

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

Test Booklet Series

Serial No.

911390**B****BAC-40****FORESTRY**

Time Allowed : 2 Hours

Maximum Marks : 300

INSTRUCTIONS TO CANDIDATE

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.
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 PLACES IN THE ANSWER SHEET USING HB PENCIL.
4. You have to enter your Roll No. on the Test Booklet in the Box provided along side. **DO NOT** write anything else on the Test Booklet.
5. This Test Booklet contains 120 items (questions). Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
6. You have to mark all your responses **ONLY** on the separate Answer Sheet provided by using HB pencil. See instruction in the Answer Sheet.
7. All items carry equal marks. All items are compulsory. Your total marks will depend only on the number of correct responses marked by you in the Answer Sheet. For each question for which a wrong answer is given by you, **one fifth (0.20) of the marks assigned to that question will be deducted as penalty.**
8. Before you proceed to mark in the Answer Sheet the responses to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions sent to you with your **Admission Certificate.**
9. After you have completed filling in all your responses on the Answer Sheet and the examination has concluded, you should hand over to the Invigilator the Answer Sheet, the Test Booklet issued to you.

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1. Seeds of which species is disposed by wind ?
(a) Holoptelia (b) Teak
(c) Diospyros (d) Oaks
2. What regeneration category the symbol 'e' denote ?
(a) Recruit (b) Woody shoot
(c) Established (d) Unestablished shoots
3. What tending operation is carried out to produce knot free timber ?
(a) Pruning (b) Thinning
(c) Pollarding (d) Girdling
4. The seed viability period for *Shorea robusta* is
(a) 1–2 months (b) 6–12 months
(c) 1–2 weeks (d) More than a year
5. *Shorea robusta* has a good seed year every
(a) 3 – 5 years (b) 4 – 5 years
(c) 5 – 6 years (d) 7 – 8 years
6. Even when the embryo is fully developed the seed do not germinate because it is not chemically ready for germination. This is called
(a) Dormancy (b) After ripening
(c) Hard seed coat (d) Seed viability
7. In the areas of uncertain rainfall what type of sowing method is followed ?
(a) Ridge sowing (b) Patch sowing
(c) Strip sowing (d) Ridge–ditch sowing
8. The approximate number of seeds per gram of *Eucalyptus tereticornis* is
(a) 1000 (b) 100
(c) 2000 (d) 20000
9. Elite thinning is practised in which tree species ?
(a) Bamboo (b) Teak
(c) Deodar (d) Salix
10. The principles of Forest Management are based on
(a) Thorough afforestation of wasteland and degraded land.
(b) Nation's Forest Policy and State Forest Policy.
(c) Protection of forests from biotic activities/interferences.
(d) By developing Village Forests.
11. The objectives of Forest Management can be met with
(a) By a scientifically managed forests and adopting sound silvicultural practices.
(b) By social forestry activities.
(c) By soil conservation measures.
(d) Thorough irrigation and fertilizers treatment of the area.

12. How the sustained yield of the forest is expressed ?
- Sustained yield is expressed as the allowable cut (extraction) i.e. gross increment minus natural loss due to fire, wind, epidemics, etc.
 - Sustained yield is expressed after clear felling the forest.
 - Sustained yield is maintained by continuous planting the forest area.
 - Through the regeneration of forest by coppicing.
13. What are pre-requisites for sustained yield management ?
- By removal of harvestable plants irrespective of any prescribed age.
 - Regeneration of area through coppice and cutting of forest at the end of harvesting period.
 - Planting and regular cutting for the area.
 - Sustained annual yield is to be maintained by a complete succession of equal areas of crop of all ages of maturity (say 10 years) and removal of 10 years old wood or mature wood annually (complete series of age gradation).
14. What is the normal forest ?
- A forest which is kept uniform under uniform system.
 - Normal forests are over stocked with forest trees.
 - An area represented with all age classes and with uniform conditions of increment and stocking.
 - They are under stocked with trees and have medicinal plants.
15. How the normal even aged and uneven aged forests are distinguished ?
- The forests which are worked on clear felling system.
 - The forests which are worked on age gradation basis.
 - Forests containing larger number of small trees than bigger ones per hectare mixed together (size gradation) worked under selection system.
 - The forests which are worked on coppice system.
16. What do you understand by Normal Growing Stock (N.G.S.) ?
- Any increase or decrease in the income from the forests
 - The total volume of trees in a fully stocked forest with normal distribution of age classes for a given rotation.
 - Over stock mixed forest area
 - On basis of forestry practices applied in the area
17. How the growing stock is determined ?
- By enumeration of the biodiversity of the forest area.
 - By preparation of inventories of forest areas, volume of trees and aerial photography.
 - By determining age of the forest crop.
 - By number of species growing in the area.

