

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

T. B. C. : CS – 11/13

Test Booklet Series

Serial No.

228246

TEST BOOKLET

O. C. S. Preliminary Examination
(FORESTRY)

B

Time Allowed : 2 Hours

Maximum Marks : 300

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF SAME SERIES ISSUED TO YOU.
2. ENCODE YOUR OPTIONAL SUBJECT CODE AS MENTIONED ON THE BODY OF YOUR ADMISSION CERTIFICATE AND ADVERTISEMENT AT APPROPRIATE PLACES ON THE ANSWER SHEET.
3. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
4. You have to enter your Roll No. on the Test Booklet in the Box provided alongside. **DO NOT** write *anything* else on the Test Booklet.
5. This Test Booklet contains **120** items (questions). Each item (question) comprises four responses (answers). You will select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided, by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. There will be negative markings for wrong answers. **25 percent of marks allotted to a particular item (question) will be deducted as negative marking for every wrong response (answer).**
8. Before you proceed to mark (darken) in the Answer Sheet the responses to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions in your **Admission Certificate**.
9. After you have completed filling in all your responses on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the *Answer Sheet* and the *Test Booklet* issued to you. You are allowed to take with you the candidate's copy/second page of the Answer Sheet, after completion of the examination, for your reference.

SEAL

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

1. Selection generation after generation with inter breeding of selected plants is called :
 - (a) Recurrent selection
 - (b) Reciprocal recurrent selection
 - (c) Recurrent selection for SCA
 - (d) Recurrent selection for GCA
2. In most trees the receptive period of flowers lasts :
 - (a) 1-3 days for single flower
 - (b) 10-15 days for single flower
 - (c) 2-5 days for single flower
 - (d) 4-5 days for single flower
3. Back cross breeding method was proposed by :
 - (a) Mendel
 - (b) Harlan and Pope
 - (c) M. S. Swaminathan
 - (d) Borlaug
4. In mass selection plants are selected on the basis of phenotypic and harvested seeds are composited :
 - (a) Without progeny test
 - (b) With progeny test
 - (c) Bulking
 - (d) Mixed varieties
5. Genetic nature of self pollinated crops are :
 - (a) Plants are homozygous and homogenous
 - (b) Plants are heterozygous and heterogenous
 - (c) Diverse genetic materials
 - (d) Plants are all haploids
6. Progeny of single self fertilized homozygous population is called as :
 - (a) Mass selection
 - (b) Back cross breeding
 - (c) Pure line selection
 - (d) Selection
7. The external appearance of an organisms is called as :
 - (a) Genotype
 - (b) Phenotype
 - (c) Heterosis
 - (d) Genetic makeup
8. Organisms having only one complete set of chromosomes :
 - (a) Haploids
 - (b) Triploids
 - (c) Dyads
 - (d) Triads

9. The first forest genetic experiments were started nearly :
- (a) 200 years ago
 - (b) 300 years ago
 - (c) 400 years ago
 - (d) 600 BC
10. The process of transfer of characters from one generation to next generation is called as :
- (a) Heridity
 - (b) Environment
 - (c) Cytogeneties
 - (d) Biology
11. The 'Gasoline plant' refers to :
- (a) **Euphorbia lathyris**
 - (b) **Salvadora persica**
 - (c) **Sterculia foetida**
 - (d) **Thevetia peruviana**
12. Which of the following spaces do not contribute to **in situ** conservation ?
- (a) National Park
 - (b) Botanical Garden
 - (c) Tiger Reserve
 - (d) Wildlife Sanctuary
13. World Environment Day is celebrated on :
- (a) 21st March
 - (b) 5th August
 - (c) 5th June
 - (d) 21st December
14. Forest Conservation Act was enacted in the year :
- (a) 1972
 - (b) 2002
 - (c) 1988
 - (d) 1980
15. The 'whistling hunter' is a carnivore known as :
- (a) Leopard
 - (b) Sloth bear
 - (c) Wild dog
 - (d) Caracal
16. Kanha National Park is the last stronghold of an endangered animal :
- (a) Wild buffalo
 - (b) Lion-tailed Macaque
 - (c) Hard ground Barasingha
 - (d) Hangul

