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EDUCATION ADMINISTRATION IMPLEMENTING COMMISSION

ODD SEMESTER ONLINE FINAL EXAM 2021/2022

Subject	:	Silviculture (SVK225)	Question Maker	:	Teaching team (IZS, PJP, ASW)
Date and time	:	Monday, Dec 13 2021			
Time	:	13.00-15.00 WIB (time limit 60 minutes)	PJ Online	:	Dr Fifi Gus Dwiyanti
Room	:	newlms			

A. Circle the correct answer (score 30)

1. Land preparation for planting on post-mining land: (LO 8)
   a. Manual
   b. Mechanical
   c. Chemical
   d. Biology

2. Cultivation System: (LO 8)
   a. Intercropping
   b. Daily Banjar
   c. Cemplongan
   d. Wholesale

3. Intercropping: (LO 8)
   a. Fertile soil
   b. Densely populated
   c. Abundant results
   d. Free from pests and pathogens

4. Degraded land: (LO 9)
   a. Ultisol
   b. Burned
   c. Mine
   d. Peatlands

5. Correct pruning for construction wood: (LO 11)
   a. 1/3 bottom header
   b. 2/3 bottom header
   c. 1/2 header bottom
   d. According to conditions

6. What needs to be trimmed: (LO 11)
   a. Plants for the purpose of sap production
   b. Plants for construction wood production
   c. Plants for pulp and paper production
   d. Plants for energy wood production

7 Number of PUP (permanent plots) that must be made to thin out 1000 ha of trees with a sampling intensity of 5% with an area of 0.1 ha of PUP: (LO 12)
   a. 50
   b. 500
   c. 5000
   d. 50,000

8. Plant species from the Dipterocarp family based on the results of species testing in the field are considered to be "faster growing" than other types and have the potential to be developed to enrich degraded natural forests: (LO 13)
   a. *Shorea leprosula*
   b. *Shorea balancer*
   c. *Dipterocarpus*sp.
   d. *Shorea javanica*

9. The Division of Selective Cutting Silvicultural System consists of: (LO 14)
   a. Selective cutting with diameter limit
   b. Multi-Silvicultural System
   c. Intensive Silviculture
   d. Agroforestry

10. The limit on the diameter of trees that can be cut using the TPTI system based on the Minister of Forestry Regulation P.11/2009 in dry land natural forest, namely: (LO 13)
   a. 40 cm
   b. 40 cm
   c. 30 cm
   d. 30cm

11. The suitability of the species to the place where it grows allows the tree to grow naturally: (LO 13)
   a. Minimum
   b. Maximum
   c. Optimal
   d. Suboptimal

12. On fertile soils, spacing is usually ... when compared to less fertile soils. (LO 12)
   a. You're welcome
   b. tighter
   c. wider
   d. Irregular spacing

13. The disadvantages of planting with monoculture systems are: (LO14)

a. provide opportunities for pests and diseases that never break
b. complicate maintenance activities
c. more cost
d. management is more difficult

14. The success of planting in the field is usually seen from: (LO 8)
a. percentage of rooted plants
b. percentage of sprouted plants
c. percentage of plant death
d. root shoot ratio

15. Field planning in planting activities aims to: (LO 8)
a. Clearing the land to be planted
b. determine uncultivated areas
c. make the boundaries of the plant area
d. make run direction

16. In land clearing activities on sloping areas, the remains of the pillars: (LO 8)
a. allowed to strengthen soil structure and to control erosion
b. cut into pieces and then burned in a controlled manner
c. cut into slices
D cut into pieces for firewood

17. In seed transportation activities, seed packaging is arranged in a crate or basket. (LO 8)
a. Loose
b. Meeting
c. alternately
d. vertical

18. The principles of marginal land rehabilitation are: (LO 9)
a. Reduce the use of chemicals, use organic materials and microorganisms
b. Increasing the use of chemicals, using organic materials and microorganisms
c. Reduce the use of chemicals, increase the use of inorganic materials and microorganisms
d. Only use organic ingredients

19. The silvicultural system based on forest harvesting consists of: (LO 13)
a. silvicultural system for age and non-life stands
b. selective logging system and clear cutting system
c. silvicultural system for perennial stands and clear cutting
d. Agroforestry

20. Marginal land characteristics: (LO 9)
a. High pH, low organic matter
b. Low pH, low inorganic material
c. Low pH, low organic matter
d. Normal pH, high organic matter

21 Choice of siThe silvicultural stem that will be applied will affect the composition and structure of the stand. If what we are aiming for is a stand that will regenerate only in certain areas and changes in the structure of the stand yes it is relatively small, then the system we choose is: (LO 14)

a. Selective cutting with diameter limit
b. Clear cut
c. Selective and depleted combination
d. Intensive silviculture

22 The silvicultural system that has been applied in Indonesia, namely: (LO 13)

a. TPTI, TPTJ, and Shelterwood system
b. Intensive TPTI, TPTI, TPI and Silin
c. TPI, TPTI, and TPTJ
d. Clear cut

