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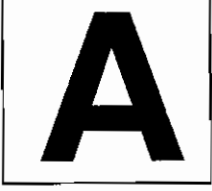
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**MPSC**  
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**(Mains) Paper-II 28 Oct,**  
**2018**





→ संच क्रमांक

2018

प्रश्नपुस्तिका क्रमांक  
BOOKLET NO.

प्रश्नपुस्तिका-II  
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 लिहिण्यास सुरुवात करण्यापूर्वी या प्रश्नपुस्तिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून घ्यावी. तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.

परीक्षा-क्रमांक									

केंद्राची संकेताक्षरे

शेवटचा अंक

(2) आपला परीक्षा-क्रमांक ह्या चौकोनात न विसरता बॉलपेनने लिहावा.

(3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर विशिष्ट 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 उमेदवाराच्या 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 मालमत्ता असून ती परीक्षाकक्षात उमेदवाराला परीक्षेसाठी वापरण्यास देण्यात येत आहे. ही वेळ संपेपर्यंत सदर प्रश्नपुस्तिकेची प्रत/प्रती, किंवा सदर प्रश्नपुस्तिकेतील काही आशय कोणत्याही स्वरूपात प्रत्यक्ष वा अप्रत्यक्षपणे कोणत्याही व्यक्तीस पुरविणे, तसेच प्रसिद्ध करणे हा गुन्हा असून अशी कृती करणाऱ्या व्यक्तीवर शासनाने जारी केलेल्या "परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचा अधिनियम-82" यातील तरतुदीनुसार तसेच प्रचलित कायद्याच्या तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या 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 कर्मचारीवृंदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयवृंदापैकी असली तरीही अशा व्यक्तीविरुद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पुढील सूचना प्रश्नपुस्तिकेच्या अंतिम पृष्ठावर पहा

पर्यवेक्षकांच्या सूचनेविना हे सील उघडू नये

SEAL

कच्च्या कामासाठी जागा/SPACE FOR ROUGH WORK

(0)



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1. Which of the following force is conservative ?  
(1) gravitational (2) frictional (3) viscous (4) air resistance

2. What is the purpose of heliostat in solar furnace ?  
(a) to direct the solar radiation parallel to the optical axis of the concentrator.  
(b) to track the position of sun and make proper alignment of the furnace.  
(c) to concentrate the radiations at the core of the furnace.  
(d) to reflect the solar radiations onto a cubical reflector.

**Answer Options :**

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

3. The coriolis force is \_\_\_\_\_.  
(a) not due to any physical interaction  
(b) is non-inertial  
(c) fictitious force  
(d) due to the spinning motion of the earth

**Answer Options :**

- (1) (a) only (2) (c) and (d) only  
(3) All of the above (4) None of the above

4. Calculate the potential at a point P due to a charge of  $4 \times 10^{-7}$  C located at 9 cm away. Also obtain the work done in bringing a charge of  $2 \times 10^{-9}$  C from  $\infty$  to the point P.  
(1)  $V = 4 \times 10^4$  V,  $W = 8 \times 10^{-5}$  J (2)  $V = 36 \times 10^4$  V,  $W = 16 \times 10^{-5}$  J  
(3)  $V = 5 \times 10^7$  V,  $W = 3 \times 10^{-9}$  J (4)  $V = 5 \times 10^7$  V,  $W = 9 \times 10^{-9}$  J

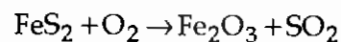
5. Which of the following statements concerning the quantum numbers are correct ?  
(a) Angular quantum number determines the three dimensional shape of the orbital.  
(b) The principal quantum determines the orientation and energy of the orbital.  
(c) Magnetic quantum number determines the size of the orbital.  
(d) Spin quantum number of an electron determines the orientation of the spin of electron relative to chosen axis.

Which of the statement given above are correct ?

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

6. The volume of oxygen (assumed to behave ideally) required per mol of iron pyrites at NTP is \_\_\_\_\_  $\text{dm}^3$ .

The reactants and products of the above reaction are as follows :



- (1) 2.75 (2) 61.6 (3) 30.8 (4) 123.2

कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK

P.T.O.

7.  $H_2S$  shows following properties :

- (a)  $H_2S$  is a colourless gas with foul smell
- (b) It is a poisonous gas
- (c) It is lighter than air
- (d)  $H_2S$  acts as reducing agent

**Answer Options :**

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

8. Molten  $Na_3AlF_6$  is subjected to electrolysis under appropriate conditions, the weight of aluminium (at. wt. 27) deposited by the passage of 96500 C of electricity will be \_\_\_\_\_ g.

