Applicant #:_____

Question # __I_____

Answer on these pages, tear from the booklet and submit with the answer packet if you chose Option A for Part I of this examination.

Professional Foresters Registration Examination, October 8, 2021

PART I

Instructions: APPLICANTS, PLEASE READ THESE INSTRUCTIONS CAREFULLY. You MAY complete PART I by doing ONE of the following two options:

Complete any Three (3) of Questions I through V.

Question I Short Answer
Question II - Forest Mensuration
Question III - Forest Ecology
Question IV-Silviculture
Question V - Forest Protection

Professional Foresters Registration
715 P Street, 9th Floor
Sacramento, CA 95814

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

ACRONYMS AND ABBREVIATIONS USED IN THIS EXAMINATION

The following Acronyms and /or Abbreviations **may be used** in this examination.
Technical abbreviations that should be known by a forester are NOT included here (e.g., DBH, MAI, MBF). You may remove this page for reference throughout this examination. **It need not be returned.**

Acronym or Abbreviation	Full Text
BLM	Bureau of Land Management, USDI
BOF	California State Board of Forestry and Fire Protection
CA	California
CCR	California Code of Regulations
CAL FIRE	California Dept. of Forestry and Fire Protection
CDF&W	California Department of Fish and Wildlife
FPR	California Forest Practice Rules
PRC	California Public Resources Code
RPF	California Registered Professional Forester
THP	California Timber Harvest Plan
TPZ	California Timber Production Zone
USFS	United States Forest Service, USDA

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

October 2021 RPF EXAMINATION

3% 1. What are the duties of an RPF to their clients with regard to the truthfulness and completeness of their statements and actions?

3% 2. How should an RPF distinguish between fact and opinion in their public statements?

3% 3. How should an RPF respond to requests for service beyond the scope of their knowledge or experience?

3% 4. Define Shelterwood, FPR definition acceptable but not required.

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

4% 5. List four (4) stand structure elements that determine the relative resistance or ease of crown fire initiation and subsequent spread in the absence of extreme wind events?

_____

3% 6. Define what is meant by the ecological term, “obligate species”.

_____

4% 7. The abiotic parts of an ecosystem can generally be defined as:

_____

3% 8. A plant that is more or less restricted to moist sites, but not considered an aquatic plant is termed a:

_____

3% 9. What is an Alluvial Soil?

_____

_____

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

3% 10. A nonmonetary and rarely calculable toll on society arising from any form of economic activity is termed a:

_____

4% 11. What is a silvicultural system?

_____

3% 12. In economic terms, the actual quantity of a commodity or service that buyers are willing to purchase in the market at a given price over a specified time period is called _____

3% 13. What is the term for a timber sale in which the buyer and seller agree on a total price for marked standing trees or for trees within a defined area before the wood is removed?

_____

3% 14. Define the term marginal cost.

_____

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

2% 15**.** Geotextiles come in basically two forms of fiber arrangement. The two forms of fiber arrangement are

_____

3% 16. In California, name the three Cadastral Survey Base and Meridian Systems used to facilitate and organize the Public Land Survey System in the State.

_____

3% 17. A THP map has a scale of 1 inch= 200 ft and has 25 ft contour intervals. A proposed temporary road for a logging unit extends 4.5 inches from one permanent road to the intersection with another permanent road. The proposed temporary road starts on a contour line, crosses four other contour lines, and ends, at the landing, on a fifth contour line. What is the grade of this proposed temporary road (round to the nearest percent)? Show your calculations.

_____

3% 18. As used in Forest Engineering), what is the Watershed Time of Concentration?

_____

3% 19. What condition must be met to use a local, simple Tarif Table to determine the volume of trees in a Ponderosa pine stand?

_____

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

4% 20. List four (4) characteristics of fuels that affect the way fires burn and are important in prescribed fire management.

3% 21. Which of the following tree species are susceptible to white pine blister rust: Pinus monticola, Pinus ponderosae, Pinus sabiniana, Pinus attenuata, Pinus lambertiana, Pinus contorta?

3% 22. Is the following statement true or false, and briefly state why: Establishing a Douglas fir plantation adjacent to a residual white fir overstory infected with dwarf mistletoe represents a high risk of spreading the mistletoe to the new plantation.

4% 23. The use of WLPZs and other mitigations within a THP are intended to provide protection for numerous in-stream and near-stream site factors. List four (4) of these site factors specified in the CA Forest Practice Rules.

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

4% 24. For a GPS unit suitable for Forestry Purposes (e.g., Resource Grade unit), list two (2) commonly used coordinate systems a point could be recorded in for GIS or GPS use?

_____

4% 25. Briefly describe the relationship of the Z'Berg-Nejedly Forest Practice Act, the Public Resources Code, and the CCRs to each other.

_____

4% 26. In terms of water quality law, define the term TMDL and from what law(s) does it derive?

_____

3% 27. List three (3) of the key elements characterizing Defensible Space in the BOF General Guidelines for Creating Defensible Space.

Continued on the next page

Applicant #:_____

Question # __I_____

Answer on these pages, tear from the exam and submit with the answer packet if you chose to answer Question I of this examination.

3% 28. Regional Water Quality Boards and the State Water Resources Control Board in California have the authority to require monitoring and reporting as a condition of any applicable waiver of waste discharge requirements on Timber Harvest Plans. What is the legislative basis for this authority?

3% 29. According to the FPR, which silvicultural method is used to develop an unevenaged stand from a stand that currently has an unbalanced irregular or even-aged structure. This method is used to increase stocking and improve the balance of age classes so as to allow the residual stand to be managed by selection or group selection.

3% 30. The establishment of a forest or stand in an area where the preceding vegetation or land use was not forest is called

3% 31. The Forest Practice Rules and regulations define "functional wildlife habitat" as having three basic features. List these three features

END OF QUESTION # I

QUESTION II - FOREST MENSURATION

OBJECTIVE: Demonstrate your ability to manage inventory measurement crews and provide quality control of data collected**.**

SITUATION: As a new California RPF you are employed by a consulting firm that manages 50,000 acres of timberland for a diverse group of landowners. The lands are managed pursuant to a certification program. The certification requires regular inventory of pre-harvest timber volumes and property timber volume and growth.

Current firm inventory management is focused on a set of permanent plots to understand stand type level growth and yield. Your firm manages a wide range of timber Site II terrain conditions in mixed-conifer young growth even aged forests to meet landowner goals and retain certification. The current set of permanent plots provide statistically significant data at the stand **type** level. Company data confirms their managed stands are consistently tracking Site II index graphs and averaging 5 rings per inch growth on codominant trees. The company has a GIS system that includes a stand type layer for all managed lands. The company markets delivered logs utilizing a sealed bid system for their clients. Accurate estimates of logs for sale in a bid prospectus tends to increase the bid values for the firm's clients.

QUESTIONS:

1. **50%** Your senior forester assigns you to review current inventory procedures and present recommendations for improvement. Company procedures for acquiring pre-harvest stand timber volumes include reliance on existing permanent plots for both regeneration and intermediate harvests.

   20% 1.a. Describe how you would use the existing company inventory to estimate timber harvest volume including developing log sale prospectus stand and stock tables for a **clearcut**.

   20% 1.b. Describe how you would use the existing company inventory to estimate timber harvest volume including developing log stand and stock tables for a **commercial thin**.

   10% 1.c. Current policy relies on two-person field crews for all field inventory projects. Compare and contrast the benefits and disadvantages of various sized (1 to 3 person) crews for **establishment** and **remeasurement** of 0.1-acre circular fixed permanent plots.

2. **25%** You are assigned to manage quality control for the company permanent plot remeasurements.

   5% 2.a. Compare and contrast field instrument precision and crew measurement accuracy.

   10% 2.b. Field crews often utilize laser devices to measure tree heights and live crown length. Describe how measurement results are affected by the way the devices are used by crew members. Use a 100-foot-tall tree as an example to describe how the device is used.

Continued on the Next Page

10% 2.c. You review field measurement plot data for tree heights that were measured twice, once by your inventory crew and thereafter by fell, buck and scale as part of a research study **immediately after** the inventory crew work. Trees which all very carefully measured during research as 100 feet length on the ground were previously measured by inventory crew when standing from 94 to 106 feet tall. Discuss the likely sources of this variation.

3. **25%** You decide to improve quality control of permanent plot **re-measurements**. You decide to upload the previous measurement into field data recorders for each plot to be remeasured.

5% 3.a. Should you direct your field crews to review the last measurements while in the field before remeasuring each tree? Explain your answer.

15% 3.b. You decide to program the field data recorders to automatically check 10-year DBH remeasurement data in the field for obvious crew errors. Using Company growth data, describe a simple algorithm you might use to program the recorders to check for potential field DBH measurement errors in codominant trees. Give a numeric example.

5% 3.c. What should you tell remeasurement crews about the new field data checking procedure?

End of Question

QUESTION III-FOREST ECOLOGY

OBJECTIVE

To demonstrate your understanding of the advantages and disadvantages of mixed species stands.

SITUATION

Throughout the history of American Forestry, assertions have been made that mixed species stands of trees are somehow “better” than stands dominated by a single tree species.

QUESTIONS

10% 1. Discuss where a forester is most likely to find a naturally occurring mixed species stand of trees and to find a stand of naturally occurring trees dominated by a single tree species in the U.S.? Explain an ecological reason for the different stand type’s development in the locations you describe.

15% 2. Mixed stands are often thought to be “more stable” than stands dominated by a single tree species. What do you think is meant by more stable and do you think this is true or false? Explain your reasoning.

15% 3. Discuss relative advantages for nutrient cycling, productivity, and site utilization in a multiple conifer species with hardwoods stand compared to a stand dominated by a single conifer tree species. Use examples to aid your discussion.

15% 4. Discuss the effect of insect or disease epidemics on a multiple conifer species with hardwoods stand compared to a stand dominated by a single conifer tree species. Do not limit your discussion to total stand replacement effects.

15% 5. Discuss economic advantages and disadvantages of managing a multiple conifer species with hardwoods stand compared to a stand dominated by a single conifer tree species? Use examples to aid your discussion.

15% 6. In terms of multiple uses, which type of stand would be more advantageous; a multiple conifer species with hardwoods stand compared to a stand dominated by a single conifer tree species? Give at least three (3) examples and explain your reasoning.

15% 7. Discuss three (3) operational advantages and three (3) operational disadvantages of managing a mixed species stand of trees. Use examples to aid your discussion.

END OF QUESTION

QUESTION IV SILVICULTURE

OBJECTIVE: Demonstrate your understanding of how management goals are translated into stand level silvicultural objectives and site-specific marking guides using inventory data.

SITUATION: Your company manages a variety of stands for family forest landowners. Each landowner has specific goals and constraints. For these landowners, your company is able to market all commercial species trees >=12" dbh. For each of the following scenarios, analyze the data available and address the site-specific issues presented.

Scenario:

One of your client landowners has acquired several stands of site index 100 planted ponderosa pine. These well stocked stands were planted following wildland fires 20 and 40 years ago. The owner's goal is to manage the plantations for maximum sustained sawlog production. Your company advises that maintaining stand density between 50% and 75% of maximum will achieve their goal. You decide that the unthinned Pine Plantation Yield data research report by Oliver and Powers (see attached table) represents a useful approximation of maximum stand density.

Quesrtions

1. **65%** This 40-year-old plantation was originally planted at ~ 300 TPA. You acquire the following hasty stand inventory data:

   Current Inventory Data

PP trees per plot	# Of 1/100-acre plots	Trees per Acre	Ave. dbh of trees in plots	Basal Area per tree	Basal Area per Acre	Crown Class
0	5		na			
2	29		18"	1.76		Dominant
2	16		16"	1.4		Codominant
2	14		14"	1.07		Codominant
3	28		12"	0.79		Intermediate
4	4		10"	0.55		Intermediate
4	4		06"	0.2		Suppressed
total						

40% 1.a. Compare and contrast your site-specific inventory data with a maximum density stand. Complete the following tables to make specific numerical comparisons. Explain and justify your comparison and contrast.

Continued on Next Page

20% 1.b. Explain and justify the timing and type of next harvest treatment you should prescribe for this 40-year-old plantation.

5% 1.c. Plot a diameter distribution graph of the current and your proposed future residual stand. You may use the attached graph paper. Be sure to turn in with your exam.

Scenario #2:

35% 2. This 20-year-old plantation was originally planted at ~ 400 TPA. Inventory data indicates it tracks very slightly denser than the maximum density Unthinned plantation stand with a basal area per acre of 125 ft sq /ac. and average dbh of ~ 8 inches.

5% 2.a. Approximately how many trees per acre are in the current plantation?

15% 2.b. Explain and justify the type of the harvest treatment you should prescribe now to bring this 20-year-old plantation in compliance with company management guidelines.

15% 2.c. Will your proposed treatment to meet company management guidelines ensure that a future harvest 10 years from now will be commercially viable within company management density goals? Explain and justify your answer numerically.

End of Questions

Tables and Graphs on the next pages.

Applicant #:_____

Question # IV

Complete table on this page, tear from the booklet and submit with the answer packet if you chose to answer this Question of this examination.

Current Inventory Data

PP trees per plot	# Of 1/100-acre plots	Trees per Acre	Ave. dbh of trees in plots	Basal Area per tree	Basal Area per Acre	Crown Class
0	5		na			
2	29		18”	1.76		Dominant
2	16		16”	1.4		Codominant
2	14		14”	1.07		Codominant
3	28		12”	0.79		Intermediate
4	4		10”	0.55		Intermediate
4	4		06”	0.2		Suppressed
total						

Applicant #:_____

Question # IV

Complete table on this page, tear from the booklet and submit with the answer packet if you chose to answer this Question of this examination.

Stand Parameter	Site Inventory Data	Max Density Stand
TPA		
BA/A		
% Of TPA = Dominant		
Ave dbh Dominant		
% Of TPA = Codominant		
Ave dbh Codominant		
% Of TPA = intermediate		
Ave dbh Intermediate		
% Of TPA = Suppressed		
Ave dbh Suppressed		

Oliver and Powers Unthinned Pine Plantation Data

Table 13. Mean diameters and number of trees by crown classes for unthinned ponderosa pine plantations in northern California (Site Index 100)

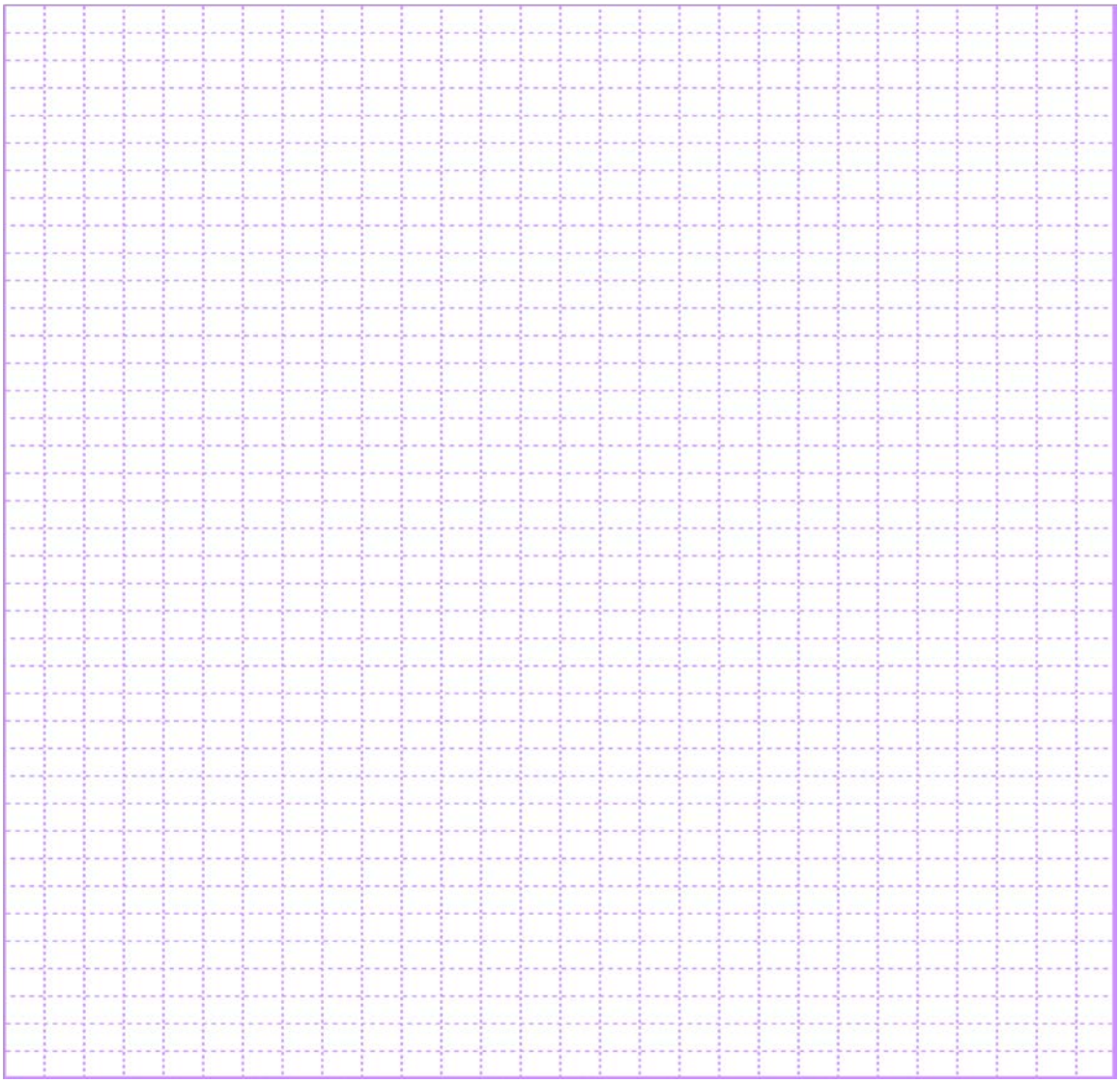
Age from planting (years)	Planted spacing (ft)	Mean d.b.h. when crown class is				Trees per acre when crown class is			
		D	C	I	S	D	C	I	S
		inches				number			
10	6 x 6	2.4	2.0	1.6	0.2	358	361	277	32
	8 x 8	2.9	2.4	1.9	0.2	259	215	97	8
	10 x 10	3.3	2.8	2.1	0.2	190	141	36	3
	12 x 12	3.8	3.1	2.4	0.2	148	98	11	0
15	6 x 6	4.2	3.8	3.1	1.4	268	330	365	65
	8 x 8	5.1	4.5	3.7	1.6	204	204	154	17
	10 x 10	6.0	5.2	4.3	1.8	157	136	71	6
	12 x 12	6.7	5.8	4.7	2.0	126	97	32	2
20	6 x 6	6.4	5.7	4.8	2.2	195	288	423	122
	8 x 8	7.7	6.8	5.7	2.6	162	190	196	31
	10 x 10	9.0	7.7	6.5	2.9	130	130	99	11
	12 x 12	10.1	8.7	7.2	3.2	107	95	50	5
25	6 x 6	8.1	7.1	6.0	2.8	139	247	450	192
	8 x 8	9.8	8.5	7.1	3.3	134	177	220	48
	10 x 10	11.3	9.7	8.1	3.7	111	125	117	17
	12 x 12	12.8	10.9	9.1	4.1	93	91	66	7
30	6 x 6	9.5	8.3	7.0	3.3	96	196	417	233
	8 x 8	11.4	9.9	8.3	3.8	112	162	233	63
	10 x 10	13.3	11.3	9.5	4.3	98	120	130	22
	12 x 12	15.0	12.7	10.5	4.7	83	89	75	10
35	6 x 6	10.7	9.3	7.8	3.6	63	150	363	236
	8 x 8	12.9	11.0	9.2	4.2	86	133	205	60
	10 x 10	14.9	12.7	10.6	4.8	84	108	127	24
	12 x 12	16.9	14.2	11.8	5.3	77	87	81	12
40	6 x 6	11.7	10.1	8.5	3.9	46	119	337	256
	8 x 8	14.1	12.0	10.1	4.6	70	110	185	54
	10 x 10	16.4	13.8	11.5	5.2	70	93	114	21
	12 x 12	18.5	15.5	12.8	5.7	67	73	78	9
45	6 x 6	12.6	10.8	9.1	4.2	33	95	307	274
	8 x 8	15.2	13.0	10.8	4.9	56	99	171	49
	10 x 10	17.7	14.9	12.5	5.6	60	81	102	16
	12 x 12	19.9	16.6	13.8	6.1	58	62	76	7
50	6 x 6	13.4	11.5	9.7	4.4	19	79	289	292
	8 x 8	16.2	13.8	11.5	5.2	49	88	156	36
	10 x 10	18.8	15.8	13.1	5.9	55	73	96	1
	12 x 12	21.2	17.7	14.6	6.5	50	52	76	7

20

Applicant #:_____

Question # __IV____

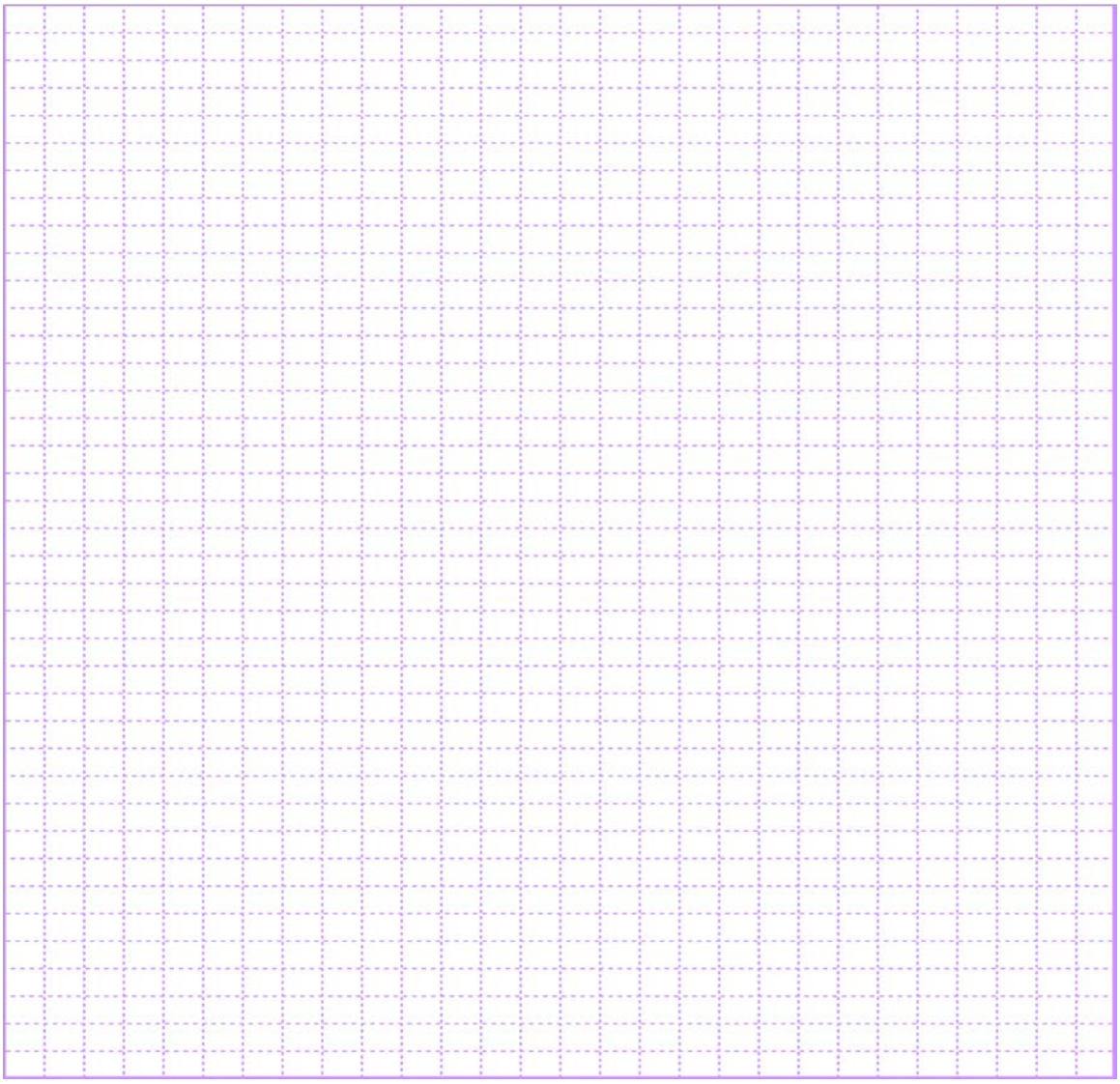
Complete graph on this page, tear from the booklet and submit with the answer packet if you chose to answer this Question of this examination.



Applicant #:_____

Question # IV

If you need a graph to replace draft graph, Complete graph on this page, tear from the booklet and submit with the answer packet if you chose to answer this Question of this examination.



End of Question

QUESTION V- FOREST PROTECTION

OBJECTIVE

To demonstrate your ability to assess forest health and to craft management alternatives available to California RPFs.

QUESTIONS

30% 1. The definition of "dying" trees includes those trees "judged to be dead within one year by an RPF". Briefly describe the most significant **six (6) visible** features of trees or their environment you might look for when trying to judge if a commercial conifer will be dead within one year.

10% 2. How do hardwoods differ from conifers when trying to judge probability of mortality? What are some similarities?

40% 3. Name **eight (8)** possible "abiotic agents" (NOT biological) in nature which may cause significant damage to conifers. Briefly describe one or more sources of the agent, type(s) of damage from each agent, and how serious the damage is likely to be (chance tree would die or recover, lasting effects.) See example below. You may not use this example in your answer.

Example:

Agent - cold temperatures (freezing)

Source(s) of agent - natural cold air drainage, temperature inversion, weather patterns (arctic air mass)

Type of damage - freezing and killing of new growth, older needles can be killed too, frost cracking, frost heaving of seedlings

Seriousness - a mature tree would usually survive, seedling that have been pushed out of the ground would generally die if much of the root is exposed. Reduction in growth corresponding to a reduction in foliage. Reduction in wood quality possible from frost cracks. Top kill can deform tree.

Confine the answers to the direct types of damage; do not take analysis out to secondary insect or pathogen attacks. However, do consider trees of different ages (seedlings to mature) and of different species in your responses.

20% 4. Briefly describe **two (2)** actions that can be taken under the Forest Practice Rules that will generally allow for the harvesting of dead and dying trees to begin within two weeks of submission of paperwork. Include what RPF responsibilities exist, if any, in implementing these actions.

END OF QUESTION

Professional Foresters Registration Examination October 2021

Part II

Applicant Must Also <u>Answer Three</u> (3) of the Remaining Five Essay Questions in Part II

Question VI-Forest Engineering
Question VII-Economics
Question VIII-Forest Administration
Question IX-Forest Policy
Question X-Forest Management

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Sacramento, CA 95814

QUESTION VI-FOREST ENGINEERING

OBJECTIVE

To demonstrate your ability to design logging road and yarding systems taking into consideration engineering constraints, logging practices, stream and soil protection and silvicultural method.

SITUATION

You are working under the direction of a California Registered Professional Forester (RPF) for the purpose of formulating a Timber Harvest Plan (THP) covering the area outlined on the attached map (**see page following this question for map**.) Cable, tractor/skidder, and shovel systems are the only options for the harvest area. After a brief field review, the RPF has concluded that construction of "Road A" will be necessary and construction of "Road B" is a possibility.

Ground slopes adjacent to the Class III watercourses are 55% for a distance of 100 feet from the channel. Ground slopes adjacent to the Class II watercourses are 75% for a distance of 100 feet from the channel. All other ground slopes within the proposed harvest area range from 30 - 55%. The Class I stream is a productive fish habitat.

The RPF wants you to spend no more than two field days making a preliminary determination on the feasibility of using "Road B" as shown. The stand is well stocked with second-growth conifers. The distribution of timber volume is uniform across the upper slope and heavier on the lower half of the unit.

85% Question 1

15% 1 a) From an engineering perspective, discuss the field reconnaissance procedure you would undertake to determine if the proposed Road B layout can be reasonably achieved. Include the equipment and samples of the types of calculations you would have to make.

20% 1 b) Discuss the economic and environmental implications of building Road B.

5% 1 c) Consider the area between Road A and the Class II watercourse. Assume cable logging would be used if only Road A was constructed. Briefly discuss how the construction of Road B would influence the choice of yarding method for this area.

Continued on the Next Page

20% 1 d) If "Road B" is used, discuss specifically what special provisions might be required in the THP. State your assumptions.

15% 1 e) Briefly describe some of the factors you will consider in deciding whether to use temporary or permanent stream crossings.

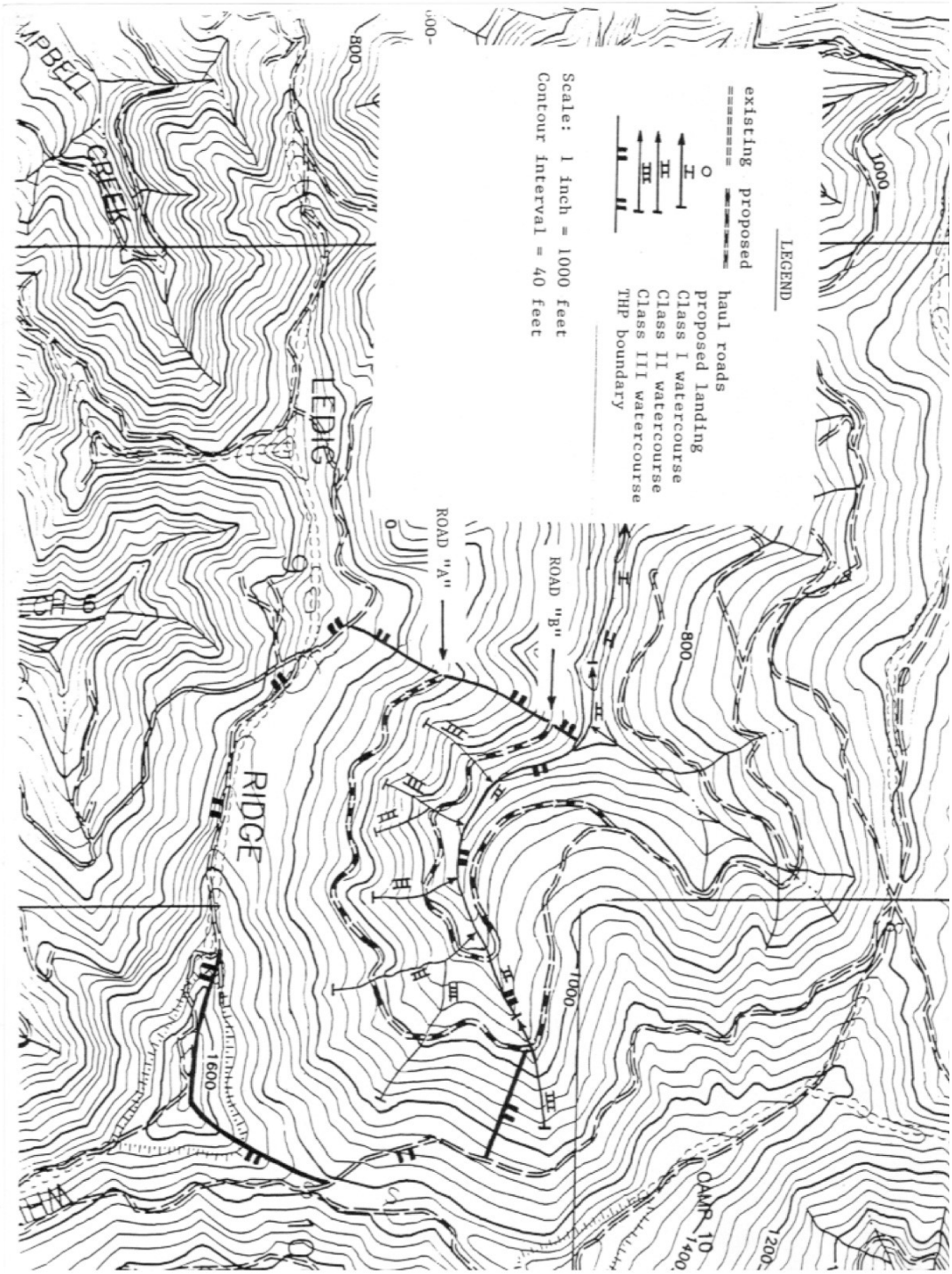
10% 1 f) Explain what factors would influence landing locations for Road A and Road B and draw on the attached map the most feasible landing locations along each road.

15% Question 2. You are evaluating timber types while working on road location and have decided to recommend a commercial thin for the entire THP area. You wish to have a residual stand basal area of 150 square feet. Contrast and compare the elements that you should consider relative to the selection of each yarding system under this intermediate treatment.