17. Species diversity is highest in :
- (a) Temperate forests
 - (b) Subtropical forests
 - (c) Mangrove forests
 - (d) Tropical forests
18. Marine mammals include :
- (a) Sea cucumber, Corals and Polychaetes
 - (b) Mammoth, Mouse deer and Mugger
 - (c) Manatee, Dugong and Whale
 - (d) Caulapa, Halimeda and Codium
19. Endemics are :
- (a) Species with wide distribution
 - (b) Species with restricted distribution
 - (c) Biomes of wide range
 - (d) Biomes of narrow range
20. Tropical rain forests occur in :
- (a) Polar region, Russia
 - (b) Central Africa, Central and South America, South and South-East Asia
 - (c) North America, Russia
 - (d) Deccan Plateau, North America
21. In High Forest Ecosystem Density and Frequency are _____ to each other.
- (a) Directly proportional
 - (b) Inversely proportional
 - (c) Equal to each other
 - (d) None of the above
22. Stabilization of sand dunes are done by :
- (a) Dona plantation
 - (b) Shrub cultivation
 - (c) Earthen (Kachcha) brick plantation
 - (d) None of the above
23. Net Primary productivity is calculated as :
- (a) $NPP + R$
 - (b) $GPP - R$
 - (c) $GPP + R$
 - (d) Both (a) and (b)
24. Plantation of wasteland serves the purpose of _____ for the local inhabitants.
- (a) Fuel and Fiber
 - (b) Fodder and Food
 - (c) Fruits
 - (d) Both (a) and (b)

25. Autotrophs are primary producers and prime utilizer of :
- (a) Water in the soil
 - (b) Rain water
 - (c) Solar energy
 - (d) Wind energy
26. Pyramid of Energy in the Ecosystem is always :
- (a) Inverted
 - (b) Inverted and upright both
 - (c) Upright
 - (d) None of the above
27. Length of food chain in the Ecosystem is dependent upon the :
- (a) Homogeneity of species
 - (b) Endemism
 - (c) Heterogeneity of species
 - (d) Conservation of species
28. Silviculture is the art and science of :
- (a) Growing grasses and legumes
 - (b) Ornamental plants
 - (c) Growing trees
 - (d) Culturing honey bees
29. Cycling of Carbon and Nitrogen falls under the category of :
- (a) Sedimentary cycle
 - (b) Gaseous cycle
 - (c) Nutrient cycle
 - (d) None of the above
30. Microbes are designated as _____ of the ecosystem.
- (a) Pathogens
 - (b) Destroyers
 - (c) Scavengers
 - (d) Consumers
31. The fixed oil from **Melia azedarach** seeds is a :
- (a) Drying oil
 - (b) Semi-drying oil
 - (c) Non-drying oil
 - (d) None of the above
32. Seed drug is obtained from :
- (a) **Saussurea lappa**
 - (b) **Picrorhiza burrooa**
 - (c) **Strychnos nuxvomica**
 - (d) **Glycerrhiza glabra**
33. Best Bidi leaves are got from :
- (a) Root suckers
 - (b) Mature trees
 - (c) Small trees
 - (d) All of the above

34. Stock preparation of pulp refers to :
- (a) Beating
 - (b) Sizing
 - (c) Wading
 - (d) All of the above
35. Katha is extracted from :
- (a) Sapwood
 - (b) Heartwood
 - (c) Modified wood
 - (d) None of the above
36. Smoking treatment to canes is given to get :
- (a) Red colour
 - (b) Black colour
 - (c) Reddish brown colour
 - (d) Green colour
37. The capsules of **Bombox Cieba** yields :
- (a) Coir
 - (b) Floss
 - (c) Fibree
 - (d) None of the above
38. Baishakhi, Kusumi and Rangini crops are of :
- (a) Cane
 - (b) Bamboo
 - (c) Tassar
 - (d) Lac
39. Balsams are :
- (a) Oleoresins
 - (b) Gums
 - (c) Gum-resins
 - (d) All of the above
40. The direction of fall is easy to maintain in felling of :
- (a) Crooked tree
 - (b) Leaning tree
 - (c) Straight tree
 - (d) None of the above
41. Allelopathic effect of trees on inter-cultivated crop is :
- (a) Positive
 - (b) Neutral
 - (c) Negative
 - (d) Positive or Negative
42. Most widely on-farm grown exotic genera in India is :
- (a) **Populus**
 - (b) **Eucalyptus**
 - (c) **Acacia**
 - (d) **Leucaena**