- (1) 9
- (2) 27
- (3)  $96500 \times 27$
- (4) None of the above

9. Cypselia type of fruit is the distinguishing character in family \_\_\_\_\_.

- (1) Malvaceae
- (2) Asteraceae
- (3) Cruciferae
- (4) Meliaceae

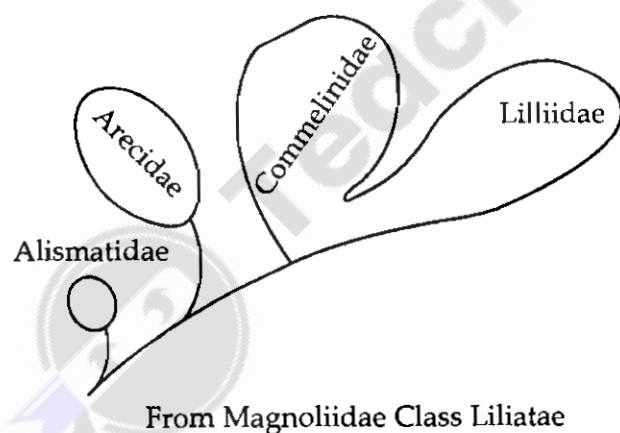
10. Ascus of the Fungal group Ascomycetes possesses typically \_\_\_\_\_ Ascospores.

- (1) 08
- (2) 10
- (3) 07
- (4) 06

11. Who proposed phylogenetic classification system of plants ?

- (1) Hutchinson
- (2) Bentham and Hooker
- (3) Engler and Prantl
- (4) Maheshwari

12.



The above graphical representation of monocots was proposed by \_\_\_\_\_.

- (1) John Hutchinson
- (2) Charles E. Bessey
- (3) A. Cronquist
- (4) Adolf Engler

कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK



13. *Entamoeba histolytica* is a \_\_\_\_\_ parasite.  
(1) monogenetic (2) digenetic (3) polygenetic (4) monomorphic
- 
14. Which of the cell organelles are **not** found in bacterial cell ?  
(a) Mitochondria (b) Lysosomes (c) Ribosomes (d) Mesosomes  
**Answer Options :**  
(1) (c) and (d) (2) (a) and (b) (3) (b) and (c) (4) (b) and (d)
- 
15. *Varanus bengalensis* an Indian nonpoisonous large sized lizard belongs to the suborder \_\_\_\_\_.  
(1) Lacertilia (2) Ophidia (3) Sauropoda (4) Hone
- 
16. Match List - I with List - II and select the **correct** answer by using the codes given below the list :
- | List - I             | List - II  |
|----------------------|------------|
| (a) Epitheliochorial | (i) Cow    |
| (b) Syndesmochorial  | (ii) Human |
| (c) Hemochorial      | (iii) Cat  |
| (d) Hemoendothelial  | (iv) Rat   |
|                      | (v) Pig    |
- Answer Options :**
- | (a)       | (b)   | (c)   | (d)  |
|-----------|-------|-------|------|
| (1) (v)   | (i)   | (ii)  | (iv) |
| (2) (i)   | (ii)  | (iii) | (iv) |
| (3) (ii)  | (iii) | (iv)  | (v)  |
| (4) (iii) | (iv)  | (v)   | (i)  |
- 
17. A combination of many taxonomic units like soil series, phase or types is called :  
(1) Soil variant (2) Soil series (3) Soil complex (4) Soil association
- 
18. Which of the following organisms are found in larger number during latter stages of decomposition and their main role in soil is to breakdown of more resistant components of plants and animal tissues remaining after initial attack ?  
(1) Bacteria (2) Actinomycetes  
(3) Fungi (4) Algae and Protozoa
- 
19. For amelioration of saline-sodic soils 'Gypsum' is commonly used to replace :  
(a) Exchangeable ammonium (b) Exchangeable calcium  
(c) Exchangeable sodium (d) Exchangeable all bases  
**Answer Options :**  
(1) (a) and (b) (2) (b) and (d) (3) (c) only (4) (d) only
- 

कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK

P.T.O.

