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# **APPSC FRO (M)**

**Previous Year Paper**

**(General Forestry-II)**

**04 Jun, 2025**





Enter the Registered Number

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Series



IIFG/MORF/504

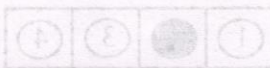
2025

PAPER – IV

(English Version)

Question Booklet Sl. No.

Time : 150 Minutes



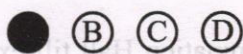
Max. Marks : 150

### INSTRUCTIONS

1. The Question Paper contains **150** questions. Each question carries **1** mark. For each wrong answer  $\frac{1}{3}^{\text{rd}}$  mark will be deducted.
2. Please check the Question Paper and ensure that it contains all the questions. If you find any defect in the Question Paper or OMR Answer Sheet, please get it replaced immediately. The OMR Answer Sheet is in Duplicate. Do not separate the copies. The markings on the first page will automatically come on the second copy also. The first copy (Original) will be retained for evaluation. The second copy (Duplicate) can be taken home by the candidate.
3. Write your Registered Number on the top of the Question Paper. On the right hand corner of the first page, the Question Paper Series is printed as (A) or (B) or (C) or (D). On the OMR Answer Sheet, Side-1 at the right top corner at Part C, the Question Paper Series are printed as (A) (B) (C) (D). Darken the appropriate circle, as per your Question Paper Series with Blue/Black Ball point pen. Gel Pens/Pencils are not allowed.

**Example to fill up the Question Paper Series on the OMR Answer Sheet**

If your Question Paper Series is A, please fill as shown below :



***If you have not marked the Question Paper Series on the OMR Answer Sheet, Side-1 at Part C with Blue/Black Ball point pen, or marked in a way that it leads to discrepancy in determining the exact Question Paper Series, then your Answer Sheet will be invalidated without any further notice. No correspondence will be entertained in the matter.***

4. Please get the signature of the Invigilator affixed in the space provided at the top of the OMR Answer Sheet. An OMR Answer Sheet without the signature of the Invigilator will be invalidated.





5. Each question is followed by 4 answer choices. Of these, you have to carefully select one correct answer and mark it on the OMR Answer Sheet by darkening the appropriate circle for the question. If more than one circle is darkened, the answer will not be valued at all. Use Blue or Black Ball point pen to make thick mark to fill the circle completely. Make **no** other stains or marks. Using **Whitener/Blade/Eraser/Chalk Powder** anywhere on the OMR Answer Sheet or any kind of tampering to change the answers on OMR Answer Sheet will lead to **invalidation** of the entire OMR Answer Sheet.

e.g. : If the answer for Question No. 1 is Answer choice (2), it should be marked as follows :

1 

①	●	③	④
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6. Do **not** fold, tear, wrinkle, tie, staple, do any rough work or make any stray marks on the OMR Answer Sheet. Otherwise your OMR Answer Sheet will be **invalidated**.
7. Do **not** mark answer choices on the Question Paper. Violation of this will be viewed seriously.
8. Rough work may be done on the last page of the Question Paper only. It should not be done anywhere else.
9. Any type of Electronic Devices such as Calculators, Mathematical/Log Tables, Mobile Phones, Bluetooth instruments etc., should not be brought into the Examination Hall. If found in possession of such devices, it will be considered as cheating and strict action taken.
10. As per G.O. Ms. No. 385, GA (Ser.A) Dept., dt: 18/10/2016, if any candidate attempts to use any means to cheat/copy etc., he/she is liable for prosecution (Police Case) and debarment.
11. Candidates should stay in the Examination Hall till expiry of Full Time i.e., 2½ Hours. No candidate shall be allowed to leave the Hall in the middle of the examination under any circumstances.
12. Before leaving the examination hall, the candidate should hand over the OMR Answer Sheet top sheet (Original) to the Invigilator and carry the bottom sheet (Duplicate) for his/her record. Carrying away Original OMR Answer Sheet will be a criminal offence.

