									

केंद्राची संकेताक्षरे

शेवटचा अंक
- (3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर दिशिट जागी उत्तरपत्रिकेवरील सूचनेप्रमाणे न विसरता नमूद करावा.
- (4) या प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाला 4 पर्यायी उत्तरे सुचविली असून त्यांना 1, 2, 3 आणि 4 असे क्रमांक दिलेले आहेत. त्या चार उत्तरांपैकी सर्वात योग्य उत्तराचा क्रमांक उत्तरपत्रिकेवरील सूचनेप्रमाणे तुमच्या उत्तरपत्रिकेवर नमूद करावा. अशा प्रकारे उत्तरपत्रिकेवर उत्तरक्रमांक नमूद करताना तो संबंधित प्रश्नक्रमांकासमोर छायांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.
- (5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांची उत्तरे द्यावीत. घाईमुळे चुका होणार नाहीत याची दक्षता घेऊनच शक्य तितक्या वेगाने प्रश्न सोडवावेत. क्रमाने प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण वाटल्यास त्यावर वेळ न घालता पुढील प्रश्नांकडे वळावे. अशा प्रकारे शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक राहिल्यास कठीण म्हणून वगळलेल्या प्रश्नांकडे परतणे सोईस्कर ठरेल.
- (6) उत्तरपत्रिकेत एकदा नमूद केलेले उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्याने उत्तर दिल्यास ते तपासले जाणार नाही.
- (7) प्रस्तुत परीक्षेच्या उत्तरपत्रिकांचे मूल्यांकन करताना उमेदवारांच्या उत्तरपत्रिकेतील योग्य उत्तरांनाच गुण दिले जातील. तसेच "उमेदवाराने वस्तुनिष्ठ बहुपर्यायी स्वरूपाच्या प्रश्नांची दिलेल्या चार उत्तरांपैकी सर्वात योग्य उत्तरेच उत्तरपत्रिकेत नमूद करावीत. अन्यथा त्यांच्या उत्तरपत्रिकेत सोडविलेल्या प्रत्येक चार चुकीच्या उत्तरांसाठी एका प्रश्नाचे गुण वजा करण्यात येतील".

### ताकीद

ह्या प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपेपर्यंत ही प्रश्नपुस्तिका आयोगाची मालकी असून ती परीक्षाकक्षत उमेदवारांच्या परीक्षेसाठी वापरण्यास देण्यात येत आहे. ही वेळ संपेपर्यंत सदर प्रश्नपुस्तिकेची प्रत/प्रती, किंवा सदर प्रश्नपुस्तिकेतील काही आशय कोणत्याही स्वरूपात प्रत्यक्ष वा अप्रत्यक्षपणे कोणत्याही व्यक्तीस पुरविले, तसेच प्रसिद्ध करणे हा गुन्हा असून अशी कृती करणाऱ्या व्यक्तीवर शासनाने जारी केलेल्या "परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचा अधिनियम-82" वारील तरतुदीनुसार तसेच प्रचलित कायद्याच्या तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कपाल एक वर्षांच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.

तसेच ह्या प्रश्नपत्रिकेसाठी विहित केलेली वेळ संपण्याआधी ही प्रश्नपुस्तिका अनधिकृतपणे बाळगणे हा सुद्धा गुन्हा असून तसे करणारी व्यक्ती आयोगाच्या कर्मचारीपदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयपदापैकी असली तरीही अशा व्यक्तीविरुद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

कचव्या कामासाठी जागा / SPACE FOR ROUGH WORK

1. Which of the following is *not* a gaseous biogeochemical cycle in the ecosystem ?

- (1) Nitrogen cycle (2) Carbon cycle  
(3) Sulphur cycle (4) Phosphorus cycle
- 

2. Which of the following is correct ?

Hydrological cycle refers to the cyclic movement of water between

- (1) Atmosphere and hydrosphere  
(2) Hydrosphere and lithosphere  
(3) Lithosphere and biosphere  
(4) Atmosphere, hydrosphere, lithosphere and biosphere
- 