20. What is the process of removal of constituents in suspension or solution by the percolating water from the upper layer to lower layers ?  
(1) Illuviation (2) Eluviation (3) Humification (4) Horizonation
- 
21. USLE predicts which of the following soil loss ?  
(1) monthly soil loss (2) weekly soil loss (3) annual soil loss (4) none
- 
22. In strip cropping system, long and narrow strips of erosion \_\_\_\_\_.  
(1) registering crops are alternated with strips of erosion registering crops.  
(2) registering crops are alternated with strips of erosion permitting crops.  
(3) permitting crops are alternated with strips of erosion permitting crops.  
(4) All are correct.
- 
23. The system involve lopping trees and grazing understorey grasses and bushes in forests plantations is known as \_\_\_\_\_.  
(1) Taungya cultivation (2) Silvi-Pastoral system  
(3) Agro-forestry (4) Horti-Pastoral system
- 
24. What are the components of Watershed Management Programme ?  
(a) Soil and water conservation (b) Crop management  
(c) Human resource development (d) Live stock management  
**Answer Options :**  
(1) (a) only (2) (a) and (b) only  
(3) (a), (b) and (c) only (4) (a), (b), (c) and (d)
- 
25. What is the percentage of Photosynthetically Active Radiation (PAR) in the incident solar radiation ?  
(1) 100% (2) less than 50% (3) up to 1 - 5% (4) up to 2 - 10%
- 
26. The *abiotic* components of soil ecosystem is/are :  
(a) Soil atmosphere (b) Organic matter  
(c) Soil water (d) Soil biota  
**Answer Options :**  
(1) (a) only (2) (a) and (b) only  
(3) (d) only (4) (a), (b) and (c) only
- 
27. Which of the following sequence of food chain is **correct** ?  
(a) Grassland (b) Snakes (c) Hawk (d) Grasshoppers  
**Answer Options :**  
(1) (a), (d), (b), (c) (2) (d), (b), (c), (a) (3) (c), (b), (d), (a) (4) (b), (c), (d), (a)
- 

कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK



28. Ecosystem comprises of \_\_\_\_\_ and \_\_\_\_\_.  
(1) population, community (2) community, environment  
(3) population, environment (4) environment, ecology

29. Match the following :

Column - I (Fertilizer Units)	Column - II (Location)
(a) FCIL	(i) Bhatinda
(b) NFL	(ii) Thal
(c) HFCL	(iii) Sindri
(d) RCF	(iv) Durgapur

Answer Options :

- |           |       |       |      |
|-----------|-------|-------|------|
| (a)       | (b)   | (c)   | (d)  |
| (1) (iv)  | (ii)  | (iii) | (i)  |
| (2) (i)   | (iii) | (iv)  | (ii) |
| (3) (iii) | (i)   | (iv)  | (ii) |
| (4) (iii) | (i)   | (ii)  | (iv) |

30. The organic manures that contain higher percentage of major plant nutrients are called as :  
(1) concentrated indirect manures (2) concentrated bulky organic manures  
(3) concentrated organic manures (4) concentrated inorganic manures

31. Which is the main source of phosphorus for plant nutrition ?  
(1) Air (2) Water (3) Air and Water (4) Soil

32. Which of the following nutrients is immobile in plants ?  
(1) Potassium (2) Phosphorus (3) Zinc (4) Boron

33. Consider the following statements and choose the correct option :  
(a) *Rhipicephalus* (Boophilus) *microplus* is involved in transovarian transmission of bovine piroplasmiasis in India.  
(b) *Rhipicephalus* (Boophilus) *microplus* is one host tick.

Answer Options :

- (1) Both the statements are wrong and are contradictory to each other.  
(2) First statement is wrong but the second is correct.  
(3) First statement is right but the second is wrong.  
(4) Both the statements are correct and the second is the correct justification of the first.

34. The transmissible spongiform encephalopathies is caused by \_\_\_\_\_.  
(1) RNA virus (2) Pathogenic prions (3) Bacteria (4) Fungal

कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK

P.T.O.

35. \_\_\_\_\_ bacterium enters through injury site of red cotton bug and stain cotton fiber.
- |                                 |                                     |
|---------------------------------|-------------------------------------|
| (1) <i>Bacillus gossypii</i>    | (2) <i>Arthobacter gossypii</i>     |
| (3) <i>Nematospora gossypii</i> | (4) <i>Corynebacterium gossypii</i> |

36. Match the following parasites with susceptible wild animals :

(a) <i>Trypanosoma equinum</i>	(i) Dog, horse
(b) <i>Trypanosoma evansi</i>	(ii) Tiger, chital
(c) <i>Trypanosoma simiae</i>	(iii) Pig, camel
(d) <i>Trypanosoma vivax</i>	(iv) Horse, camel, cattle, sheep and goat

**Answer Options :**

	(a)	(b)	(c)	(d)
(1)	(i)	(ii)	(iii)	(iv)
(2)	(ii)	(i)	(iii)	(iv)
(3)	(iii)	(iv)	(i)	(ii)
(4)	(iv)	(iii)	(ii)	(i)

37. \_\_\_\_\_ is a systemic Fungicide belonging to Benzimidazoles group.