1. What percentage of the true volume does the quarter girth volume formula estimate ?  
 (1) 100% (2) 75.8% (3) 78.5% (4) 90%
2. Which of the following formulas best represents the relationship between Form Factor and Volume ?  
 (1) Volume = Form Factor  $\times$  Basal Area  $\times$  Height  
 (2) Volume = Basal Area/Form Factor  
 (3) Volume = Height  $\times$  Form Factor  
 (4) Volume = Form Factor/Basal Area
3. Which formula is used for volume estimation in frustum-shaped trees ?  
 (1) Smalian's formula (2) Newton's formula  
 (3) Huber's formula (4) Geometric mean formula
4. What is the relationship between CAI and MAI for the optimum felling age of a tree ?  
 (1) CAI is greater than MAI (2) MAI is greater than CAI  
 (3) CAI and MAI are equal (4) No relation exists
5. What is the key advantage of using a wedge prism in point sampling ?  
 (1) It measures soil moisture (2) It estimates tree volume quickly  
 (3) It calculates chlorophyll content (4) It determines tree root depth
6. In India, which remote sensing satellite provides high-resolution imagery suitable for detailed forest mapping ?  
 (1) RISAT (2) IRS Resourcesat satellite series  
 (3) INSAT-3D (4) GSAT-6
7. What is the primary remote sensing technology employed by FSI for forest cover mapping ?  
 (1) Synthetic Aperture Radar (SAR) (2) Light Detection and Ranging (LiDAR)  
 (3) Satellite Imagery (4) Thermal Infrared Imaging



8. Which principle does GPS technology primarily use to determine location ?

- (1) Doppler effect
- (2) Triangulation
- (3) Trilateration
- (4) Time dilation

9. What is the main cause of GPS signal delay in the Earth's atmosphere ?

- (1) Refraction in the ionosphere and troposphere
- (2) Earth's rotation
- (3) Weak satellite signals
- (4) Sunspot activity

10. Which instrument is used to measure bark thickness ?

- (1) Bark Gauge
- (2) Increment Borer
- (3) Tree caliper
- (4) Clinometers

11. What does "DUB" stand for in tree measurement ?

- (1) Diameter Under Bark
- (2) Depth Under Bark
- (3) Density Under Bark
- (4) Diameter Upper Branch

12. Which formula is used to calculate the quarter girth volume (V) of a log ?  
(D = diameter at GBH, h = length of the log).

- (1)  $V = (\pi D^2 h)/4$
- (2)  $V = (G^2 h)/4$
- (3)  $V = (\pi D^2 h)/16$
- (4)  $V = (G^2 h)/16$

13. What is the primary purpose of a yield table ?

- (1) To estimate timber volume over time
- (2) To measure tree height
- (3) To assess soil fertility
- (4) To identify tree species

14. What is the most commonly used method for measuring volume increment in standing trees ?

- (1) Tree height measurement
- (2) Increment boring
- (3) Dendrometer readings
- (4) Leaf area analysis



15. What is the main purpose of forest inventory ?

- (1) To measure and classify forest resources (2) To estimate soil fertility  
(3) To count the number of fallen trees (4) To record tree species only

16. Which method of enumeration involves tallying all trees of a species above a specified diameter limit over an entire forest area ?

- (1) Sample enumeration (2) Complete enumeration  
(3) Stratified sampling (4) Selective enumeration

17. Which sampling method is recommended for forest inventory in plains ?

- (1) Topographical unit sampling (2) Random sampling  
(3) Strip sampling (4) Remote sensing

18. Sampling intensity in forest inventory refers to

- (1) The percentage of forest area included in the sample  
(2) The number of trees sampled per hectare  
(3) The height of trees included in the sample  
(4) The number of species counted

19. 1 hectare (ha) is equal to how many square meters ( $m^2$ ) ?