18. How the Normal Growing Stock (N.G.S.) is determined ?
- By a formula evolved by Munger (U.S.A) based on Current Annual Increment (C.A.I.)
 - By the formula evolved by Fischer.
 - By counting the species density of the area.
 - By measuring the girth of the tree species.
19. How yield is regulated in irregular forests ?
- Yield based on growing stock only.
 - Yield based on increment only.
 - Yield based on volume of growing stock.
 - By Biolley's "check method."
20. What are the objects for classification of silvicultural systems ?
- It is based on systematization of knowledge and precautions against wrong use as well as directions to planned treatment of crops.
 - On basis of need for developing the biodiversity.
 - Enhancing the productivity of forest.
 - Developing non-timber forest produce.
21. What do you understand by the clear felling system ?
- In this system soil is conserved, maintains natural soil flora and fauna; invasion of weed and grasses decrease.
 - A silvicultural system in which equal or equi-productive areas of mature crops are successively clear felled in one operation to be regenerated most frequently artificially.
 - This system does not involve formation of annual coupes.
 - In this system damage to new crop is involved by felling of older trees.
22. What are the objects of uniform system ?
- There is no regulation of light and shelter against adverse climatic factors in this system.
 - Incidence for grazing and browsing is controlled.
 - There is high risk of soil deterioration and erosion.
 - It is a system aiming at concentrated regeneration in which the canopy is uniformly opened up over the whole area of a compartment to obtain uniform regeneration.
23. Which type of crop is there in selection system ?
- Felling and regeneration is done in whole part of area for even age crop.
 - The regeneration operations are carried out during a part of life of forest crop.
 - All aged uneven forest crop is there in selection system.
 - There is no criteria for removal of undesirable species.
24. In coppice system coppice shoots originates from which parts ?
- The coppice shoots originates from roots.
 - The new coppice crop originates from stool/stumps through callus or dormant buds.
 - The coppice crop originates from seed.
 - The coppice crop originates from branch cuttings.

25. What is the pattern of rotation in coppice with standard ?
- (a) It has two rotation one for coppice and other for standard.
 - (b) For coppice only.
 - (c) For standard only.
 - (d) This has short rotation of seedling coppice.
26. How the crop is developed in conversion system ?
- (a) The two mixed crops are maintained.
 - (b) Single pure crop is developed.
 - (c) The crop composition is not changed.
 - (d) This system involves a change in crop composition.
27. What is the scope of silvicultural systems ?
- (a) It is helpful in planting of new species.
 - (b) It is a procedure adopted for removal of a forest crop at a given set of conditions and its regeneration.
 - (c) Planting of exotic species.
 - (d) It is used for developing non-timber forest produce.
28. In which States conversion from coppice with standard to coppice with reserve is mostly done ?
- (a) States of Madhya Pradesh and Maharashtra forests
 - (b) Orissa forests
 - (c) Uttranchal forests
 - (d) Manipur and Tripura forests
29. Which system will be applied if the object of management is production of fuel, small timber or even poles ?
- (a) Uniform system may be applied
 - (b) Selection system may be applied
 - (c) Clear felling system will be applied
 - (d) Any of the coppice system may be applied with advantage of species which coppice
30. When the Forest Policy of India was formed first after independence ?
- (a) 1952
 - (b) 1955
 - (c) 1958
 - (d) 1988
31. In which Forest Policy the development of tribal people and forest villages was encouraged ?
- (a) Pre-independence Forest Policies
 - (b) Forest Policy of 1988
 - (c) Forest Policy of 1952
 - (d) National Commission of Agriculture, 1976.