3. The process of converting atmospheric nitrogen into ammonium ion by micro-organisms is called

- (1) Nitrification (2) Nitrogen fixation  
(3) Metabolism (4) Fertilization
- 

4. Which of the following has the highest storage in the sediments of the Earth's crust ?

- (1) Nitrogen (2) Carbon  
(3) Sulphur (4) Phosphorus
- 

5. Which are the main classes of micronutrient sources ?

- a. Inorganic  
b. Synthetic chelates  
c. Natural organic complexes  
d. Fritted glass products
- (1) a and c only (2) b only  
(3) d only (4) All of the above
-

6. Match the following :

- |                                   |                          |
|-----------------------------------|--------------------------|
| a. Organic nitrogenous fertilizer | I. Basic slag            |
| b. Phosphatic fertilizer          | II. N-Serve (nitrapyrin) |
| c. Complex fertilizer             | III. Nitrophosphate      |
| d. Nitrification inhibitor        | IV. Urea                 |

- |     | a   | b   | c   | d  |
|-----|-----|-----|-----|----|
| (1) | IV  | I   | III | II |
| (2) | II  | IV  | III | I  |
| (3) | I   | III | II  | IV |
| (4) | III | II  | IV  | I  |

7. Which of the following sources of potassium is better for yield and quality of potato tubers ?

- |                          |                        |
|--------------------------|------------------------|
| (1) Diammonium phosphate | (2) Potassium chloride |
| (3) Nitrophosphate       | (4) Potassium sulphate |

8. Poorly drained soils are high in organic matter content due to

- |                           |                                  |
|---------------------------|----------------------------------|
| (1) Less moisture content | (2) Low temperature              |
| (3) Poor aeration         | (4) More temperature of aeration |

9. Which is/are the common protozoan parasitic disease(s) recorded in wildlife in our country ?

- |                    |                     |
|--------------------|---------------------|
| a. Anthrax         | b. Canine distemper |
| c. Trypanosomiasis | d. Trichomoniasis   |
| (1) a only         | (2) a and c only    |
| (3) c and d only   | (4) d only          |

अच्छा कामसाठी जाण / SPACE FOR ROUGH WORK

10. Match the following :

- |                             |                           |
|-----------------------------|---------------------------|
| a. Haemorrhagic septicaemia | I. Mediterranean fever    |
| b. Anthrax                  | II. Wooden tongue         |
| c. Actinobacillosis         | III. Woollsorters disease |
| d. Brucellosis              | IV. Shipping fever        |

- |     | a   | b   | c   | d   |
|-----|-----|-----|-----|-----|
| (1) | I   | II  | III | IV  |
| (2) | II  | I   | IV  | III |
| (3) | III | IV  | I   | II  |
| (4) | IV  | III | II  | I   |

11. Ergot is a serious fungal disease of \_\_\_\_\_ crop.

- |               |                  |
|---------------|------------------|
| (1) Cotton    | (2) Pearl millet |
| (3) Greengram | (4) Maize        |

12. Red varieties of onion are generally resistant to onion smudge because they contain

- |                         |                        |
|-------------------------|------------------------|
| (1) Protocatechuic acid | (2) Hydrocyanic acid   |
| (3) Chitinase enzyme    | (4) Hydrolytic enzymes |

13. Which of the following insecticides is responsible for rapid insecticide resistance ?

- |                     |                           |
|---------------------|---------------------------|
| (1) Organochlorines | (2) Organophosphates      |
| (3) Carbamates      | (4) Synthetic pyrethroids |

14. Which of the following are used to prepare 'chaubatia paste' for fruit trees ?

- Cupric carbonate
- Copper oxychloride
- Red lead
- Linseed oil

Choose the correct answer from the options given below :

- |                     |                     |
|---------------------|---------------------|
| (1) a and d only    | (2) a, c and d only |
| (3) b, c and d only | (4) b and c only    |

15. QuEChERS method is used for

- (1) Fertilizer dose calculation
  - (2) Calculation of irrigation water
  - (3) Pesticide residues analysis
  - (4) None of the above
- 

16. Which of the following fungicides is a melanin biosynthesis inhibitor ?

- |                 |                 |
|-----------------|-----------------|
| (1) Carbendazim | (2) Carpropamid |
| (3) Fosetyl-Al  | (4) Sulphur     |
- 

17. Which weed plant seeds were introduced in India with foodgrains imported from USA ?

- (1) *Lantana camara*
  - (2) *Cynodon dactylon*
  - (3) *Parthenium hysterophorus*
  - (4) *Tribulus terrestris*
- 

18. *Orobanche ramosa* is parasitic on

- |                  |              |
|------------------|--------------|
| (1) Cabbage      | (2) Chickpea |
| (3) Cluster bean | (4) Cowpea   |
- 

19. \_\_\_\_\_ is *not* an example of positive or negative interactions.