- (1) 10,000  $m^2$  (2) 1,000  $m^2$  (3) 5,000  $m^2$  (4) 4,000  $m^2$

20. Which of the following is a correct conversion between metric and British units ?

- (1) 1 foot = 50 cm (2) 1 mile = 500 meters  
(3) 1 kg = 0.5 pounds (4) 1 yard = 0.9144 meters

21. What does the specific gravity of timber indicate ?

- (1) The moisture content of the wood  
(2) The ratio of the density of wood to the density of water  
(3) The ability of wood to resist decay  
(4) The amount of resin present in the wood



22. The Normalized Difference Vegetation Index (NDVI) is widely used in forestry for

- (1) Estimating soil erosion rates
- (2) Assessing vegetation cover and health
- (3) Mapping forest road networks
- (4) Detecting illegal logging activities

23. Basal Area of a tree refers to

- (1) Cross sectional area at base
- (2) Cross sectional area at mid point of total height
- (3) Cross sectional area at top height
- (4) Cross sectional area at breast height

24. Which of the following is very useful in detecting and mapping forest fires ?

- (1) Visible sensors
- (2) Thermal sensors
- (3) Microwave sensors
- (4) None of these

25. At what height is Diameter at Breast Height (DBH) measured ?

- (1) 1 meter
- (2) 1.37 meters
- (3) 2 meters
- (4) 1.5 meters

26. Which instrument is commonly used to measure DBH directly ?

- (1) Clinometer
- (2) Tree caliper
- (3) Hypsometer
- (4) Altimeter

27. What is the relationship between girth (G) and diameter (D) of a tree ?

- (1)  $G = 2\pi D$
- (2)  $D = G \times \pi$
- (3)  $G = \pi/D$
- (4)  $D = G/\pi$

28. When measuring trees on a slope, from which side should DBH be measured ?

- (1) Midpoint
- (2) Any side
- (3) Uphill side
- (4) Downhill side







29. In which type of wood measurement is a rectangular parallelepiped shape commonly used ?

- (1) Roundwood logs
- (2) Firewood stacks
- (3) Veneer logs
- (4) Pulpwood measurement

30. Form factor is defined as the ratio of



- (1) Tree height to tree volume
- (2) Tree girth to tree height
- (3) Tree bark thickness to its radius
- (4) Tree volume to cylinder volume of the same basal area and height

31. Volume tables are based on which parameters ?

- (1) Only tree height
- (2) Only tree girth
- (3) Tree girth and height
- (4) Tree crown width

32. The most common method for estimating the height of a tree using basic instruments is



- (1) Direct measurement using a measuring tape
- (2) GPS estimation
- (3) Trigonometric method using a clinometer
- (4) Barometric method

33. The Mean Annual Increment (MAI) is calculated as

- (1) Total height divided by total volume
- (2) Current annual increment plus total volume
- (3) Age divided by total volume
- (4) Total volume divided by total age

34. Which method is commonly used in sample enumeration ?

- (1) Quadrant sampling
- (2) Remote sensing
- (3) Complete tallying
- (4) Tree coring





35. What is the typical number of satellites required to determine an accurate 3D position (latitude, longitude and altitude) using GPS ?

(1) 2

(2) 3

(3) 4

(4) 5

36. What is the primary purpose of logging ?



(1) To increase forest density

(2) To remove deadwood

(3) To reduce soil erosion

(4) To harvest wood for commercial and industrial use

37. What is the scientific family of bamboo ?

(1) Fabaceae

(2) Moraceae

(3) Rutaceae

(4) Graminae

38. Tendu leaves, used for making beedis, are obtained from which tree ?

(1) Diospyros melanoxylon

(2) Azadirachta indica

(3) Tectona grandis

(4) Mangifera indica



39. Which season is generally preferred for tree felling to ensure better timber quality ?

(1) Winter

(2) Spring

(3) Monsoon

(4) Summer

40. Which of the following is NOT a method of timber conversion ?

(1) Charcoal production

(2) Sawn timber

(3) Veneer peeling

(4) Hewing

41. Which process improves the durability and usability of timber by reducing moisture content ?

(1) Seasoning

(2) Logging

(3) Extraction

(4) Preservation

42. Which of the following is a traditional method of wood preservation ?

(1) Kiln drying

(2) Chemical dipping

(3) Creosote treatment

(4) Sand blasting

43. Which factor does NOT significantly affect the firewood value of a tree species ?



(1) Moisture content

(2) Wood density

(3) Combustion efficiency

(4) Leaf size

44. What is the main drawback of using firewood as a fuel source ?

- (1) High efficiency (2) Easily available  
(3) High carbon emissions (4) Renewable energy source