(1) Azoxystrobin	(2) Tebuconazole	(3) Metalaxyl	(4) Thiophante
------------------	------------------	---------------	----------------

38. In which year the insecticide act of India was enforced throughout the country ?

(1) 1968	(2) 1970	(3) 1971	(4) 1914
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39. Find out the **incorrcet** pair from the followings :

(1) Phenyl pyrazoles	-	Fipronil
(2) Oxadiazine	-	Indoxacarb
(3) Avermectins	-	Abamectin
(4) Phenyl pyrazole	-	Acitamidrid

40. Pesticide present in a formulation is described by the common name :

(1) Action level	(2) Action limits
(3) Active ingredient	(4) Adjuvant

41. Castor bean is a source of \_\_\_\_\_ poisonous substance.

(1) curcin	(2) abrin	(3) urushiol	(4) ricin
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42. \_\_\_\_\_, appears to be the most common invasive in Asian elephant habitat.

(1) <i>Clidemia hirta</i>	(2) <i>Lantana camara</i>
(3) <i>Mikania micrantha</i>	(4) <i>Ageratum conyzoides</i>

43. On which crop *Orobanch* spp. of weed is parasite ?

(1) Sorghum	(2) Sugarcane	(3) Lucerne	(4) Tobacco
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कच्चा कामासाठी जागा/SPACE FOR ROUGH WORK

44. Milk from animals feeding upon Mexican poppy (*Argemone mexicana*) weed can cause following disease in humans :

- |                |                     |
|----------------|---------------------|
| (1) Filariasis | (2) Trypanosomiasis |
| (3) Glaucoma   | (4) Encephalitis    |

45. There are several types of plant and fungi bio-monitors including :

- |                  |                         |
|------------------|-------------------------|
| (a) Lichens      | (b) Tree rings          |
| (c) Bark pockets | (d) Depletion of plants |

**Answer Options :**

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

46. Which of the following are the liquid pollutants ?

- |                          |                      |
|--------------------------|----------------------|
| (a) Micro dust particles | (b) Mercury          |
| (c) Sewage               | (d) Oil spill in sea |

**Answer Options :**

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

47. The sequence of steps involved in waste management hierarchy is :

- |               |                          |
|---------------|--------------------------|
| (a) Treatment | (b) Pollution prevention |
| (c) Disposal  | (d) Reuse/Recycle        |

**Answer Options :**

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

48. Match the category of pollutant with the example.

- |                              |                      |
|------------------------------|----------------------|
| (a) Organic chemicals        | (i) Uranium          |
| (b) Organometallic chemicals | (ii) Pollen          |
| (c) Radiological             | (iii) Pesticides     |
| (d) Biological               | (iv) Tetraethyl lead |

**Answer Options :**

- |           |       |       |       |
|-----------|-------|-------|-------|
| (a)       | (b)   | (c)   | (d)   |
| (1) (ii)  | (i)   | (iv)  | (iii) |
| (2) (iv)  | (ii)  | (iii) | (i)   |
| (3) (iii) | (iv)  | (i)   | (ii)  |
| (4) (i)   | (iii) | (ii)  | (iv)  |

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49. The Haryana Pollution Control Board has sealed 12 stone-crushing units in the district due to :

- (a) Did not have water sprinklers
- (b) Did not have microbial-leaching technique
- (c) Did not have fabric filters
- (d) Did not have facility of incineration

Which of the above mentioned statements is/are correct ?

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

50. Which of the following is responsible for acid mine drainage ?

- (1) Accidental oil spills
- (2) Epilimnion
- (3) Pyrite bearing rock
- (4) Smelting

51. Which is correct sentence ?

- (a) Gypsum is a non-metallic mineral
- (b) Coal is a metallic mineral
- (c) Manganese ore is a metallic mineral
- (d) Zinc is a fuel mineral

Answer Options :

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

52. Observe the following statements :

- (a) Land slides are occurred in Western Ghat due to intensive coal mining.
- (b) Land slides may be observed throughout the Himalaya due to mineral and stone mining.
- (c) The eastern slope of Nainital is sinking because of quarrying.