- |                 |                |
|-----------------|----------------|
| (1) Predation   | (2) Parasitism |
| (3) Allelopathy | (4) Mimicry    |
- 

20. In a day of 8 hours, how much area can one person cover with a hydraulic knapsack sprayer ?

- |                  |                  |
|------------------|------------------|
| (1) About 0.4 ha | (2) About 0.8 ha |
| (3) About 1.2 ha | (4) About 1.0 ha |
- 

कच्चा कामसाठी जागा / SPACE FOR ROUGH WORK

21. Match the following :

- |                       |  |
|-----------------------|--|
| a. Extinct species    | I. Likely to become endangered in the future   |
| b. Endangered species | II. No living members remain   |
| c. Threatened species | III. Risk of extinction through all or a significant portion of their natural habitats |

- |     | a   | b   | c   |
|-----|-----|-----|-----|
| (1) | III | I   | II  |
| (2) | II  | III | I   |
| (3) | I   | II  | III |
| (4) | II  | I   | III |

22. Match the following :

- | <i>River</i>    | <i>Source of pollution</i>                        |
|-----------------|---|
| a. Subarnarekha | I. Industrial waste from Dhanbad and Asansol      |
| b. Krishna      | II. Industrial waste from Jamshedpur              |
| c. Damodar      | III. Industrial and domestic waste from Ahmedabad |
| d. Sabarmati    | IV. Waste from sugar industry                     |

- |     | a   | b  | c   | d   |
|-----|-----|----|-----|-----|
| (1) | III | I  | II  | IV  |
| (2) | II  | IV | III | I   |
| (3) | II  | IV | I   | III |
| (4) | IV  | II | I   | III |

23. Land degradation and soil pollution are caused due to

- |                            |                   |
|----------------------------|-------------------|
| a. Over cultivation        |                   |
| b. Over irrigation         |                   |
| c. Over use of fertilizers |                   |
| d. Over use of pesticides  |                   |
| (1) a and b only           | (2) c and d only  |
| (3) b, c and d only        | (4) a, b, c and d |

24. Which one of the following statements is correct ?

The Wildlife Protection Act, 1972 aims at

- (1) The preservation and protection of environment through the protection of tigers as their survival of life is linked to the health of the ecosystem.
- (2) The preservation and protection of environment through the protection of biodiversity for the conservation of wildlife habitat.
- (3) The preservation and protection of herbivorous, carnivorous and omnivorous through conservation policy.
- (4) The preservation and protection of environment and its endangered species which are at risk of extinction.

25. Which agencies are involved in exploration of minerals ?

- a. ONGC, MECL, GSI
- b. NMDC, MIDC, IBM
- c. IBM, GSI, CMPDI
- d. NALCO, HCL, MECL

- (1) a, b and d only
- (2) a, c and d only
- (3) b, c and d only
- (4) b and c only

26. The toxicants in fertilizers and pesticides mainly pollute the

- (1) Soil
- (2) Water
- (3) Soil and water
- (4) Air

27. Habitat fragmentation in Bannerghatta National Park has occurred due to

- (1) Quarrying in the region
- (2) Recreation activity
- (3) Thermal power plant
- (4) Newly developed residential area

28. Tadoba-Andhari Tiger Reserve in Chandrapur District is well-known for its wildlife and good quality forest. There are shallow deposits of high grade coal in the bufferzone area. Which method would be applied for extraction of this coal although it will make loss of forest cover and upper strata of soil ?