32. In which Forest Policy it was laid out that the India's forest cover should be 33 per cent ?
- Forest Policies of pre-independence
 - Forest Policy of 1994
 - Forest Policy of 1952
 - Forest Policy of 1988
33. What is the major emphasis given in the National Commission of Agriculture 1976 ?
- Collection of forest products.
 - The development of industries like pulp, paper and panel products.
 - Cutting of natural forest for timber.
 - Collection of medicinal plants.
34. What does Indian Forest Act envisaged ?
- Law relating to punishment on forest offences.
 - Bill or Act relating to conservation of environment.
 - It is related to plantation on wasteland.
 - The law relating to forests, the transit of forest produce and duty leviable on timber and other forest produce.
35. The cases of denotification, diversion of forest land for non-forest purposes and leasing of forest land to private bodies and cleaving of naturally grown trees are governed under which Act ?
- Forest Conservation Act
 - Indian Forest Act
 - Forest Protection Act, 1988
 - Indian Forest Bill, 1980.
36. Who is granting forest clearance for major mining projects ?
- Ministry of Environment and Forest, Government of India and State Government.
 - Only State Forest Department.
 - By the State Revenue Department.
 - By the Principal Chief Conservator of Forests.
37. What are the main objectives of National Wasteland Development Board ?
- For management of forests.
 - For cutting of timber and agro-forestry practices.
 - For afforestation of wasteland of the country.
 - For enhancing the productivity of non-timber forest produce.
38. What is the position of Rural people and 'Adivasis' in the National Commission of Agriculture ?
- The Commission put blame against the interest of Rural people/Adivasis and blame them for crimes.
 - It allows them to cut forest for timber.
 - It allows them for free collection of all forest produce.
 - It allows them for cultivation in forest land.

39. Under which Act, the Government impose restriction on forest land for diversion to non forest purpose ?
- (a) Indian Forest Act (b) Forest Conservation Act
(c) Indian Forest Policy (d) Indian Forest Bill, 1980
40. The basic objective of Joint Forest Management is
- (a) Involvement of local people in decision making in Forest Management.
(b) Involvement of State Forest Department in Forest Management.
(c) Involvement of NGOs in Forest Management.
(d) Involvement of academic institutions In Forest Management.
41. The basic attributes which all agro-forestry system possess are
- (a) Productivity (b) Sustainability
(c) Adaptability (d) All of the above
42. Agro-forestry systems are classified based on their
- (a) Structure and function (b) Component
(c) Socio-economic aspects (d) All of the above
43. Home gardens are common in
- (a) Kerala (b) Haryana
(c) Chhatisgarh (d) Jharkhand
44. Litterfall and prunings of which of the following tree species contribute maximum ?
- (a) Poplar (b) Eucalyptus
(c) Leucaena (d) Neem
45. Nutrient recovery in agroforestry compared to sole crop is
- (a) Lower (b) Higher
(c) Same (d) Doesn't matter
46. How many eucalyptus trees will be planted in one hectare of land at a spacing of 4×2.5 m ?
- (a) 1000 (b) 2500
(c) 4000 (d) 5000
47. The original idea to assist rural poor in developing countries to use forests in their vicinity in a sustainable manner and to their economic advantages comes under
- (a) Forestry (b) Farm Forestry
(c) Social Forestry (d) Agro-forestry
48. Scope of community forestry includes
- (a) Establishing woodlots for fuel (b) Establishing multipurpose trees
(c) Providing fodder for livestock (d) All of the above