45. What is the definition of Non-Wood Forest Produce (NWFP) according to FAO ?

- (1) Goods of biological origin other than wood derived from forests  
(2) Any product obtained from trees  
(3) Only products derived from agroforestry  
(4) Only timber and firewood

46. Which of the following is NOT an example of Non-Wood Forest Produce (NWFP) ?

- (1) Bamboos and canes (2) Teak and sal wood  
(3) Fibers and flosses (4) Gums and resins

47. Which method of wood preservation involves impregnating wood with chemicals under pressure ?

- (1) Water seasoning (2) Kiln drying (3) Pressure treatment (4) Air seasoning

48. Which of the following woods is most commonly used for railway sleepers ?

- (1) Teak (2) Sal (3) Pine (4) Mango

49. Which of the following plants is a major source of cutch dye ?

- (1) Butea monosperma (2) Mallotus philippinensis  
(3) Acacia catechu (4) Artocarpus lakoocha

50. The red dye extracted from Pterocarpus santalinus is known as

- (1) Kamela (2) Santaline (3) Arnotto (4) Cutch

51. A crack originating from the center and extending radially in one or opposite directions in timber is called

- (1) Radial shake (2) Ring shake (3) Star shake (4) Heart shake

52. Complex knot formed at points where dormant buds show abnormal vigour is called

- (1) Twisted fiber (2) Waviness (3) Burr (4) Checks





53. What is the primary goal of First Aid ?

- (1) To diagnose medical conditions
- (2) To provide immediate care and prevent worsening of the condition
- (3) To conduct surgery on the victim
- (4) To replace professional medical treatment

54. What does "ABC" stand for in First Aid ?

- (1) Airway, Breathing, Circulation
- (2) Assess, Bandage, Compress
- (3) Alert, Breathe, Call
- (4) Assistance, Bleeding, Care

55. What should you do for a person who is bleeding heavily ?

- (1) Let the wound bleed freely to clean itself
- (2) Apply direct pressure to the wound
- (3) Remove any embedded objects
- (4) Use a tourniquet for all bleeding cases

56. What is the appropriate response for a choking victim who cannot cough, breathe or speak ?

- (1) Give them water to drink
- (2) Have them lie down and elevate their legs
- (3) Perform the Heimlich maneuver
- (4) Ask them to breathe deeply

57. What should you do for a person who has fainted ?

- (1) Shake them vigorously
- (2) Give them a strong-smelling substance
- (3) Make them walk around
- (4) Lay them flat and elevate their legs

58. What is the correct compression-to-breath ratio for Cardiopulmonary Resuscitation (CPR) in adults ?

- (1) 30 compressions to 2 breaths
- (2) 20 compressions to 5 breaths
- (3) 50 compressions to 1 breath
- (4) 10 compressions to 1 breath

59. What is the sum of the interior angles of a quadrilateral ?

- (1)  $180^\circ$
- (2)  $270^\circ$
- (3)  $360^\circ$
- (4)  $90^\circ$



60. Which of the following is a type of chain used in surveying ?

- (1) Engineer's Chain
- (2) Gunter's Chain
- (3) Revenue Chain
- (4) All of the above

61. What is a tie line used for in chain surveying ?

- (1) To divide the survey area into parts
- (2) To mark the boundary of the area
- (3) To check accuracy and locate details
- (4) To measure vertical angles

62. How long is a Gunter's chain ?

- (1) 66 feet
- (2) 50 feet
- (3) 30 feet
- (4) 100 feet

63. What is cross-staff used for in chain surveying ?

- (1) To set perpendicular offsets
- (2) To measure distances
- (3) To measure angles
- (4) To level the survey station

64. Why is the measurement of angles or bearings necessary in surveying ?

- (1) To calculate distances more accurately
- (2) To determine the direction of survey lines
- (3) To find elevations
- (4) To determine the slope of the land

65. The angle between the magnetic and true meridian is known as

- (1) Azimuth
- (2) Dip
- (3) Declination
- (4) Offset

66. What is the main instrument used to measure bearings in forest surveys ?

- (1) Prismatic compass
- (2) Theodolite
- (3) Dumpy level
- (4) GPS

67. A Whole Circle Bearing (WCB) is measured

- (1) From the east
- (2) From the south
- (3) Counterclockwise from the north
- (4) Clockwise from the north