Choose the correct answer from the options given below :

- (1) Shaft mining
- (2) Open-cast mining
- (3) Drift mining
- (4) Placer mining

कठम्या कामासाठी जागा / SPACE FOR ROUGH WORK



29. Which of the following periods is considered as the hottest year in human history ?
- (1) 1981 - 1985 (2) 1991 - 1995  
(3) 2001 - 2005 (4) 2006 - 2010
- 
30. The greenhouse effect means an increase in ambient temperature due to the formation of blanket of
- (1) Carbon dioxide (2) Methane  
(3) Ozone (4) Nitrous oxide
- 
31. The effects of climate change on plants are complex. Which of the following statements is *false* regarding plants and climate change ?
- (1) Many plant species are composed of long lived species and do not change in response to incremental changes in climate.  
(2) Climatic limits are determined by the influence of climate on a plant's ability to compete with other species.  
(3) Climate change may also disturb interactions between plants and their pollinators, mycorrhizae, herbivores or pathogens.  
(4) Rising temperatures on plants are the best understood aspects of climate change.
- 
32. Which is the only gaseous hydrocarbon hormone playing an important role in greenhouse crops ?
- (1) Ethylene (2) Abscisic acid  
(3) Auxins (4) Cytokinins
- 
33. Which of the following wild animals consumes very little water and can live without water for several days ?
- (1) Rhino (2) Tiger  
(3) Sambhar (4) Blackbuck
- 
34. The gestation period of leopards is about
- (1) 2 months (2) 3 months  
(3) 4 months (4) 5 months

35. Which of the following zoonotic diseases is/are widely found in wild animals in India ?

- a. Ebola haemorrhagic fever
- b. Tuberculosis
- c. Glanders
- d. Tularemia

- (1) a only
- (2) a and b only
- (3) b only
- (4) c and d only

36. Match the following :

<i>Sanctuary / Park</i>		<i>State</i>	
a.	Nanda Devi	I.	Arunachal Pradesh
b.	Dibang	II.	Gujarat
c.	Kibber	III.	Uttarakhand
d.	Gir	IV.	Himachal Pradesh

- |     | a   | b   | c  | d   |
|-----|-----|-----|----|-----|
| (1) | IV  | III | I  | II  |
| (2) | IV  | II  | I  | III |
| (3) | III | I   | IV | II  |
| (4) | III | IV  | I  | II  |

37. The Indian cattle breeds which are at risk include

- a. Punganur
- b. Krishna Valley
- c. Red sindhi
- d. Sahiwal

- (1) a and b only
- (2) a, b and c only
- (3) a and d only
- (4) All of the above

38. Indian cattle (humped) belongs to the species

- (1) *Bos taurus*
- (2) *Bos indicus*
- (3) *Bos bubalis*
- (4) *Bos gaurus*

कृपया कामसाठी जाणू / SPACE FOR ROUGH WORK



45. Who is called the Father of Tissue Culture ?

- (1) Haberlandt
- (2) Mendel
- (3) Hopkins
- (4) Murashige

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46. The ability of regenerating an entire plant from a single cell is known as

- (1) Propagancy
- (2) Progeny
- (3) Totipotency
- (4) Deoxy

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47. Coconut water is well-known to contain \_\_\_\_\_, a plant hormone which induces cell division.

- (1) Totipete
- (2) Cytokinin
- (3) Callus
- (4) Epistasis

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48. The number as well as size and shape of chromosomes are termed as

- (1) Somatic cell
- (2) Diploid
- (3) Sussex
- (4) Karyotype

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49. The wildlife sanctuary in Andhra Pradesh which is a breeding place for pelican and other visiting marine birds is

- (1) Point Calimere Wildlife Sanctuary
- (2) Ranganthittu Bird Sanctuary
- (3) Kolleru Bird Sanctuary
- (4) Chilika Lake

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50. The first biosphere reserve of the world was established in the year

- (1) 1979
- (2) 1991
- (3) 1986
- (4) 1988

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कृपया कृपयासही जग / SPACE FOR ROUGH WORK

51. Match the following :

<i>Column I</i> (Mangroves)		<i>Column II</i> (State)		
a.	Bhitarkanika	I.	Tamil Nadu	
b.	Coondapur	II.	Odisha	
c.	Coringa	III.	Andhra Pradesh	
d.	Point Calimere	IV.	Karnataka	
	a	b	c	d
(1)	II	IV	III	I
(2)	II	IV	I	III
(3)	IV	II	III	I
(4)	I	III	II	IV

52. Gir Forest of Gujarat is unique as the only surviving habitat of the

- |                |            |
|----------------|------------|
| (1) Asian Lion | (2) Tiger  |
| (3) Leopard    | (4) Rhinos |

53. \_\_\_\_\_ variety of *Leucaena leucocephala* has been planted on large scale for better forage and wood production in tropics.