43. Which of the following is non-leguminous nitrogen fixing species ?
- (a) **Alnus nitida**
 - (b) **Leucaena leucocephala**
 - (c) **Pongamia pinnata**
 - (d) **Robinia pseudoacacia**
44. A tree whose stem has been cut off at a definite height in order to obtain a flush of shoots is called :
- (a) Lopped
 - (b) Thinned
 - (c) Pruned
 - (d) Pollarded
45. **Acacia albida** is preferred in agroforestry due to :
- (a) Winter deciduous nature
 - (b) Reverse phenology
 - (c) Nitrogen fixing ability
 - (d) Multiple uses
46. Diagnosis and design approach in agroforestry was developed by :
- (a) IUFRO
 - (b) ICFRE
 - (c) ICRAF
 - (d) ICRISAT
47. In alley cropping, the commonly used species is :
- (a) **Gliricidia sepium**
 - (b) **Azadirachta indica**
 - (c) **Butea monosperma**
 - (d) **Tectona grandis**
48. NFTs raised in social forestry programme belong to the family :
- (a) Ranunculaceae
 - (b) Liliaceae
 - (c) Leguminosae
 - (d) Compositae
49. The agroforestry systems can be classified according to :
- (a) Structural basis
 - (b) Functional basis
 - (c) Ecological basis
 - (d) All of the above
50. Tree crop interaction leads to which effect ?
- (a) Complimentary
 - (b) Supplementary
 - (c) Competitive
 - (d) None of the above
51. "Access and benefit sharing" of forest produce in the tribal rich areas of the state of Orissa is one of the most important issues of the concerns of national and international framework

- conventions. Name the correct one from the following :
- (a) Intergovernmental panel on climate change
 - (b) National Biodiversity Authority
 - (c) Convention of Biological Diversity
 - (d) State Biodiversity Management Committees
52. Which species among the following is considered most suitable for planting in wasteland in the state of Orissa ?
- (a) *Jatropha curcas*
 - (b) *Melia azederach*
 - (c) *Diospyros melanoxylon*
 - (d) *Elaeis guinensis*
53. Which of the following villages in Orissa state is an example of an innovative step of involving the local people in rehabilitation of degraded forests ? The intangible flow of benefits from the forests was considered as a distinct achievement :
- (a) Arabari village
 - (b) Richaria village
 - (c) Eklingpura village
 - (d) Budhikhamari village
54. Which is the correct definition of National Forest out of the following ?
- (a) Those forests which must be preserved or created for physical and climatic conditions
 - (b) Those forests which have to be maintained to provide firewood, grazing for cattle, yield small timber for agricultural implements and other forest produce for local requirements
 - (c) Those forests which have to be maintained and managed to meet the need of defense, industry, communications and other general purposes of public importance
 - (d) Those areas with trees which through outside the scope of the ordinary forest management essential for the amelioration of the physical conditions of the country
55. State Forest Department under the National Forest Policy (1994) have which specific duty of the following :
- (a) To awaken the interest of the state authorities in the development of extension and establishment of tree-lands

- (b) To develop less preference to the species of commercial importance
- (c) To establish nurseries of exotic species of economic value only
- (d) All of the above
56. National Forest Policy (1952) was affected by National Commission on Agriculture (1976) through which one of the following ?
- (a) Revision of forest policy by incorporating significant shifts and stresses out of the recommendations of the Central Board of Forestry in its XVth meeting in 1976
- (b) States are not the ultimate authority on to implement a policy decision
- (c) The forest conservation and protection are to be separated from the life-style of tribals
- (d) People's participation in the management of wildlife in agriculture lands
57. Under which of the following Articles of the Indian Constitution safeguarding the forests and wildlife of the country has been enshrined ?
- (a) Article 48-A
- (b) Article 51-A
- (c) Article 15
- (d) Article 19
58. Which of the following has bearing on forest management with respect to production forestry, soil conservation, inter-state trade and commerce, reclamation and development of inter-state river valleys ?
- (a) National Commission on Agriculture Report (1976)
- (b) Sixth Five Year Plan Document (1980-85)
- (c) Fuelwood Study Committee Report (1982)
- (d) Plan Development Programmes in Forestry Sector (1981)
59. The traditional management of forest is based on silvicultural principles with change in perceptions and conditions in recent time with respect to the preparation of working plan. Several forests and forestry related cross-cutting issues have emerged for the integrated approach on the management through conventions and frameworks. Answer the correct one from the following in this regard :
- (a) UNCLS
- (b) UNFCCC