Answer Options :

- (1) Only statement (a) is correct
- (2) Only statement (b) is correct
- (3) Statements (a) and (b) are correct
- (4) Statements (b) and (c) are correct

53. The principle greenhouse gas is :

- (1) Carbondioxide ( $\text{CO}_2$ )
- (2) Methane ( $\text{CH}_4$ ) and Ozone ( $\text{O}_3$ )
- (3) Nitrous oxide ( $\text{N}_2\text{O}$ )
- (4) Water vapour

54. Clinograph that highlights the importance of climate on distribution of biomes is a plot of :

- (1) Mean temperature and altitude
- (2) Precipitation and altitude
- (3) Precipitation and mean temperature
- (4) Mean sunshine hours and minimum temperature

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55. The main cause of the increase in the amount of Carbondioxide and other greenhouse gases in earth's atmosphere over past 150 years is :
- (1) Increased worldwide standing crop and primary production.
  - (2) The burning of larger amount of fossil fuel and deforestation.
  - (3) An increase in the amount of infrared radiation absorbed by the atmosphere.
  - (4) Additional respiration by rapidly growing human population.

56. Which of the following statements are correct pertaining to Greenhouse effect ?
- (a) Nitrogen and Oxygen are transparent to electromagnetic radiation.
  - (b) Carbon dioxide is best known Greenhouse gas.
  - (c) Some of the incoming solar radiation is absorbed by stratospheric ozone, carbon dioxide, water vapours, water droplets and dust.
  - (d) The surface of earth is warmed by the sun only during day time but its heat is radiated away by night as well as by day.

**Answer options :**

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

57. Match the pairs of wild animals with their age of maturity.

- |                |                 |
|----------------|-----------------|
| (a) Yak        | (i) 1 year      |
| (b) Tiger      | (ii) 2 years    |
| (c) Swamp deer | (iii) 3-4 years |
| (d) Wild pig   | (iv) 5 years    |

**Answer options :**

- |     | (a)   | (b)   | (c)   | (d)  |
|-----|-------|-------|-------|------|
| (1) | (ii)  | (iv)  | (iii) | (i)  |
| (2) | (iv)  | (iii) | (ii)  | (i)  |
| (3) | (iii) | (ii)  | (iv)  | (i)  |
| (4) | (i)   | (ii)  | (iii) | (iv) |

58. Match the following type of enclosures with the species of wild animals to furnish the enrich environment under captivity.

- |   |                                      |
|---|--------------------------------------|
| (a) Climbing or arboreal                | (i) Primates and bear                |
| (b) Terrestrial                         | (ii) Deer and Antelope               |
| (c) Burrowing or digging                | (iii) Pangolius and burrowing snakes |
| (d) Aquatic or needing water frequently | (iv) Crocodiles and Rhinos           |

**Answer options :**

- |     | (a)   | (b)   | (c)   | (d)   |
|-----|-------|-------|-------|-------|
| (1) | (i)   | (ii)  | (iii) | (iv)  |
| (2) | (ii)  | (iii) | (iv)  | (i)   |
| (3) | (iii) | (iv)  | (i)   | (ii)  |
| (4) | (iv)  | (i)   | (ii)  | (iii) |

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59. Which of the following pairs are correctly matched ?

Wild animal	Schedule of Wildlife (Protection) Act, 1972
(a) Golden Langur	I
(b) Lion-tailed Macaque	II
(c) Bonnet Macaque	II
(d) Hoolock	III

**Answer options :**

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

60. Consider the following statements :

- (a) Asian tigers are tolerant to cold climate but sensitive to tropical temperature.  
 (b) During hot weather they spend day time by sleeping and hunt in night hours.

**Answer options :**

- (1) Statement (b) is correct, (a) is incorrect.  
 (2) Statement (a) is correct, (b) is incorrect.  
 (3) Both the statements are correct.  
 (4) Both the statements are incorrect.