- |                |              |
|----------------|--------------|
| (1) Shorter K8 | (2) Giant K8 |
| (3) Shorter K9 | (4) Giant K9 |

54. A forest management strategy under which the forest department and the village community enter into an agreement to jointly protect and manage forest lands to share responsibilities and benefits is

- |                             |                     |
|-----------------------------|---------------------|
| (1) Joint Forest Management | (2) Agroforestry    |
| (3) Farm Forestry           | (4) Social Forestry |

55. In agroforestry, sometimes one plant makes the growth of another plant difficult by releasing \_\_\_\_\_ into soil.

- |                |                     |
|----------------|---------------------|
| (1) Pheromones | (2) Acids           |
| (3) Alleles    | (4) Allelochemicals |

कच्चा कामासाठी जाण / SPACE FOR ROUGH WORK

P.T.O.

56. The agroforestry system for wetlands are

- (1) Agri-silvicultural system (2) Agri-silvipastoral system  
(3) Agri-silvi-aquaculture system (4) All of the above
- 

57. What are the objectives of CITES ?

- a. To monitor and regulate trade in endangered species.  
b. To formulate policies pertaining to the protection and conservation of wildlife.
- (1) a only (2) b only  
(3) Both a and b (4) None of the above
- 

58. What are the functions of the Wildlife Advisory Board ?

- a. To guide Central and State governments on matters relating to wildlife through legislative and practical measures.  
b. To select areas to be declared as national parks and sanctuaries.
- (1) a only (2) b only  
(3) Both a and b (4) None of the above
- 

59. The National Forest Policy, 1952 of India was formulated on the basis of

- a. Evolving a system of balanced and complementary land use  
b. Checking denudation in mountainous regions, erosion of banks of great rivers and invasion of sea sand  
c. Establishing free lands  
d. Sustained supply of timber
- (1) a and b only (2) c and d only  
(3) All of the above (4) None of the above
- 

60. Which of the following statements about wildlife sanctuaries is/are correct ?

- a. They are dedicated to protect wildlife.  
b. They are for a particular species.  
c. Human interference is totally prohibited.
- (1) a only (2) b only  
(3) a and b only (4) All of the above
- 

कृपया कामसाठी जागा / SPACE FOR ROUGH WORK

61. The Headquarters of the Zoological Survey of India (ZSI) is located at
- (1) Delhi (2) Mumbai  
(3) Bangalore (4) Kolkata
- 
62. The United Nations Conference on Environment and Development (UNCED) is also known as
- (1) The Earth Summit (2) European Forestry Commission  
(3) Stockholm Convention (4) The Vienna Convention
- 
63. Which organization publishes the red list, compiling information from a network of conservation organizations to rate which species are most endangered?
- (1) The International Union for Conservation of Nature  
(2) The International Institute for Sustainable Development  
(3) The United Nations Environment Programme  
(4) The International Institute of Tropical Forestry
- 
64. World Wide Fund for Nature (WWF) was conceived on 29 April, 1961 under the name World Wildlife Fund and its office was opened on 11 September, 1961 in
- (1) Yokohama, Japan (2) Morges, Switzerland  
(3) Manitoba, Canada (4) Rome, Italy
- 
65. A high-oblique aerial photograph is taken with the camera inclined at which of the following angles?
- (1) 30° to the vertical axis (2) 40° to the vertical axis  
(3) 50° to the vertical axis (4) 60° to the vertical axis
- 
66. John Snow, a scientist, prepared a thematic map of cholera's spread the first time in which country?
- (1) Japan (2) India  
(3) England (4) USA

67. When was India's GSAT-17 satellite launched?

- (1) March 29, 2017 (2) April 29, 2017  
(3) June 29, 2017 (4) August 29, 2017

68. In which of the following hurricane cyclone was disaster management done the first time with the help of GIS in USA?

- (1) Ana (2003) (2) Katrina (2005)  
(3) Maria (2007) (4) Irma (2017)