49. Percent geographical area under forest and tree cover in Orissa State is
(a) 20–24 % (b) 26–28 %
(c) 30–32 % (d) 34–36 %
50. The term 'Jointing' is related to
(a) Sharpening of saw teeth (b) Levelling of saw teeth
(c) Setting of saw teeth (d) All of these
51. 'Asafoetida' (Hing) is
(a) Hard resin (b) Oleoresin
(c) Gum-resin (d) All of these
52. Alkaloid extracted from Sarpgandha (Rauwolfia Serpentina) is
(a) Berberine (b) Rutin
(c) Reserpine (d) Solasodine
53. Indelible marking ink is obtained from the fruit of
(a) Sapindus mukorossi (b) Diospyros melanoxylon
(c) Cedrius deodara (d) Semecarpus anacardium
54. 'Enfleurage' is a process to extract
(a) Fatty acids (b) Essential oils
(c) Tans (d) Dyes
55. 'Calcium Carbonate' is added during making of
(a) Cigarette paper (b) Drawing paper
(c) Blotting paper (d) Printing paper
56. Band saw in a saw mill has
(a) Straight blade (b) Endless blade
(c) Circular blade (d) None of these
57. Which of the following grass is used for making ropes ?
(a) Eulaliopsis binata (b) Heteropogon contortus
(c) Panicum maximum (d) Pennisetum purpureum
58. 'Rutin' is reported to be present in some species of
(a) Populus (b) Tectona
(c) Shorea (d) Eucalyptus
59. 'Coir', a coarse fibre, is a modification of which of the following parts of a coconut fruit ?
(a) Epicarp (b) Mesocarp
(c) Endocarp (d) All of these

60. Energy flow in forest ecosystem is always
(a) Multidirectional (b) Bidirectional
(c) Unidirectional (d) None of the above
61. Pyramid of Biomass in forest ecosystem may be
(a) Inverted (b) Upright
(c) Both (a) and (b) (d) None of the above
62. The process of succession in forest ecosystem after forest fire will be
(a) Secondary succession (b) Primary succession
(c) both (a) & (b) (d) Induced succession
63. Gross primary productivity is calculated as
(a) $GPP + R$ (b) $GPP - R$
(c) $NPP + R$ (d) Both (b) & (c)
64. Village wood lot serves the purpose of
(a) Fuel and fodder
(b) Food and fibre
(c) A, b and amelioration of Environment
(d) None of the above
65. Bio-geo-chemical cycling of nutrients includes
(a) Gaseous and sedimentary cycles (b) Carbon cycle
(c) Nitrogen cycle (d) Hydrological cycle
66. The art and science of growing trees is designated as
(a) Horticulture (b) Silviculture
(c) Sericulture (d) Apiculture
67. Watershed management can be done by
(a) Afforestation (b) Grassland development
(c) Water harvesting (d) Integrated farming system
68. Tropical Sal (*Shorea robusta*) forest in Orissa stands under
(a) Biotic climax (b) Edaphic climax
(c) Climatic climax (d) None of the above
69. Importance Value Index (IVI) in forest community is calculated as
(a) Percentage value of relative frequency, relative density and relative dominance added together.
(b) Percentage of frequency, density and abundance added together.
(c) Percentage dominance, density and frequency added together.
(d) None of the above.

70. Littoral forests are found in
(a) Coastal areas (b) Hilly areas
(c) Desert areas (d) Deccan plateau
71. Maximum forest area in India comes under
(a) Tropical wet evergreen forest (b) Tropical moist deciduous forest
(c) Tropical dry evergreen forest (d) Tropical dry deciduous
72. The Red Lists of world's fauna and flora is compiled by
(a) WWF (b) IUCN
(c) WCMC (d) WRI
73. Dachigam National Park is known for the conservation of an endangered species that is
(a) Brow-antler deer (b) Swamp deer
(c) Hog deer (d) Hangul
74. A frost tender tree is
(a) *Acacia catechu* (b) *Pinus roxburghii*
(c) *Azadirachta indica* (d) *Toona ciliata*
75. Which one of the Protected Areas is not a World's Heritage Site adopted by UNESCO ?
(a) Kanha National Park
(b) Sunderbans National Park
(c) Nandadevi and Valley of Flower National Park
(d) Manas Wildlife Sanctuary
76. Dampa Tiger Reserve is located in the State of
(a) Madhya Pradesh (b) Arunachal Pradesh
(c) Mizoram (d) Assam
77. Hailey National Park is the oldest Protected Area in India. Its present name is
(a) Kaziranga National Park (b) Bandhavgarh National Park
(c) Corbett National Park (d) Gir National park
78. Which one of the following Zoo is the official stud book keeper for pure wild genetic breed of Asiatic Lion and Asiatic Wild Ass ?
(a) Alipore Zoo, Kolkata (b) Nehru Zoological Park, Hyderabad
(c) Sakkargh Zoo, Junagarh (d) Nandankanan Zoo, Bhubaneswar
79. Which Schedule of Wildlife (Protection) Act, 1972 lists endangered plants ?
(a) Schedule I (b) Schedule VI
(c) Schedule IV (d) Schedule II