68. What is the function of the “sight vane” ?

- (1) To balance the compass needle
- (2) To measure angles accurately
- (3) To provide a reference for declination
- (4) To align the compass with an object for bearing measurement

69. What is the main characteristic of a Plane Table Survey ?

- (1) Only office work is done
- (2) Field work and office work are done simultaneously
- (3) Only field work is done
- (4) It is less accurate than other methods

70. Which method is used to find an unknown point by sighting it from two known positions ?

- (1) Radiation method
- (2) Resection method
- (3) Intersection method
- (4) Traversing method

71. What does a topographical map primarily represent ?

- (1) Earth's surface features
- (2) Road networks
- (3) Political boundaries
- (4) Underground water levels

72. What is a Contour Line ?

- (1) A line representing the shortest distance between two points
- (2) A line connecting points of equal elevation
- (3) A line indicating roads on a map
- (4) A boundary line between two land parcels

73. What is the term for the vertical distance between two consecutive contour lines ?

- (1) Map Gradient
- (2) Contour Index
- (3) Slope
- (4) Contour Interval



74. What does the term "map scale" refer to ?

- (1) The number of contour lines on a map
- (2) The ratio between distances on the map and actual ground distances
- (3) The ratio between actual distance on ground and arial distance
- (4) The ratio between actual distance on ground and bearing

75. What is the main ingredient of cement ?

- (1) Silica
- (2) Calcium carbonate
- (3) Clay
- (4) Iron oxide

76. What is the most commonly used mortar in construction ?

- (1) Cement mortar
- (2) Mud mortar
- (3) Lime mortar
- (4) Surki mortar

77. The ideal gradient for a forest road should be around

- (1) 1 : 2
- (2) 1 : 10
- (3) 1 : 20
- (4) 1 : 50

78. What is the primary purpose of a dumpy level in surveying ?

- (1) Determining elevations and leveling surfaces
- (2) Measuring horizontal angles
- (3) Measuring vertical angles
- (4) Calculating distances directly

79. Which part of the bridge transfers the load to the ground ?

- (1) Deck
- (2) Girders
- (3) Railings
- (4) Abutments

80. What is the purpose of headwalls in culverts ?

- (1) To provide a smooth entry and exit for water
- (2) To block the flow of water
- (3) To increase the width of the road
- (4) To support the bridge structure



81. Which material is commonly used in pipe culverts ?

- (1) Brick (2) Cast iron (3) Timber (4) Cement blocks

82. What is the purpose of a catch pit in a culvert ?

- (1) To support road traffic (2) To store rainwater  
(3) To reduce sediment flow (4) To allow pedestrian crossing

83. Forest and wildlife were brought under concurrent list as per

- (1) 42<sup>nd</sup> Amendment (2) 40<sup>th</sup> Amendment  
(3) 44<sup>th</sup> Amendment (4) 48<sup>th</sup> Amendment

84. Furniture manufactured from wood is a \_\_\_\_\_ goods.

- (1) Consumable (2) Transferable (3) Economic (4) All of the above

85. Benefit-Cost Ratio (BCR) is mostly used to evaluate

- (1) Financial performance of employees  
(2) Tax policies of a Government  
(3) Economic feasibility of a project  
(4) None of these

86. Which category of land is exempted from the Forest Conservation Act, 1980 for constructing strategic linear projects of national importance or security ?