69. Match the following specific mammals, birds and flowers with the States recommended for conservation (ISCA, 1986):

- |  |                     |
|--|---------------------|
| a. Four-horned antelope, Grey pelican and Jasmine ( <i>J. pubescens</i> )  | I. Maharashtra      |
| b. Gaur ( <i>Bos gaurus</i> ), Grey Jungle fowl ( <i>Gallus sonneratii</i> ) and Jarul ( <i>Lagerstroemia speciosa</i> ) | II. Gujarat         |
| c. Barasingha ( <i>Cervus duvauceli</i> ) Paradise Flycatcher and Sterculia ( <i>Sterculia colorata</i> )                | III. Madhya Pradesh |
| d. Asiatic lion, Flamingo and Amaltas ( <i>Cassia fistula</i> )  | IV. Andhra Pradesh  |

- |     | a   | b   | c   | d   |
|-----|-----|-----|-----|-----|
| (1) | IV  | I   | III | II  |
| (2) | I   | II  | IV  | III |
| (3) | II  | III | I   | IV  |
| (4) | III | IV  | II  | I   |





72. As per the Convention on Biological Diversity (CBD), biological diversity includes

- a. Diversity within species
- b. Diversity between species
- c. Diversity of ecosystems

- (1) a only
- (2) b only
- (3) a and b only
- (4) a, b and c

---

73. The use of multiline varieties was first suggested in 1952 by

- (1) Briggs
- (2) Borlaug
- (3) Jensen
- (4) Frey

---

74. Which selection method does *not* consider any information about the performance of ancestors, siblings, offsprings or other relatives ?

- (1) Mass selection
- (2) Family selection
- (3) Sib selection
- (4) Progeny testing

---

75. As per 2001 Census, out of the total population, tribal population in India was

- (1) 7.2%
- (2) 8.2%
- (3) 9.2%
- (4) 10.2%

---

76. The number of sets of chromosomes a tree has and can affect the variability pattern within and among species is termed as

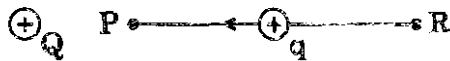
- (1) Breeding
- (2) Ploidy
- (3) Hybrid
- (4) Phenotype

---

कृपया कामासाठी जागा / SPACE FOR ROUGH WORK

77. The first paraboloidal type solar cooker in India was developed by
- Centre for Materials for Electronics Technology
  - Council of Scientific and Industrial Research
  - Defense Research and Development Organization
  - National Physical Laboratory, New Delhi
- (1) a only (2) a and b only  
(3) a and c only (4) d only

78. At every point in an electric field, a particle with charge  $q$  possesses a certain electrostatic potential energy. This work done, increases its potential energy by an amount equal to potential energy difference between any two points such as R and P. Thus potential energy difference is given by



- (1)  $\Delta U = U_P = U_R = W_{R=P}$  (2)  $\Delta U = U_P - U_R = W_{RP}$   
(3)  $\Delta U = U_P + U_R = W_{RP}$  (4)  $\Delta U = U_P * U_R = W_{RP}$

79. The study of the size of the pupil as a function of attitude is called
- Photometry
  - Geometry
  - Biometrics
  - Pupilometrics

80. Carbon has the electron configuration  $2S^1, 2S^2, 2P^2$ . Hybridization of the electron orbits of the carbon atom gives rise to the occurrence of the familiar allotropes, diamond and graphite. The rigidity of bands between the carbon atoms makes diamond the hardest material in existence. It has a high melting temperature of \_\_\_\_\_ and a large latent heat of melting of \_\_\_\_\_ at a pressure of 48 kbar.
- $5800^\circ\text{C}, 205 \text{ kJ mol}^{-1}$
  - $3800^\circ\text{C}, 105 \text{ kJ mol}^{-1}$
  - $3800^\circ\text{C}, 205 \text{ kJ mol}^{-1}$
  - $5800^\circ\text{C}, 105 \text{ kJ mol}^{-1}$



85. For Biofertilizers which statement/s is/are correct ?

- a. It is a low cost and easy technique.
- b. It requires skilled labour.
- c. It is free from pollution hazards.
- d. It increases physicochemical properties of soil.

- (1) a only (2) a and c only  
(3) a, b and c only (4) a, c and d only

86. Vermiwash contains

- a. Antifungal substances
- b. Antibacterial substances
- c. Chemical substances
- d. Growth promoting substances

Which of the options given above are correct ?