80. When the pollen of a flower falls on the stigma of the flowers in the same plant, is termed as
- (a) Allogamy (b) Chasmogamy
(c) Geitonogamy (d) Autogamy
81. An ultimate source of heritable variation in the genetic constitution of an organism is termed as
- (a) Genetic drift (b) Selection
(c) Mutation (d) All of the above
82. The superiority of an F_1 hybrid over both its parents in terms of volume/yield or some other characters is known as
- (a) Balanced heterosis (b) Luxuriance
(c) Heterobeltiosis (d) None of the above
83. Maximum frequency of polyploidy in forest tree is found in
- (a) Angiosperm (b) Gymnosperm
(c) Both of them (A & B) (d) None of them
84. Emasculation is the process of
- (a) Removal of immature stigma (b) Removal of mature anthers
(c) Removal of both (A & B) (d) None of the above
85. Phenotypic identification of plus tree is done by
- (a) One yellow band (b) Two yellow band
(c) Three yellow band (d) Four yellow band
86. When a vegetative propagule does not assume tree form but continue to grow like a branch is known as
- (a) Plagiotropic growth (b) Orthotropic growth
(c) Juvenile growth (d) All of the above
87. Trees selected from the natural stands or unimproved plantation for the next generation of breeding is known as
- (a) Breeding population (b) Production population
(c) Base population (d) None of the above
88. Which of the following variation in natural stand is of interest to the breeder ?
- (a) Site to site (b) Within site
(c) Within stand (d) Within tree
89. When the best trees are felled / cut, leaving the inferior ones to produce the next generation is known as
- (a) Dysgenic selection (b) Eye-ball selection
(c) Recurrent selection (d) Disruptive selection

- 90.. India's forest and tree cover as percentage of geographical area is
(a) 20 – 21 % (b) 21 – 22 %
(c) 22 – 23 % (d) 23 – 24 %
91. As per classification of forests by Champion and Seth, India has
(a) 14 forest types (b) 15 forest types
(c) 16 forest types (d) 17 forest types
92. Carbon sequestration ability is more in
(a) Exotic species (b) Fast growing species
(c) Native species (d) Tropical species
93. In the approach paper of 10th Five Year Plan, a monitorable target has been fixed to increase India's forest and tree cover by 2007 to
(a) 25 % (b) 26 %
(c) 27 % (d) 28 %
94. India's forests contribute how much percent of GDP of the country ?
(a) 5 % (b) 3 %
(c) 1 – 1.5 % (d) < 0.5 %
95. The extent of dense forest (crown density > 40%) as percent of geographical area of the country is
(a) 12 – 13 % (b) 8 – 10 %
(c) 6 – 8 % (d) 4 – 6 %
96. The average productivity of India's forests is
(a) 1.5 m³/ha/year (b) 0.7 m³/ha/year
(c) 2.5 m³/ha/year (d) 3.5 m³/ha/year
97. Forest extension involves
(a) Transfer of plantation technology (b) Training and demonstration
(c) Popularizing tree plantation (d) All of these
98. Extension forestry is important as
(a) There are no funds for planting trees
(b) There is more scope of planting trees outside forest area
(c) There is no manpower for planting trees
(d) None of the above
99. As per National Forest Policy of 1988, the primary goal of Forest Management is
(a) to meet the requirements of local people
(b) to alleviate poverty
(c) to produce wood & wood products for industry
(d) conservation of natural environment