- (c) CCAMLR
(d) UNIDO
60. Sustainable forest management through the criterion of optimization of forest resource utilization is supported by which of the following indicators ?
- (a) Contribution of forest to the income of forest dependent people
(b) Status of information dissemination and utilization
(c) Forest resource accounting
(d) Level of material and technological inputs
61. India has the distinction of having the best managed and productive forests among the developing nations. Some of the plantations on timber yielding species are the oldest in Asia. Name the correct species from following being the oldest in Asia :
- (a) Deodar in Himachal Pradesh
(b) Teak in Kerala
(c) Mulberry in Pakistan
(d) Sal in Jharkhand
62. Name the correct answer out of the following where yield is regulated by volume through a method/formula which allows to ascertain the number of trees of exploitable girth which might be removed annually without endangering potential yield. The diameter classes are denoted as I, II, III, IV, V and so on. The potential number of trees for annual harvest is calculated by multiplying the actual numbers in each girth case with survival % of that class :
- (a) Smythies' safe-guarding formula
(b) Masson's Methods
(c) Howard's modified method
(d) Dr. Brandis's method
63. Which one of the following attributes a normal forest has ?
- (a) Series of age gradations achieved in man made forests
(b) Age class found in even aged, heterogeneous natural forests
(c) With such volumes of tree of even age distributed and growing that they produce equal volumes of the produce
(d) Forest which is managed by people's participation
64. Which Biosphere Reserve of the following occupies largest area in square kilometer ?
- (a) Sunderbans
(b) Similipal

- (c) Gulf of Mannar
(d) Kanchenjunga
65. Which one of the following is the actual forest cover as % of geographical area of the state of Orissa ?
- (a) 31.37
(b) 35.33
(c) 28.40
(d) 41.75
66. Which one of the following is the correct figure for National Parks (NP) and Wild Life Sanctuaries (WLS) in the State or Orissa ?
- (a) 2 NP and 18 WLS
(b) 2 NP and 11 WLS
(c) 1 NP and 11 WLS
(d) 1 NP and 10 WLS
67. A site with occurrence of deep rooted tall grass and 1-3 m in height occurring in humid subtropical climate is referred as :
- (a) Prairie
(b) Savanna
(c) Steppe
(d) Brake
68. Timber line in eastern Himalaya is higher than in western Himalayas because of :
- (a) Least impact of migration and encroachment
(b) Higher precipitation and trend of rains
(c) Collection of timber for fuel and construction purposes
(d) Higher species diversity of coniferous flora
69. One of the following plant is an obnoxious weed in the forest and surroundings of Orissa and adjoining states is :
- (a) *Ageratum conyzoides*
(b) *Chromolaena odoratum*
(c) *Parthenium hysterophorus*
(d) *Cassia tora*
70. Which one of the following can be considered as a most seasoned timber yielding forest tree in terms of the climatic, edaphic and geographical variability ?
- (a) *Tectona grandis*
(b) *Shorea robusta*
(c) *Casuarina equisetifolia*
(d) *Dipterocarpus turbinatus*

71. A working plan of a forest area is prepared while considering which of the following ?
- (a) Principles of sustained yield
 - (b) Administrative area forming a manageable block
 - (c) Continuity of policy and execution in order to produce the desired results
 - (d) All of the above
72. In a silvicultural system followed, it has been observed that the crop is uneven-aged with all age classes mixed together, the trees are systematically and singularly removed. Regeneration fellings are distributed over the whole felling series. Name the correct system out of the following :
- (a) Improvement Fellings System
 - (b) Selection System
 - (c) Group Selection System
 - (d) Group System
73. Which combination is correct out of the following answers for the systems mentioned ?
- (a) Crop is even-aged as the natural regeneration assisted by artificial one with uniform seeding felling over a compartment
 - (b) Crop is even when young, but even aged later if the regeneration interval is large and the regeneration is not assisted by sowing or planting
 - (c) Crop is even with short regeneration, assisted by artificial regeneration
 - (d) Crop is even-aged with short regeneration interval and d. b. h. is specified for the future crop
74. In which silvicultural system the tree crop is removed by compartments by clear felling, with no reservation of a shelterwood and coppice is often assisted by artificial regeneration in strips and lines. The type of crop is even-aged :
- (a) Coppice with standard system
 - (b) Simple coppice system
 - (c) Shelterwood coppice system
 - (d) Coppice selection system
75. Name the correct silvicultural system which is followed out of the answers given below. In this system artificial regeneration is sometimes possible from seeds from adjoining areas or from coppiced advanced growth or from seed fallen on the ground :
- (a) Irregular shelterwood system