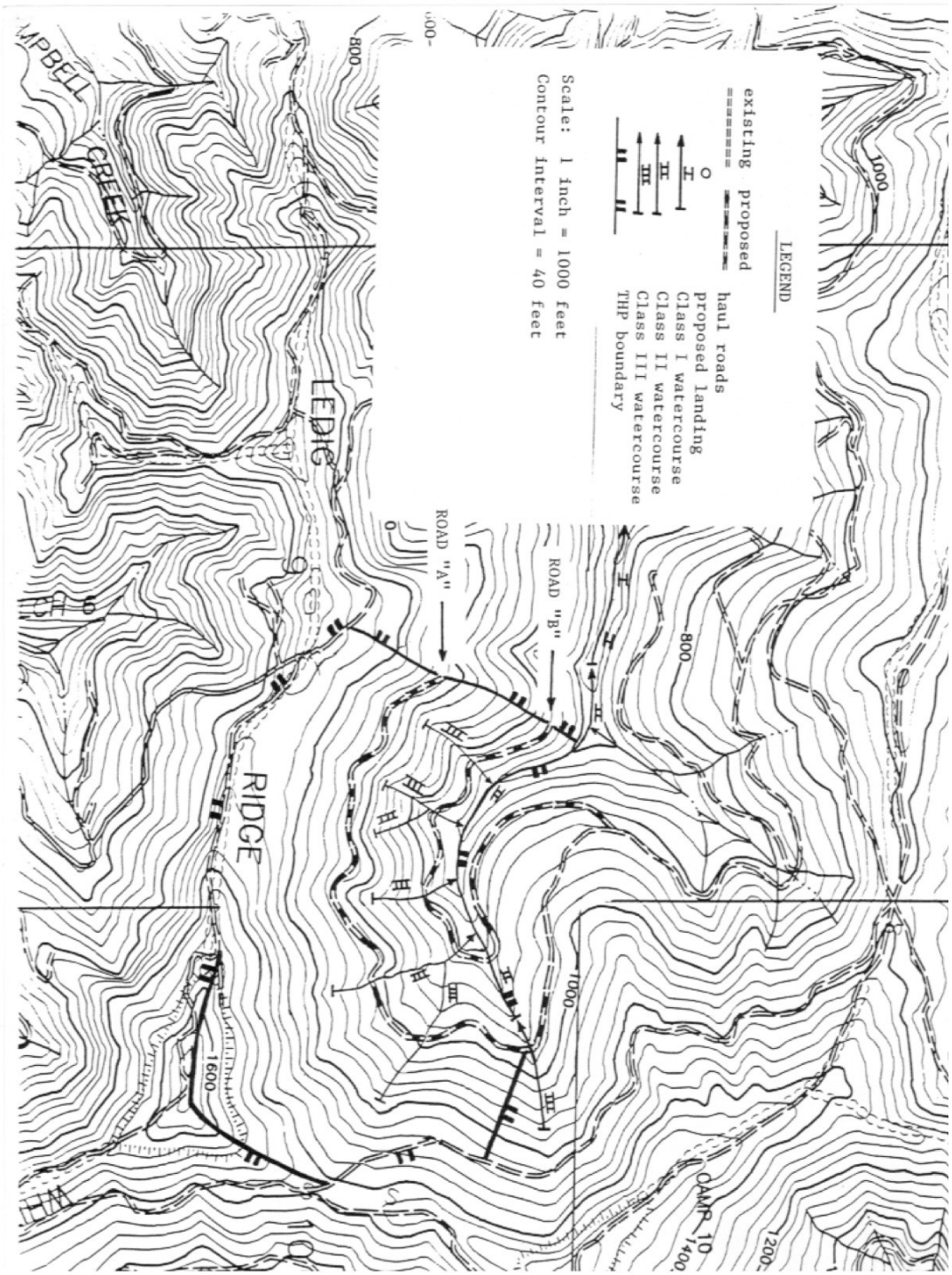
(THE MAP ON THE FOLLOWING PAGE COMPLETES THIS QUESTION. BE CERTAIN TO PLACE YOUR APPLICANT'S NUMBER IN THE upper right corner of the page, REMOVE IT FOR EASE OF USE DURING THE EXAMINATION AND RETURN WITH YOUR WRITTEN ANSWERS)

END OF QUESTION

Applicant #:_____ Question # VI



Applicant #:_____ Question # VI



QUESTION VII-FOREST ECONOMICS

OBJECTIVE:

To demonstrate your understanding of basic forest economics principles and how forest practice regulations may affect a property's value.

SITUATION:

Imagine that a proposal has been made for a California state regulation that would limit the harvesting of privately owned late seral/old growth stands to 20 percent of their volume per decade. You have been asked to estimate the financial change (gain or loss) to a particular private owner in present value terms (before income taxes) if this proposal was to become law.

QUESTIONS:

25% 1. Describe the general method of analysis that you would use to determine the potential financial change to a forest owner of one such stand.

25% 2. List and briefly describe the types of data that you would need to make your evaluation.

25% 3. Describe how, in your financial calculation, you would handle risk**.** Give an example of how to handle risk of fire in your financial calculation.

25% 4. List the major steps that you would follow to perform the analysis.

END OF QUESTION

QUESTION VIII- FOREST ADMINISTRATION

OBJECTIVE: Demonstrate your ability to integrate new research into an existing management regime and communicate results to various constituents.

SITUATION: As a new California RPF you are employed by a consulting firm that manages 50,000 acres of timberland for a diverse group of landowners. The lands are managed pursuant to a certification program. The certification requires keeping abreast of new research reports, then incorporation into the management scheme of relevant science after review by the firm, certification agency and landowners.

Current firm management is focused on group selection silviculture with regeneration of 20% of each stand entry in ~ 2.5-acre gaps on 15-year intervals.

The firm assigned you to review a recent research report concerning group selection silviculture. You present your findings to all the staff foresters during a Zoom meeting:

1. The research is peer reviewed and published in a science journal: www.forestryscience.com/vol17/groupselection
2. The area of study was the same vegetation type and timber ages as firm managed lands.
3. Study area was in similar terrain but somewhat higher site land.
4. Multiple group selection regimes were compared.
5. Significantly greater timber growth and volume than firm's current approach was produced by a regime utilizing smaller (1 to 1.5-acre) gaps covering less of the stand area (10 to 15%) per entry on more frequent (10-year) intervals.
6. Only timber-growth issues were addressed in the research.

QUESTION:

1. **100%** Your senior forester assigns you to draft a prose letter <u>to the certification agency</u> documenting the firm's <u>compliance with research review requirements</u> and <u>actions the firm recommends</u> be taken.

   Your letter should address the <u>implications of potential changes in management.</u> Do we need to change direction? What are the timber growth implications of revising the current management scheme? What are some of the non-timber-growth issues requiring more analysis?

   Write a one-to-two-page (~ 300-400-word) business format letter. You will be graded on both content (60%) and writing effectiveness (40%). You may use the following page format for your answer. Be sure to include both first and third pages, second page is available if you need more space. You may benefit from creating a brief outline before writing the business letter.

End of Question

Applicant #:

Question # VIII

Answer on these pages, tear from the exam and submit with the answer packet if you chose Option A for Part I of this examination.

Sender:

Date:

Addressee:

Salutation:

~~Insert Letter Text Below~~ :

Applicant #:

Question # VIII

Answer on these pages, tear from the exam and submit with the answer packet

Letter Text Continued if needed:

Applicant #:

Question # VIII

Answer on these pages, tear from the exam and submit with the answer packet

Letter Text Last Page:

Signature and or Seal:

Contact Information:

~~Enclosures:~~

QUESTION IX- FOREST POLICY

OBJECTIVE:

To demonstrate understanding of the RPF role in timber harvest plans and Selection silviculture system.

SITUATION:

As a new RPF you have been approached by an experienced timber buyer who is your "in-law" relative. The buyer wants to help you get your consulting business started and asks you to prepare a THP for an 80-acre parcel on site III Sierra Nevada ground and be the RPF who is available to provide professional advice upon request throughout the active timber operations. The timber buyer shows you a contract stating he purchased all the harvestable timber as lump sum stumpage. Thus, the timber owner will be the Plan submitter. There are no listed species, road access or difficult ground issues. The timber buyer states the sole requirements of the timberland owner are a Selection silviculture system (not group selection) harvest method and that stocking must be met immediately after harvest.

QUESTIONS:

10% 1. What are the primary attributes of the Unevenaged Selection silviculture system?

5% 2. What are the tree marking requirements in the FPRs when utilizing the Selection harvest method?

10% 3. What are the general responsibilities of the RPF who prepares a THP?

10% 4. What and who is the "real party of interest" in your agreement to prepare the THP?

10% 5. What ethical duty do you owe to the "real party of interest" in your agreement to prepare the THP?

15% 6. Do you owe an ethical duty to any other party concerning the proposed THP project? If so to whom and what is the duty?

Continued on the Next Page

10% 7. The timber buyer states his understanding when he purchased the timber is that he would be able to cut all the merchantable trees. He requests that you mark to cut all the sound pines, Douglas-fir, and white fir over 17" DBH, and all the sound Incense cedar over 15" DBH while leaving enough smaller trees to meet post-harvest stocking. Since he purchased all the timber as lump sum stumpage he wishes to recover as much value as possible.

Is this request consistent with the FPRs stocking, seed tree retention and residual tree quality requirements of the Selection regeneration method? Explain your answer by addressing details of each of the above three (3) underlined items.

10% 8. The LTO states that since he is the plan Submitter and Timber owner, there is no need for you to spend time and money to communicate directly with the absentee Timberland owner. Is that acceptable? Explain your answer.

10% 9. Explain your duty under the FPRs with regards to conflicts of interest between the RPF and real party of interest, timberland owner and other parties to the THP. Give one example of a potential conflict of interest in your agreement to prepare the THP.

5% 10. Explain your duty under the FPRs with regards to newly discovered conflicts of interest during operations under the plan.

5% 11. As an RPF, what must you do if it becomes necessary to discontinue services for this THP?

End of Question

QUESTION X- FOREST MANAGEMENT

OBJECTIVE:
To demonstrate your knowledge regarding computerized growth simulators for management projections.

SITUATION:
Computerized growth and yield including stand simulators have become increasingly sophisticated, user friendly and affordable to help determine if management options are sustainable.

QUESTIONS:

25% 1. Briefly describe what is a growth/stand simulator. Describe three specific mensurational or forest management purposes for using a growth/stand simulator. Why has the profession has seen great growth in the number and use of these simulators?

15% 2. Define and compare these three types of simulators:

A. Individual-tree, distance-independent
B. Individual-tree, distance-dependent, and
C. Whole Stand

60% 3. Shown below are the Acronyms of several Forest Growth Simulators COMMONLY used in the western U.S. or Western Canada:

I. CACTOS
II. CRYPTOS
III. FVS
IV. ORGANON
V. FPS
VI. DFSIM
VII. PPSIM
VIII. FORECAST

Pick any ONE Simulator and answer the following questions:

10% A. Define the complete title of the Simulator you have chosen to discuss. (E.g.-What does the acronym stand for?) Who or what organization developed the simulator?

50% B. Discuss how the simulator is utilized including appropriate species, the geographic range of the original data, what data ranges are most appropriate and general information about what data is necessary to execute the simulator. (If you are using FVS be certain to state which variant you are discussing).

END OF QUESTION
END of EXAM