23 The combination of silvicultural systems that can be applied in natural forests, namely: (LO 13)

a. TPTI and TPTJ
b. TPTI and Clearcutting of Artificial Rejuvenation (THPB)
c. Answers a and b are correct
d. TPTI and Agroforestry

24 The following statements are related to Selective Cutting and Planting Lines (TPTJ), except: (LO 13)

a. can be done in primary forest
b. area with a maximum slope of 25%
c. planting in the path of planting more than one type
d. can be done in secondary forest

25 The implementation of the selective logging system will be successful if: (LO 13)

a. tree size distribution and commercial type regeneration are widely available
b. supervision of implementation in the field is carried out strictly
c. Availability of adequate human resources
d. all answers are correct

26 The application of the Silviculture System to the stands of age include: (LO 13)

a. Clearcutting Artificial Rejuvenation
b. Cut Select Individual
c. Cut Select Path
d. Cutting the stumps

27 Ecosystem restoration (RE) efforts are ultimately expected to achieve the following indicators: (LO 9)

a. ecosystem improvement
b. ecosystem balance
c. return of biological and non-biological elements
d. All answers are correct

28 Sequence of phases of a silvicultural system to support Sustainable Production Forest Management: (LO 14)
   a. Tending-Regeneration-Harvest
   b. *Harvest-Tending-Regeneration*
   c. Regeneration-Tending-Harvest
   d. All wrong answers

29 The planning stages of ex-mining land reclamation including revegetation planning efforts include the following sequences: (LO 9)
   a. Exploration-Post-Mining-Operation
   b. Exploration-Operation-Post Mining
   c. Operation-Exploration-Post Mining
   d. All wrong answers

30 One of the future technologies (>> Year 2020) that can be applied to silviculture are: (LO 14)
   a. GPS Technology
   b. *Internet of Trees*
   c. Bio-acoustic Technology
   d. All answers are correct

B. Circle the letter B if true and S if false! (value 30)

1.	B -S	The thinning of gold teak should be done 6 times during the cycle. (LO 12)
2.	B- S	In the implementation of reclamation and revegetation, cover crop planting activities are carried out to reduce erosion. (LO 9)
3.	B- S	The TPTI silvicultural system is a silvicultural system applied to teak forests at PT Perhutani. (LO 13)
4.	B -S	The crown thinning method is better than the tree thinning method, because it is easier to implement. (LO 12)
5.	B -S	All kinds of activitiesmaintenance of young plants is always carried out on all types of forest trees. (LO 10)
6.	B- S	Degraded forests cannot produce goods and services sustainably. (LO 9)
7.	B- S	In the Agathis and Pinus plantations, no pruning is necessary because the sap is taken. (LO 11)
8.	B -S	Wiwilan activities must be carried out on all types of HTI plantations. (LO 10)
9.	B -S	In less fertile soils, the use of mycorrhizae is very beneficial because mycorrhizae can fix free air nitrogen. (LO 9)
10.	B- S	One of the factors that cause trees to grow abnormally after being planted is the wrong choice of species. (LO 8)

11.	B -S	Tree pruning should be done at the bottom 2/3 of the canopy, because in this section the respiration process is smaller than the photosynthesis process. (LO 11)
12.	B- S	In areas with high rainfall, the land conditions are much more fertile than in dry areas, because the fertilizer provided is easily absorbed by the trees. (LO 8)
13.	B -S	*Output*from forest maintenance activities are in the form of business capital and wood produced. (LO 10)
14.	B -S	Land damage due to mining operations can be rehabilitated through an intensive silvicultural approach with three pillars, namely improvement of growing areas, use of herbicides and control of pests and diseases. (LO 9)
15.	B -S	The spacing of trees on land with a flat topography is greater than on sloping land. (LO 12)
16.	B- S	Characteristics of growing places in a location are determined by climate and soil (LO 9)
17.	B -S	*Shorea parvifolia*is one type that can be grown using a paludiculture system. (LO 14)
18.	B- S	The peat restoration program in Indonesia applies the 3R principles, namely 1) Rewetting, 2) Revegetation and 3) Reclamation. (LO 9)
19.	B- S	Wetting peat to maintain water levels and prevent fires can be done by making canal blocking. (LO 9)
20.	B- S	Stand productivity is influenced not only by climate and soil conditions, but also by the application of appropriate management and technology aspects. (LO 14)
21	B- S	The activity of replanting the empty parts of the former dead/presumed dead and damaged plants so that the normal number of plants is fulfilled in a certain unit area according to the spacing is called embroidery. (LO 8)
22	B -S	Weed control activities to reduce the number of weed populations so that the population is below the economic or ecological threshold is called eradication. (LO 10)
23	B- S	One of the planting activities in areas that are difficult to reach can be done mechanically using drone technology. (LO 9)
24	B -S	The activity of loosening the soil around the plant in an effort to improve the physical properties of the soil (soil aeration), is called mulching. (LO 10)
25	B- S	Examples of microbes that can help absorb nutrients are mycorrhizae and rhizobium. (LO 10)
26	B- S	On sloping areas the remains of the piers are left to strengthen the soil structure and to control erosion. (LO 8)