61. Breed of cattle which is suitable for dairy due to its following features :

- (a) Small size  
 (b) Adaptability to varying climatic conditions  
 (c) Resistance capacity to common diseases

**Answer options :**

- (1) Gir                      (2) Deoni                      (3) Red Sindhi                      (4) Tharparkar

62. Lucerne is not fed ad lib to cattle due to possibility of tympanitis. The other best leguminous fodder for feeding of dairy animals is :

- (a) Berseem                      (b) Cowpea  
 (c) Guar                      (d) None of above

**Answer options :**

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

63. For calculating cost of production of milk from dairy animal, the following information is required :

- (a) Milk yield of animal                      (b) Cost of feed and fodder  
 (c) Expenses on labour                      (d) Recurring expenses

**Answer options :**

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

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64. In order to achieve the projected growth of 5% in dairy production :

- (a) Need to reduce low producing cattle and buffalo.
- (b) Use of genetically superior bull to increase productivity.
- (c) Use cloning with stem cell for developing complete embryos.
- (d) Cross breeding

**Answer options :**

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

65. In which region highest percentage of forest area is found ?

- (1) Himalayan region      (2) The Great Plines
- (3) Peninsular plateau and hills      (4) Western ghats and coastal hills

66. The chemical L. Dopa used in Parkinson's disease is obtained from the seed of :

- (1) *Berberis aristata*      (2) *Mucuna pruriens*
- (3) *Moringa oleifera*      (4) *Jatropha cureas*

67. Denuded wastelands are being used for high density plantation of fast growing species which provide fuel wood and charcoal having high calorific value. Name the type of energy obtained.

- (1) Dendrothermal energy      (2) Thermal energy
- (3) Hydro energy      (4) Nucleas energy

68. Motia and Sofia are the varieties of which plant species ?

- (1) *Andropogon nardus*      (2) *Cymbopogon martini*
- (3) *Cymbopogon rotundus*      (4) *Cinnamomum camphora*

69. The following trees are present in tropical evergreen forest :

- (1) *Santalum*, *Artocarpus* and *Dipterocarpus*
- (2) *Myristica*, *Boswellia* and *Tamarix*
- (3) *Dalbergia*, *Terminalia* and *Bamboo*
- (4) *Langerstroemia*, *Grewia* and *Tectona*

70. Growth in plants is mainly influenced by following factors :

- (a) Genetic Constitution      (b) Reproductive Biology
- (c) Site Quality      (d) Density

**Answer options :**

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

71. Which hormone is synthesized in leaves under photoinductive cycle, which induces flowering in plants ?

- (1) Phytochrome      (2) Florigen      (3) ABA      (4) None of the above

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72. Name the law which explains the effect of various abiotic factors on growth and development of plants.

- |                                 |                            |
|---------------------------------|----------------------------|
| (1) Liebig's Law of Minimum     | (2) Mendel's Law           |
| (3) Shelford's Law of Tolerance | (4) Principles of Site Law |

73. Match the following :

Sanctuary/park	Place
(a) Sanjay Gandhi National Park	(i) Amravati
(b) Andhari	(ii) Chandrapur
(c) Navegaon	(iii) Gondia
(d) Gugamal	(iv) Borivali (Mumbai)

Answer options :

- |     | (a)   | (b)  | (c)   | (d)   |
|-----|-------|------|-------|-------|
| (1) | (iv)  | (ii) | (iii) | (i)   |
| (2) | (ii)  | (iv) | (iii) | (i)   |
| (3) | (iv)  | (ii) | (i)   | (iii) |
| (4) | (iii) | (ii) | (i)   | (iv)  |

74. In 1970, the Hangul Project was taken up by the IUCN/WWF and National Park was declared in 1981 for conservation of Kashmir stag or Hangul is known as \_\_\_\_\_.

- |                                |                            |
|--------------------------------|----------------------------|
| (1) Bannerghatta National Park | (2) Dachigam National Park |
| (3) Betla National Park        | (4) Dumdum National Park   |

75. Nanda Devi National Park was included in the list of World Heritage sites during 1991 is in the state :

- |                       |                 |
|-----------------------|-----------------|
| (1) Kerala            | (2) Uttarakhand |
| (3) Arunachal Pradesh | (4) Assam       |

76. Keibul Lamjao National Park is situated at the South-eastern corner of the Loktak Lake in \_\_\_\_\_ state.

- |           |               |             |             |
|-----------|---------------|-------------|-------------|
| (1) Assam | (2) Meghalaya | (3) Manipur | (4) Mizoram |
|-----------|---------------|-------------|-------------|

77. Social forestry can be considered under three broad heads, viz : \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

- |  |
|--|
| (1) Agroforestry, Rural forestry, Urban forestry           |
| (2) Agroforestry, Urban forestry, Aesthetic forestry       |
| (3) Agroforestry, Rural forestry, Commercial forestry      |
| (4) Rural forestry, Aesthetic forestry, Community forestry |

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78. Which of the following statement of Joint Forest Management (JFM) is correct ?
- (1) A model of Forest Management in which the local communities are involved in the planting of plantation crop.
  - (2) A model of Forest Management in which the local communities are involved in the social forestry and intensive farming.
  - (3) A model of Forest Management in which the local communities are involved in the silviculture and sericulture.
  - (4) A model of Forest Management in which the local communities are involved in the planning of the conservation programme.