- (1) a, b and c only (2) a, b and d only  
(3) a, c and d only (4) b, c and d only

87. Which of the following is the largest family amongst angiosperms ?

- (1) Gramineae (2) Orchidaceae  
(3) Asteraceae (4) Annonaceae

88. Fungi growing on animal-dung are known as

- (1) Psychrophilic fungi (2) Coprophilous fungi  
(3) Phyllosphere fungi (4) Alpine fungi

89. Conchology is the study of

- (1) Mollusca (2) Foot of Mollusca  
(3) Shell of Mollusca (4) Behaviour of Mollusca

कठ्या कावासाडी जागा / SPACE FOR ROUGH WORK

P.T.O.

90. Euspongia commonly called as bath sponge belongs to the class

- (1) Calcarea (2) Hexactinellida  
(3) Demospongiae (4) None of the above

91. *Pipa americana*, an aquatic frog from South America belongs to the order

- (1) Urodela (2) Anura  
(3) Apoda (4) None of the above

92. Below are names of cells along with the group to which they exclusively belong. Which one is *incorrect* ?

- (1) Nematocyst - Cnidaria  
(2) Colloblast - Ctenophora  
(3) Trichocyst - Ciliata  
(4) Choanocyte - Porifera

93. Match the following :

- |                     |   |
|---------------------|---|
| a. Eluviation       | I. In terms of water content of soil            |
| b. Dolomite         | II. Deposition of soil material in lower layers |
| c. Illuviation      | III. Removal of salts                           |
| d. Atterberg limits | IV. Chief source of Mg                          |

- |     | a   | b  | c   | d  |
|-----|-----|----|-----|----|
| (1) | I   | II | III | IV |
| (2) | III | II | I   | IV |
| (3) | III | IV | II  | I  |
| (4) | II  | IV | III | I  |

94. The physical or mechanical process of weathering is designated as \_\_\_\_\_ of rocks and minerals.

- (1) Decomposition (2) Disintegration  
(3) Chemical weathering (4) None of the above

कच्चा कामसाठी जागा / SPACE FOR ROUGH WORK

95. The pedogenic process that removes silica resulting in accumulation of sesquioxides (Fe and Al) in warm humid regions is known as

- (1) Podzolization (2) Solodization  
(3) Saltation (4) Laterization
- 

96. When decay of a plant material occurs, which of the following changes occurs in the plant material ?

- (1) The C : N ratio of the plant material remains constant  
(2) The C : N ratio of the plant material increases  
(3) The C : N ratio of the plant material decreases  
(4) None of the above
- 

97. In India, which type of the following water harvesting techniques is/are practised ?

- a. Inter-row water harvesting  
b. Micro-plot water harvesting  
c. Water harvesting in farm ponds and reservoirs
- (1) a and c only (2) b only  
(3) c only (4) a, b and c
- 

98. \_\_\_\_\_ is practised in steep hill slopes to reduce the effect of erosion.

- (1) Bench terracing (2) Graded bunding  
(3) Contour bunding (4) All of the above
- 

99. \_\_\_\_\_ is the capacity of an agent causing erosion.

- (1) Erosivity (2) Erodibility  
(3) Drainability (4) Permeability
- 

100. Contour bunding practice is adopted to control what type of soil erosion in low rainfall areas ?

- (1) Accelerated soil erosion (2) Geological soil erosion  
(3) Glacial soil erosion (4) Functional soil erosion
- 

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## सूचना -- (पृष्ठ 1 वरून पुढे.....)

- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते काढी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जाही केलेल्या "परीक्षांमध्ये झोपाऱ्या गैरकारांना प्रतिबंध करण्याबाबतचे अधिनियम-82" यातील चारुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षांच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सध्या प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली चेळ संपल्यानंतर उमेदवारातून ही प्रश्नपुस्तिका स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षा कक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उतरपत्रिकेच्या भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

### अमुळा प्रश्न

Pick out the correct word to fill in the blank :

Q.No. 201. I congratulate you \_\_\_\_\_ your grand success.

- (1) for (2) at  
(3) on (4) about

हा प्रश्नाचे योग्य उत्तर "(3) on" असे आहे. त्यामुळे या प्रश्नाचे उत्तर "(3)" होईल. यास्तव खालीलप्रमाणे प्रश्न क्र. 201 सभोरील उत्तर क्रमांक "(3)" हे वर्तुळ पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र.क्र. 201.

- ① ② ③ ④

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासभोरील संबंधित वर्तुळ पूर्णपणे छायांकित करून दाखवावा. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK