Professional Foresters Registration Examination, OCT 3, 2025

PART I

Instructions: APPLICANTS, PLEASE READ THESE INSTRUCTIONS CAREFULLY. Complete PART I by:

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

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

Professional Foresters Registration
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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.

3% **1.** The process by which a landscape is broken into small islands of forest within a mosaic of other forms of land use or ownership is known as:

_____

_____

3% **2.** An **Ecosystem** can generally be defined as:

_____

_____

3% **3.** Describe the difference between litter and humus.

_____

_____

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

_____

_____

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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% **5.** Name **three (3)** retention elements recommended for stand treatments to maintain nesting habitat for Northern spotted owls on timberlands?

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.** As used in Forest Economics, define Elasticity of supply or demand**.**

3% **9.** What is an Alluvial Soil?

Continued on 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 non-monetary 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.

_____

_____

3% **15.** Geotextiles come in basically two forms of fiber arrangement. The two forms of fiber arrangement are:

_____

_____

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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% **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= 300 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?

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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 forest 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 protection measures 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.

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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.** List two (2) commonly used coordinate systems a point could be recorded 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.

_____

_____

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?

_____

_____

Continued on 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% **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 SHORT ANSWER QUESTIONS

QUESTION II ECOLOGY

OBJECTIVE

To demonstrate your understanding of the best practices for planning, collection, processing and storage of seed collected from trees in natural stands as well as trees in tree improvement programs. The success of any reforestation effort depends on the origin of the seed.

SITUATION

Conifers are long-lived and must contend with all the various physical and biological factors and hardships contained within the ecosystems in which they have evolved. Natural selection results in the accumulation of an enormous range of adaptive genes over time. Each tree species responds in its own way to local environmental conditions such as extreme heat or cold, moisture stress, aspect, soil type, and competitive pressures. Foresters have long recognized that California's climate, topography and geology are very diverse and that these differences in the environment are significant to the productivity of a forest site and survival of the many tree species that are found there.

QUESTIONS:

5% **1.** What is a Genotype?

5% **2.** What is a Phenotype?

10% **3.** When improved seeds of the desired species are not available from seed orchards, wild seeds will be the primary source of seed for reforestation projects. Why are seed banks important?

10% **4.** Successful regeneration and growth require explicit decisions on matching seedlings to the climatic conditions that the trees will face both when planted and over five to ten decades in the future. Why are these decisions important and how will you address them?

25% **5.** Foresters formerly used simple seed zones and elevation bands to select seed for planting. Discuss the current guidelines for selecting seed source for commercial forest planting.

8% **7.** In conifers, cone and seed production involves four principal stages. Briefly describe them.

17% **8.** Discuss the Desirable Characteristics for Selection of Cone Harvest Trees.

20% **9.** Discuss any two (2) of the following impediments to cone and seed development: Insects, Pathogens, Mammals and Birds, Humans.

END OF QUESTION

Question III - Forest Economics

OBJECTIVE:

To demonstrate your understanding of how free market economics function in the forest products industry.

SITUATION:

On August 2025, the U.S. Department of Commerce released the final results of its Fifth Annual Administrative Review concerning the antidumping (AD) and countervailing (CVD) duty orders on Canadian lumber exports. The review set a new combined duty rate of 14.63% for CVD and 20.26& for AD thus 35.2% for most Canadian lumber exports, almost doubling the previous rate. This new rate applies retroactively to lumber exports made in 2022, as well as to new shipments.

The economic landscape of North America has experienced one of the most intense periods of trade tension in its history. New proposed tariffs, threats of tariffs, and retaliatory tariffs of 25% or more on imports from Canada have sent ripples through global trade. The effects will hit several economic sectors hard.

Among the products listed, Canadian lumber plays a pivotal role. Its implications are profound for the US lumber market.

QUESTIONS:

10% 1. In the U.S., how is the price of softwood lumber determined?

10% 2. What is Free Trade?

15% 3. What is a Tariff? Who pays the Tariff? What is the net value effect of Tariffs on exporters and importers?

15% 4. The U.S. Department of Commerce is conducting its sixth annual administrative review of softwood lumber duties, with results expected in fall 2025. Preliminary indications suggest the combined duty rate could rise to higher, with some estimates pointing to rates exceeding 35%. Such an increase would significantly impact pricing and competitiveness, particularly for Canadian exporters already navigating tight margins.