- (1) Land within 50 km of international borders  
(2) Land within 100 km of international borders  
(3) Land within 25 km of international borders  
(4) Land within 10 km of international borders

87. What is the main purpose of the Forest Conservation Act, 1980 ?

- (1) To expand forest cover  
(2) To prevent deforestation and regulate the diversion of forest land for non-forest purposes  
(3) To promote commercial forestry  
(4) To recognize the rights of forest dwellers



88. Which authority's prior approval is required before using forest land for non-forest purposes ?

- (1) State Government
- (2) Local Panchayat
- (3) District Collector
- (4) Central Government

89. What is 'Cognizable Offence' ?

- (1) An offence where Police must get Court permission to arrest
- (2) An offence that is only punishable with a fine
- (3) An offence where Police can arrest without prior approval
- (4) A civil wrong

90. What is a 'Non-Bailable Offence' ?

- (1) An offence where bail is automatically granted
- (2) An offence where bail is not a right but can be granted by a Court
- (3) An offence that does not require a trial
- (4) A minor crime

91. Who is considered a 'Public Servant' under IPC ?

- (1) A person lawfully authorized to discharge public duties on behalf of the Government
- (2) Only officials who hold elected positions in Government
- (3) Only Police Officers and Judges
- (4) Any person working in a Government office, regardless of duties

92. Which international organization ensures that international trade in wild animals and plants does not threaten their survival ?

- (1) International Union for Conservation of Nature (IUCN)
- (2) World Wildlife Fund (WWF)
- (3) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- (4) United Nations Educational, Scientific and Cultural Organization (UNESCO)



93. What is the act of stopping a person, restraining their movement, and detaining them with valid legal authority called ?

- (1) Custody (2) Detention (3) Conviction (4) Arrest

94. What is the legal notice issued by a Court ordering an individual to appear or produce a document at a specified time and place ?

- (1) Summon (2) Bail (3) Charge (4) Warrant

95. As per Evidence Act, what does "evidence" include ?

- (1) Both oral statements and documentary evidence, including electronic records  
(2) Only oral statements made by witnesses  
(3) Only documents produced before the Court  
(4) Only physical objects related to the case

96. As per the Andhra Pradesh Forest (Amendment) Act, 2016, which of the following is classified as a 'scheduled tree' ?

- (1) Teak (*Tectona grandis*)  
(2) Rosewood (*Dalbergia latifolia*)  
(3) Red Sanders (*Pterocarpus santalinus*)  
(4) Sandalwood (*Santalum album*)

97. Which of the following best describes an ecological niche ?

- (1) The physical space an organism occupies  
(2) The position of an organism in an ecosystem  
(3) The interaction between different species in an ecosystem  
(4) The transition zone between two ecosystems

98. What is the term for the area that serves as a transition zone between two ecosystems ?

- (1) Ecotone (2) Ecological niche (3) Habitat (4) Biome



99. Which of the following best describes 'stratification' in a forest ecosystem ?



- (1) The seasonal shedding of leaves by trees
- (2) Disposition of vegetation in superposed storeys
- (3) The migration patterns of forest animals
- (4) The process of nutrient cycling between soil and plants

100. Which of the following ecosystems typically exhibits the highest Net Primary Productivity (NPP) per unit area ?

- (1) Boreal forest
- (2) Temperate grassland
- (3) Tropical rainforest
- (4) Desert scrub

101. In a ecosystem, how is the pyramid of numbers typically depicted ?

- (1) Elliptical
- (2) Upright
- (3) Circular
- (4) Inverted

102. Any recognizable stage in plant succession is known as



- (1) Pioneer
- (2) Sere
- (3) Climax
- (4) Secondary community

103. In desert ecosystems, which adaptation is commonly observed in plants to minimize water loss ?

- (1) Large, broad leaves
- (2) Extensive root system
- (3) Thin cuticles
- (4) High stomatal density

104. In marine ecosystems, which of the following is considered the primary source of energy ?

- (1) Zooplankton
- (2) Phytoplankton
- (3) Benthic organisms
- (4) Decomposers

105. Which of the following is the only floating National Park in the world, located in India ?



- (1) Keibul Lamjao National Park
- (2) Sundarbans National Park
- (3) Bhitarkanika National Park
- (4) Nokrek National Park

106. Which of the following is NOT a category of protected areas under the Wildlife Protection Act, 1972 ?

- (1) National Parks
- (2) Wildlife Sanctuaries
- (3) Biosphere Reserves
- (4) Community Reserves

107. What does Article 48A of the Indian Constitution deal with ?

- (1) Protection of monuments
- (2) Protection and improvement of the environment, forests and wildlife
- (3) Promotion of international peace
- (4) Right to Education

108. According to the IUCN Red List, a species is classified as Vulnerable (VU) when it meets which of the following criteria ?