79. Definition of agroforestry as a land use system that integrates trees, crops and animal in a way that is scientifically sound, ecologically desirable, practically feasible and socially acceptable to the farmers. The said definition is proposed by :
- (1) Nair (1979)
  - (2) Bene et.al. (1977)
  - (3) King and Chandler (1978)
  - (4) Young (1989)

80. All agroforestry systems posses theoretically the following three attributes :

- (a) Productivity, Sustainability and Adoptability
- (b) Productivity, Popularity and Sustainability
- (c) Productivity, Adoptability and Marketability

**Answer options :**

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

81. The provision of Wildlife Protection Act 1972 is :

- (a) Prohibition of hunting of birds and animals.
- (b) The provision of preservation of wildlife and environment.
- (c) The protection of Sancturies and National parks.

**Answer options :**

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

82. As per the Indian Forest Act - 1927 the acts prohibited in Reserved Forests are :

- (a) Tresspasses or pasture cattle.
- (b) Fell, gridles, lops, burns any tress or debaries.
- (c) Quarries stone, burns lime or charcoal, collects or removes any forest produce.

**Answer options :**

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

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83. The following are some of the objective of social forestry. Which of these is/are correct ?
- To meet the need of fuel wood, small timber, bamboo, fodder and other minor forest products.
  - To provide gainful employment to rural people.
  - To prohibit forest base industries.
  - To provide efficient soil and water conservation.

**Answer options :**

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

84. Match the following.

Column I (Endangered species project)	Column II (Year of launching)
(a) Project Tiger	(i) 1987
(b) Crocodile	(ii) 1973
(c) Rhinoceros	(iii) 1988
(d) Snow-leopard	(iv) 1975

**Answer options :**

- |     |      |       |       |       |
|-----|------|-------|-------|-------|
|     | (a)  | (b)   | (c)   | (d)   |
| (1) | (ii) | (iv)  | (i)   | (iii) |
| (2) | (ii) | (iv)  | (iii) | (i)   |
| (3) | (iv) | (ii)  | (iii) | (i)   |
| (4) | (i)  | (iii) | (ii)  | (iv)  |

85. United Nation's Educational, Scientific and Cultural Organization established in :

- |          |          |          |          |
|----------|----------|----------|----------|
| (1) 1944 | (2) 1935 | (3) 1955 | (4) 1945 |
|----------|----------|----------|----------|

86. According to Biological Diversity Act, People's Biodiversity Registers are to be prepared at the level of :

- National Biodiversity Authority
- State Biodiversity Board
- Biodiversity Management Committee

**Answer options :**

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

87. Which international organisation dedicated to species survival environmental law, protected areas, social and economic policy, ecosystem management, and education ?

- |          |         |         |          |
|----------|---------|---------|----------|
| (1) UNEP | (2) WWF | (3) WNO | (4) IUCN |
|----------|---------|---------|----------|

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88. National Research Center for Agroforestry established in the year 1988 is located at :

- (1) Ranchi (2) Jhansi (3) Dehradun (4) Peechi

89. Thematic maps can portray physical, social, political, cultural, economic, sociological, agricultural aspects of :

- (1) Region only (2) State only (3) Nation only (4) (1), (2) and (3)

90. Which of the following is correct for the scale of photograph taken at 10,000 feet above mean terrain with 6-inch (0.5 foot) focal length lense ?

- (1)  $\frac{0.5}{10,000} = 1 : 5000$  (2)  $\frac{0.5}{10,000} = 1 : 10,000$   
 (3)  $\frac{0.5}{10,000} = 1 : 15,000$  (4)  $\frac{0.5}{10,000} = 1 : 20,000$

91. CARTOSAT 1 was launched on which of the following date ?

- (1) 5<sup>th</sup> June 2005 (2) 5<sup>th</sup> May 2005  
 (3) 5<sup>th</sup> January 2005 (4) 5<sup>th</sup> December 2005