- (b) Clear felling system
(c) Group selection system
(d) High forest with reserves system
76. Name the correct instrument used for the measurement of height of a tree based on the properties of similar triangles :
- (a) Topographical Abney's Level
(b) Brandis's Hypsometer
(c) Christen's Hypsometer
(d) Watkin's Chinometer
77. A tree has been measured three times periodically with initial diameter in 1991 as 5.4 cm, in the year 1996 as 6.0 cm and 2001 as 6.6 cm. Which one of the following is the correct age of the tree in the year 1991s. Age (t) = $1/ps$ (where s is a constituent to be found as equal to $\log 1 - \log p_2$ upon $\log d_2 - \log d_1$):
- (a) 53 years
(b) 55 years
(c) 50 years
(d) None of the above
78. The measurement is taken as standard height for girth, diameter and basal area of standing tree in India when measured at breast height is :
- (a) 1.37 m
(b) 1.30 m
(c) 1 m
(d) 1.50 m
79. Indian region has how many number of major forest types ?
- (a) 225
(b) 5
(c) 41
(d) 16
80. In which categories of forest Indian forest types fall ?
- (a) Warm temperate, Temperate deciduous, Boreal coniferous, Evergreen tropical rain forest
(b) Tropical rainforest, Tropical seasonal forest, Arid and semi-arid, Mangrove forest
(c) Holarctic, Australian, Neotropic, Capensis
(d) Tropical dry, Deciduous and Rain forest, Temperate evergreen and Mixed forest, Alpine and sub-alpine
81. Abbreviation D_2 in tree classification indicate :
- (a) Dominant tree
(b) Predominant tree
(c) Codominant tree
(d) Suppressed tree

82. Tree height is an indicator of :
(a) Site
(b) Species
(c) Rainfall
(d) All of the above
83. Renewal of a forest crop by sowing or planting is referred to as :
(a) Natural regeneration
(b) Artificial regeneration
(c) Both (a) and (b)
(d) None of the above
84. While tending the stool coppice how many coppice are retained initially :
(a) One
(b) Two
(c) Three
(d) Four
85. While introducing an exotic what is most crucial ?
(a) Disease resistance
(b) Seed size
(c) Climate
(d) Utility value
86. Which of the following is an exotic species ?
(a) Terminalia
(b) Teak
(c) Simaruba
(d) Bamboo
87. In a Chir pine forest control burning after a good seed year :
(a) Help seed germination
(b) Not help germination
(c) Reduce germination
(d) Has no effect
88. The main natural regeneration used under various silviculture systems are :
(a) Clear felling
(b) Selection system
(c) Both (a) and (b)
(d) None of the above
89. **Shorea robusta** after germination would establish itself well if it attains a height of :
(a) 20 cm
(b) 30 cm
(c) 40 cm
(d) 50 cm
90. Mangrove species mostly disperse seeds through :
(a) Wind
(b) Water
(c) Animals
(d) Birds

91. Good seed year for *Terminalia tomentosa* is seen at :
(a) 1-2 years
(b) 2-3 years
(c) 3-4 years
(d) 4-5 years
92. How many number of fruits are found in one kg of *Tectona grandis* ?
(a) 1760
(b) 1800
(c) 1900
(d) 1960
93. Seed production depends on :
(a) Species
(b) Age
(c) Crown size
(d) All of the above
94. "High Forest" is the regeneration of forest obtained from :
(a) Vegetative propagation
(b) Seed
(c) Root suckers
(d) Budding
95. According to Champion and Saith forest of India have been classified into how many major groups ?
(a) 6
(b) 7
(c) 5
(d) 8
96. How many Biodiversity hot spots are there in India ?
(a) 1
(b) 2
(c) 3
(d) 4
97. Which of the forest type is most dominant in Orissa ?
(a) Tropical moist deciduous forest
(b) Tropical semi-evergreen forest
(c) Tropical dry deciduous forest
(d) Littoral and swamp forest
98. Which of the following district of Orissa has highest geographical area under forest cover ?
(a) Ganjam
(b) Keonjhar
(c) Kalahandi
(d) Mayurbhanj
99. 58136 km² of forest area in Orissa accounts for what percent of the total geographical area of the state ?
(a) 26.70
(b) 37.33