- (1) Population decline of less than 50% over the last 10 years
- (2) Population decline of more than 50% over the last 10 years
- (3) Population decline of more than 70% over the last 10 years
- (4) Population decline of more than 90% over the last 10 years

109. Critically endangered avian species which is found only in Eaglenest Wildlife Sanctuary

- (1) Jordon Couser
- (2) Great Indian Bustard
- (3) Green Pigeon
- (4) Bugun Liocichla

110. In which National Park in India, Cheetah was reintroduced in September 2022 ?

- (1) Kuno National Park
- (2) Kanha Tiger Reserve
- (3) Bannerghatta National Park
- (4) Simlipal National Park

111. Example of free floating hydrophyte is

- (1) Nymphaea
- (2) Eichornia
- (3) Vallisneria
- (4) Limnophila heterophylla

112. In a food chain, what is the role of detritivores ?

- (1) They produce energy through photosynthesis
- (2) They recycle nutrients by breaking down dead organic matter
- (3) They consume primary producers directly
- (4) They compete with herbivores for food



113. Which type of ecological pyramid is always upright, regardless of ecosystem type ?

- (1) Pyramid of biomass (2) Pyramid of numbers  
(3) Pyramid of energy (4) Inverted pyramid

114. Which hormone plays a crucial role in regulating circadian rhythms ?

- (1) Insulin (2) Melatonin (3) Adrenaline (4) Dopamine

115. Which part of the brain acts as the primary biological clock in mammals ?

- (1) Hypothalamus (2) Pineal gland  
(3) Suprachiasmatic nucleus (SCN) (4) Cerebellum

116. Maximum number of animals that can graze on a specific area over a given period of time without causing adverse effect is called as

- (1) Exponential growth model (2) Carrying capacity  
(3) Hardy-Weinberg equilibrium (4) Trophic cascade model

117. Branch of forestry which is concerned with the activities directed towards the prevention and control of damage to forests by man, animals, insects, fungi, injurious plants and adverse climatic factors

- (1) Forest Ecology (2) Silviculture  
(3) Forest protection (4) Forest biology

118. What is the primary characteristic of forest dieback ?

- (1) Gradual decline in forest biodiversity  
(2) Sudden, widespread tree mortality  
(3) Increase in invasive species  
(4) Enhanced forest regeneration

119. Which of the following plant yields fruit dye ?

- (1) Lawsonia inermis (2) Acacia catechu  
(3) Bixa orellana (4) Rubia cordifolia

120. Which of the following is a biotic factor that can lead to forest decline ?

- (1) Soil erosion (2) Ozone pollution (3) Insect outbreaks (4) Drought

121. In fine textured soils, the cation exchange capacity is

- (1) Low (2) High (3) Moderate (4) None

122. Name the disease that affected Sandalwood plantations in Kerala.

- (1) Leaf spot (2) Root rot (3) Leaf blight (4) Spike disease

123. Which type of forest fire burns the organic material beneath the forest floor, including humus and peat ?

- (1) Surface fire (2) Ground fire (3) Crown fire (4) Subsurface fire

124. Which forest type in India is most susceptible to severe fires ?

- (1) Evergreen forests (2) Semi-evergreen forests  
(3) Montane temperate forests (4) Dry deciduous forests

125. Which of the following is a natural pesticide derived from plant sources and used in forest pest management ?

- (1) DDT (2) Neem extracts (3) Heptachlor (4) Chlordane

126. The real time forest fires are visualized through which sensors used by Vana Agni Portal ?

- (1) MODIS (2) SNPP-VIIRS (3) Both (1) and (2) (4) None of these

127. Which place is known as "Mangrove Genetic Paradise" of world ?

- (1) Bhitarkanika (2) Coringa  
(3) Sundarbans (4) Australian Great Barrier

128. Which biocontrol agent has been used in India to manage the teak defoliator (*Hyblaea puera*) ?

- (1) Trichogramma spp. (2) Tobacco Mosaic Virus  
(3) Bacillus thuringiensis (4) Beauveria bassiana