92. Match the digital terrain models data source with the capture method.

- | Data Source            | Capture Method   |
|------------------------|--|
| (a) Maps               | (i) Stereo plotter                                     |
| (b) Aerial photographs | (ii) Direct downloading from field surveying equipment |
| (c) Satellite imagery  | (iii) Digitizing and Scanning                          |
| (d) Ground survey      | (iv) Stereo autocorrection                             |

Answer options :

- |     | (a)   | (b)   | (c)  | (d)   |
|-----|-------|-------|------|-------|
| (1) | (i)   | (iv)  | (ii) | (iii) |
| (2) | (ii)  | (iii) | (iv) | (i)   |
| (3) | (iii) | (i)   | (iv) | (ii)  |
| (4) | (iv)  | (i)   | (ii) | (iii) |

93. The basic reason for extinction of wildlife are as follows :

- (a) Destruction of their natural habitat (b) Overgrazing by domestic animals  
 (c) Poaching for meat (d) Excessive breeding

Answer options :

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

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94. In biosphere reserve, multiple land use is permitted by designating various zones, match the following :

- |                       |  |
|-----------------------|--|
| (a) Core zone         | (i) Human activity is allowed but ecology is not permitted to be disturbed |
| (b) Buffer zone       | (ii) No human activity is allowed  |
| (c) Manipulation zone | (iii) Limited human activity is permitted                                  |
| (d) Restoration zone  | (iv) Degraded area for restoration to near natural form                    |

**Answer options :**

- |     | (a)   | (b)   | (c)  | (d)  |
|-----|-------|-------|------|------|
| (1) | (iii) | (i)   | (iv) | (ii) |
| (2) | (ii)  | (iii) | (i)  | (iv) |
| (3) | (ii)  | (iii) | (iv) | (i)  |
| (4) | (iii) | (ii)  | (i)  | (iv) |

95. Which of the following statements is/are correct ?

- Biodiversity covers variety of flora and fauna their ecological and genetic variability.
- Biodiversity is fundamental to human life.
- With the loss of species and genetic diversity ecosystem are impaired and the ability to sustain of human life is damaged.
- Richness of the biodiversity of India is largely due to its flora.

**Answer options :**

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

96. The major causes of biodiversity loss are :

- |                         |                          |
|-------------------------|--------------------------|
| (a) Habitat destruction | (b) Over exploitation    |
| (c) Pollution           | (d) Species introduction |

**Answer Options :**

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

97. Match the term for aneuploid individual's chromosome number :

- | Term           | Chromosome number |
|----------------|-------------------|
| (a) Tetrasomic | (i) $2n + 1$      |
| (b) Monosomic  | (ii) $2n - 2$     |
| (c) Nullisomic | (iii) $2n + 2$    |
| (d) Trisomic   | (iv) $2n - 1$     |

**Answer options :**

- |     | (a)   | (b)   | (c)  | (d)   |
|-----|-------|-------|------|-------|
| (1) | (iii) | (iv)  | (ii) | (i)   |
| (2) | (ii)  | (i)   | (iv) | (iii) |
| (3) | (iv)  | (ii)  | (i)  | (iii) |
| (4) | (ii)  | (iii) | (iv) | (i)   |

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98. The recent developments in technology of genetic engineering have brought the entire world of living organisms within the limits of germplasm of any crop plant which is referred as :  
(a) GP-1 (b) Gene-ocean (c) GP - 3 (d) Gene pool (GP-4)

**Answer Options :**

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

99. Which of the following culture(s) produce(s) haploids ?

- (a) Anther culture (b) Pollen culture (c) Ovule culture (d) Meristem culture

Choose correct option :

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

100. Radioactive  $^{32}\text{P}$  labelled nucleotides are most commonly used to detect the virus DNA which can then be identified by which technique ?

- (a) ELISA (b) Serological test  
(c) Autoradiography (d) Antibody detection technology

**Answer Options :**

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

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### सूचना — (पृष्ठ 1 वरून पढे....)

- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते कॉपी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जारी केलेल्या “परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचे अधिनियम-82” यातील तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सदर प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपल्यानंतर उमेदवाराला ही प्रश्नपुस्तिका स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षाकक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

### नमुना 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 |

ह्या प्रश्नाचे योग्य उत्तर “(3) on” असे आहे. त्यामुळे या प्रश्नाचे उत्तर “(3)” होईल. यास्तव खालीलप्रमाणे प्रश्न क्र. 201 समोरील उत्तर-क्रमांक “(3)” हे वर्तुळ पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र. क्र. 201. ① ② ● ④

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासमोरील 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