- (c) 28.00
(d) 45.29
100. Forest classification of Indian forests is based on :
- (a) Vegetation
(b) Climate
(c) Ecosystem
(d) Physiognomy
101. Sal Borer is :
- (a) *Hoplocerambyx spinicornis*
(b) *Heteropsylla cubana*
(c) *Hipsipyla grandella*
(d) *Hyblaea Pura*
102. Cold deserts are **not** found in :
- (a) Lahul and Spiti
(b) Kinnaur
(c) Jaisalmer
(d) Ladakh
103. A micorrhizal fungus of the tropical region is :
- (a) *Glomus*
(b) *Rhizobium*
(c) *Frankia*
(d) *Pisolithus*
104. Presence of epiphytes on trunks and branches :
- (a) Decreases precipitation interception
(b) Does not affect precipitation interception
(c) Increases precipitation interception
(d) Increases surface run off
105. In storm frequency analysis, the probability of occurrence of an event being exceeded or equaled in any given year is :
- (a) The same as return period
(b) The reciprocal of the return period
(c) The square of the return period
(d) One out of ten
106. In the energy balance equation for a terrestrial surface, the term 'H' represents :
- (a) Net Radiation
(b) Latent heat of evapo-transpiration
(c) Sensible heat
(d) Heat flux into the soil
107. Adiabatic cooling is due to :
- (a) Decrease in atmospheric pressure with elevation
(b) Air molecules become more tightly packed as air ascends
(c) Descent of moisture laden air masses
(d) An increase in sensible heat

108. Subsurface erosion is best exemplified by:
- (a) Land slides
 - (b) Hydrologic response
 - (c) Overland flow
 - (d) Solutioning of limestone
109. Which of the following statements are not associated with orographic storms ?
- (a) A pronounced rain-shadow region on the lee-side
 - (b) Major source of precipitation in the Himalayan region
 - (c) Distribution of precipitation is spotty
 - (d) None of the above
110. The driving force for infiltration of water into the soil is :
- (a) Gravitational and solute potential
 - (b) Infiltration capacity
 - (c) Capillary and gravitational potentials
 - (d) None of the above
111. Exchange capacity of clays increases in the order :
- (a) Montmorillonite < Chlorite < Kaolinite \leq Illite
 - (b) Kaolinite < Chlorite < Illite < Montmorillonite
 - (c) Kaolinite = Illite < Chlorite = Montmorillonite
 - (d) Kaolinite = Montmorillonite < Chlorite < Illite
112. What is podzolisation ?
- (a) A soil forming process by which igneous rocks, usually of basic composition weather in tropical climates
 - (b) A soil forming process of cool, humid climates in which leaching by organic acids remove bases and translocate sesquioxides from a horizon
 - (c) Disintegration of rocks chemically under the influence of water containing dissolved CO_2
 - (d) Physical disintegration of rocks resulting in exposure of internal surface
113. Which of the following is a 'good' indicator of teak ?
- (a) *Xylia xylocarpa*
 - (b) *Dalbergia latifolia*
 - (c) *Helectres isora*
 - (d) None of the above
114. The transition zone from one community to another is :
- (a) Ecocline
 - (b) Sub-climax

- (c) Post-climax
(d) Ecotone
115. A keystone species is one :
- (a) With high functional redundancy in a small community / ecosystem
(b) Where removal of a single species can cause major changes to the structure, function, or diversity of a community
(c) With high resilience
(d) None of the above
116. Vicariance is :
- (a) Taxa belonging to the same group occupying a homologous place in different regions
(b) Taxa belonging to different groups occupying a given habitat
(c) Taxa belonging to different groups occupying a homologous place in different regions
(d) Endemism coupled with diversity
117. Size class distribution of individuals in an uneven-aged forest will follow the :
- (a) Normal distribution
(b) Inverse 'J' shaped distribution
(c) Linear pattern
(d) 'J' shaped distribution
118. Gumpa forests of Arunachal Pradesh are examples of :
- (a) Sacred groves
(b) Freshwater swamps
(c) Parkland agroforestry systems
(d) Two storied high forest system
119. Mangrove forest cover of India currently is :
- (a) 1,03,150 km²
(b) 1,46,530 km²
(c) 9,761 km²
(d) 4,482 km²
120. Forest cover of India as per recent statistics is :
- (a) 13.7%
(b) 33%
(c) 10.5%
(d) 20.55%

.....

SPACE FOR ROUGH WORK

B