129. How does forest regeneration contribute to climate change mitigation ?

- (1) By increasing the Earth's albedo effect  
(2) By emitting oxygen into the atmosphere  
(3) By sequestering atmospheric CO<sub>2</sub> in biomass and soils  
(4) By reducing the need for fossil fuels



130. Which forests possess highest carbon density ?  
(1) Mangroves (2) Dry deciduous (3) Alpine forests (4) Temperate forests
131. Which pollutants effects stomatal pores, stomatal frequency and chloroplast structure in plants ?  
(1) Sulphur dioxide (2) Carbon dioxide (3) Carbon monoxide (4) Fluoride
132. What is the primary objective of CAMPA in India ?  
(1) To promote urban development projects  
(2) To manage funds for compensatory afforestation  
(3) To regulate pollution control measures  
(4) To oversee wildlife conservation exclusively
133. How does the presence of mycorrhizal fungi benefit trees in a forest ecosystem ?  
(1) By fixing atmospheric nitrogen (2) By decomposing leaf litter  
(3) By increasing absorption area of the roots (4) By deterring herbivorous insects
134. What is the primary role of worker bees in a honeybee colony ?  
(1) Laying eggs (2) Mating with the queen  
(3) Foraging for nectar and pollen (4) Defending the hive
135. Which dance performed by honeybees communicates the location of food sources to other members of the colony ?  
(1) Round dance (2) Waggle dance (3) Circle dance (4) Spiral dance
136. Which species of silkworm is primarily responsible for producing Tussar silk in India ?  
(1) Bombyx mori (2) Antheraea mylitta  
(3) Samia cynthia ricini (4) Antheraea assamensis
137. Which of the following is non-venomous snake ?  
(1) Indian Cobra (2) Krait (3) Russels Viper (4) Rock Python



138. The tsetse fly is a vector for which disease ?

(1) Sleeping sickness

(2) Kala-azar

(3) Dengue

(4) Malaria

139. The Kino gum is produced by which tree species ?

(1) Azadirachta indica

(2) Anogeissus latifolia

(3) Dalbergia latifolia

(4) Pterocarpus marsupium

140. Which is the major host of lac insect ?

(1) Butea monosperma

(2) Zizuphus mauritiana

(3) Scheichera oleosa

(4) All of the above

141. Which type of plant diseases does Trichoderma viride help to control ?

(1) Bacterial infections

(2) Viral diseases

(3) Soil-borne fungal diseases

(4) Nutrient deficiency diseases

142. India is a part of which realm ?

(1) Neotropical realm

(2) Oriental realm

(3) Ethiopian realm

(4) Palae-artic realm

143. Which system in the human body is primarily affected by a viper bite ?

(1) Nervous system

(2) Respiratory system

(3) Blood vascular system

(4) Excretory system

144. What role do secondary plant compounds play in the diet of wild animals ?

(1) Serve as primary energy sources

(2) Act as toxins or deterrents affecting feeding behavior

(3) Provide essential vitamins

(4) Enhance digestibility of food



145. Which of the following features helps birds reduce body weight for flight ?

- (1) Presence of heavy bones
- (2) Pneumatic (hollow) bones
- (3) Absence of feathers
- (4) Presence of teeth

146. How do frugivorous (fruit-eating) birds aid in forest regeneration ?



- (1) By pruning trees
- (2) By dispersing seeds through their droppings
- (3) By creating nesting sites
- (4) By reducing competition among plant species

147. Vultures are crucial to the ecosystem primarily because they

- (1) Pollinate flowers
- (2) Disperse seeds
- (3) Scavenge carcasses, preventing disease spread
- (4) Prey on small mammals



148. The migratory route of birds to Kolleru lake is called as

- (1) East Asian Flyway
- (2) Australasian Flyway
- (3) Central Asian Flyway
- (4) None of the above

149. Which hormone plays a key role in osmoregulation during anadromous fish migration ?

- (1) Insulin
- (2) Cortisol
- (3) Thyroxine
- (4) Adrenaline

150. Which of the following is an example of a zoonotic disease ?



- (1) Rabies
- (2) Diabetes
- (3) Hypertension
- (4) Asthma



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