100. In a tropical moist deciduous forest which is a shade demanding species ?
(a) *Bombax ceiba* (b) *Toona ciliata*
(c) *Dalbergia latifolia* (d) *Syzygium cumini*
101. Which of the following tree species is frost hardy ?
(a) *Adina cordifolia* (b) *Acacia catechu*
(c) *Gmelina arborea* (d) *Tectona grandis*
102. The ultimate ability to withstand drought depends on
(a) leaf area
(b) number of stomata
(c) thickness of cutin
(d) resistance of protoplasm to dehydration
103. Compared to northern aspect, intensity of light on southern aspect is
(a) 1.6 to 2.3 times higher (b) 2.4 to 3.5 times higher
(c) 1.6 to 2.3 times lower (d) 2.4 to 3.5 times lower
104. Soil particles belonging to soil group 'silt' have the particle size
(a) < 0.002 mm (b) 0.002 to 0.02 mm
(c) 0.02 to 0.2 mm (d) 0.2 to 2.0 mm
105. Which tree species is to be selected for planting of a site with soil pH < 9 ?
(a) *Azadirachta indica* (b) *Pongamia pinnata*
(c) *Prosopis juliflora* (d) All of these
106. A plant whose normal habitat is neither very wet nor very dry belongs to the group
(a) Mesophyte (b) Xerophyte
(c) Hygrophyte (d) Hydrophyte
107. Which of the following is a climber ?
(a) *Morus laevigata* (b) *Bauhinia vahlii*
(c) *Santalum album* (d) *Eupatorium odoratum*
108. Which of the following is not a topographical factor ?
(a) Slope (b) Altitude
(c) Rainfall (d) Aspect
109. Etiolation is caused in plants because of
(a) Excess light (b) Moderate light
(c) Lesser light (d) No light
110. Which of these is the most important factor in the classification of forests ?
(a) Physiographic (b) Biotic
(c) Climatic (d) Edaphic

111. Forest occurring in areas having a mean annual rainfall of over 2500 mm is called
 (a) Moist forest (b) Semi-moist forest
 (c) Wet forest (d) Deciduous forest
112. Siwalik have mainly _____ tree species.
 (a) Quercus (b) Pines
 (c) *Shorea robusta* (d) Alnus
113. The most economic species of the montane subtropical areas is
 (a) *Pinus roxburghii* (b) *Cedrus deodarda*
 (c) *Pinus wallichiana* (d) *Picea smithiana*
114. Revised classification of forest types of India is given by
 (a) Champion and Seth (b) Brandis
 (c) Burt-Davy (d) Swain and Gausson
115. How many temperature zones have been recognized in India ?
 (a) 4 (b) 6
 (c) 8 (d) 5
116. In the classification of forest types 2S denotes
 (a) Swamps (b) Secondary sere
 (c) Edaphic climax (d) Primary sere
117. The northern tropical moist deciduous forests accounts for _____ percent of the total forest cover in Orissa.
 (a) 60% (b) 20%
 (c) 30% (d) 80%
118. Emberger's formula for bioclimatic type is
 (a) $\frac{12P}{T+10}$ (b) $Q = \frac{P \times 100}{(M+m)(M-m)}$
 (c) $I = \frac{T_v}{T_a} P \times \frac{E}{100} \times \frac{G}{12}$ (d) $\left(\frac{g}{4}\right)^2 \times 1$
119. What subtype the code 2B/C3 denotes ?
 (a) Cachar tropical semi-evergreen forests
 (b) Eastern submontane semi-evergreen forests
 (c) Orissa tropical semi-evergreen forests
 (d) Northern tropical semi-evergreen forests
120. What is a low forest ?
 (a) Regenerated from seed sown artificially
 (b) Regenerated from advance growth
 (c) Regenerated from coppice shoots
 (d) Regenerated from self sown seeds

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