27	B- S	Types of plants with a wide title are planted with a greater distance than those with a small title. (LO 12)
28	B- S	A high percentage of plant life is an indicator that the selection of species has been carried out correctly. (LO 8)
29	B -S	This type of meranti is very appropriate if planted in the open. (LO 8)
30	B -S	Jabon species can grow well if planted on former rice fields or land with an altitude of >1,000 m above sea level. (LO 8)

C. Answer the questions below by matching/matching the statement in A with statement B (score 40)

No	Answer	Statement A	Statement B
1.	A	This thinning is done without looking at the position of the tree canopy in the stand. (LO 12)	A. Mechanical Spacing B. Thinning the number of stems C. Free Spacing D. Title thinning E. Low spacing F. Selection thinning
2	E	The purpose of this thinning is to free dominant and codominant trees from the influence of competition with lower class trees. (LO 12)	A. Mechanical Spacing B. Thinning the number of stems C. Free Spacing D. Title thinning E. Low spacing F. Selection thinning
3	D	Trees with upper canopy class that do not have commercial value become a significant competitor for commercial trees in obtaining optimal sunlight, nutrients, and growing space requirements. (LO 12)	A. Mechanical Spacing B. Thinning the number of stems C. Free Spacing D. Title thinning E. Low spacing F. Selection thinning
4	A	Seeds or vegetative parts for propagation, easy to obtain and easy to store (LO 8)	A. Selection of plant types B. Field preparation C. Making arrays and installing stakes D. Making planting holes E. Seed transportation F. planting
5	B	Gebrus I and Gebrus II. (LO 8)	A. Selection of plant types B. Field preparation C. Making arrays and installing stakes D. Making planting holes

			E. Seed transportation F. planting
6	A	Marginal land (LO 9)	A. Ultisol B. Podsol C. Latosol D. Andosol E. Entisol F. Grumosol
7	A	Degraded land (LO 9)	A. Post-mining land B. swamp land C. Land with steep slopes D. Peatlands E. Mangrove land F. Estuary
8	D	Maintenance of young plants by removing water shoots. (LO 10)	A. Pendangiran B. Fertilization C. Weeding D. Wiwilan E. pruning F. Stitching
9	B	Mycorrhizae and rhizobium. (LO 10)	A. Pendangiran B. Fertilization C. Weeding D. Wiwilan E. pruning F. Stitching
10	A	Types of plants that can be used for peatland rehabilitation. (LO 9)	A. Jelutung B. teak C. Mahogany D. Sengon E. Jabon F. Gmelina
11	E	Types of plants that do not need pruning. (LO 10)	A. Jelutung B. teak C. Mahogany D. Sengon E. Jabon F. Gmelina

12	A	Planting with a view to construction timber. (LO 8)	A. pruning B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
13	D	Selection of tree species to plant. (LO 8)	A. pruning B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
14	H	Determination of spacing. (LO 11)	A. pruning B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
15	B	Early death after planting. (LO 8)	A. pruning B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
16	E	Contour direction. (LO 5)	A. pruning

			B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
17	I	raiser. (LO 12)	A. pruning B. Planting skills C. Objective spacing D. Ecological properties of species E. Determination of the direction of the run F. Stimulates natural regeneration G. Pendangiran H. Soil fertility I. Highest genetic advantage
18	A	Application of more than 1 (one) silvicultural system. (LO 14)	A. Silvicultural Multisystem B. Stands are not old C. Intercropping D. Silvicultural Technique E. Paludiculture F. Intensive Silviculture
19	D	Silvicultural approach to forest with light damage (LO 14)	A. Silvicultural Multisystem B. Stands are not old C. Intercropping D. Silvicultural Technique E. Paludiculture F. Intensive Silviculture
20	C	Cultivation system (LO 8)	A. Silvicultural Multisystem B. Stands are not old C. Intercropping D. Silvicultural Technique E. Paludiculture F. Intensive Silviculture
21	A	The number of trees on earth according to the study of Crowther et al. (2015) from ETH Zurich (LO 8)	A. 3 Trillion B. 400 Billion C. 300 Billion D. 2 Trillion E. 1 TrillionF. 500 Billion
22	B	New COP-26 taking place in Glasgow UK (2021) (LO 9)	A. SDGsB. Climate ChangeC. PovertyD. Air Crisis.

			Environmental InnovationF. Food Security
23	C	Number of stages of TPTI activities (LO 13)	A. 10 StagesB. 15 StagesC. 7 StagesD. 5 StagesE. 20 StagesF. 3 Stages
24	C	Year of the Declaration of the Era of Ecosystem Restoration by the United Nations (UN Decade on Ecosystem Restoration) (LO 9)	A. Year 2010B. year 2020C. 2019D. 2015E. year 2021 F. 2018
25	D	Adaptive forest tree planting in wetlands (peat) (LO 9)	A. Arboriculture B. VerticultureC. Silvicultural SystemD. PaludicultureE. HTIF. TPTI

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