Adding to the uncertainty, a Section 232 national security investigation, ordered on March 1, 2025, is examining whether lumber imports threaten U.S. security. This probe, conducted under the Trade Expansion Act, could lead to additional tariffs or quotas, potentially stacking atop existing duties. While no timeline or specific rates have been confirmed, the investigation signals a broader U.S. push to protect domestic industries, which could reshape trade dynamics for years to come.

What is the rational for the antidumping (AD) and countervailing (CVD) duty orders on Canadian lumber exports to the U.S.?

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20% 5. For the Canadian softwood lumber sector, which has been the largest foreign supplier (~25% of sales in the U.S.) of softwood lumber to the U.S., these developments present a significant challenge. Some industry professionals believe that an additional tariff introduced under a purported economic emergency will be imposed in addition to the newly adjusted duty rate. The impact of these measures stretches deeply across the operations of lumber producers and forest products professionals, affecting businesses on both sides of the border. What Impact will these Tariffs have on demand and supply in the US Lumber Market?

20% 6. What are some ways the US lumber market could adapt to new supply side needs?

10% 7. After several years of unprecedented volatility in wood products markets, 2024 and 2025 experienced a more stable, albeit depressed, environment for wood products demand and prices.

The brunt of the industry pain was felt by the softwood lumber market, which saw over 3 billion board feet (BBF) of mill closures in 2024 after almost 2 BBF was shuttered 2023 — a reduction of about 7% of the industry's capacity base over two years — as prices dragged along at unsustainable levels. What economic factors typically drive such demand conditions?

END OF QUESTION

QUESTION IV SILVICULTURE

OBJECTIVE

To demonstrate your ability to develop a silvicultural prescription and your understanding of specific regulatory requirements providing maximum sustained production of high quality timber products (MSP).

QUESTION

30% **1. List** the essential sequential elements of a complete silvicultural prescription.

70% **2.** Consider a forest stand on private property with which you are familiar. Your stand should have a substantial sawtimber commercial conifer component. If even aged, your stand should not be ready for a regeneration harvest. In **outline format**, based on the elements listed above, describe in detail the information about the stand you need to develop a silvicultural prescription for the stand. Make this your "showcase" prescription so the chief forester will know you are ready for independent work. Include the procedure you would use, the information you would obtain, the analysis and the recommendation for the next treatment you would make. It is more important to list and describe the type of information and processes you will undertake than to provide specific details about the assumed stand.

END OF QUESTION

Question V - Forest Protection

OBJECTIVE:

To demonstrate understanding of environmental and operational issues related to road use and watercourse drafting.

SETTING:

The timberland of California. Understanding watercourse drafting and effects of road use are critical to environmental analysis and timber harvest operations.

QUESTIONS:

5% **1.** According to the FPRs and PRC, what is a watercourse?

SCENARIO: Many forest roads in timber harvest areas are surfaced with packed native soil or crushed rock.

12% **2.** List four (4) potential adverse effects that may occur when heavy equipment, log trucks and chip vans use these roads during the dry season?

18% **3**. Discuss three (3) resources that may be placed at risk by these potential adverse effects, include how the resource might be adversely affected.

20% **4**. List two (2) protection measures (other than paving) that are most commonly used to reduce the potential adverse effects you listed in # 2 above. Discuss the details (materials, procedures, risks, durability) of each of these mitigations.

10% **5**. Discuss the potential adverse effects of water drafting on aquatic species.

10% **6**. Discuss any two (2) of the common Water Drafting/Diversion general types: In-channel, Off-channel, Diversion and Storage.

5% **7**. What is the basic requirement of a Fish and Game Code Lake and Streambed Alteration § 1600 et seq permit?

5% **8.** Fish and Game Code § 5901 states that it is Unlawful to Prevent or Impede Fish from Passing in Streams. What is the Fish and Game Code definition of “Fish”?

5% **9**. What are some common mitigation measures to reduce sediment leaving water drafting site approaches and entering watercourses?

5% **10**. What are some common mitigation measures to mitigate hazardous waste from equipment near water drafting sites?

5% **11.** Name two (2) Diseases or Invasive Species that may be of concern and potentially disseminated by water drafting activities?

End of Question

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PART II

INSTRUCTIONS: APPLICANTS, PLEASE READ THESE INSTRUCTIONS CAREFULLY.

Complete PART II by:

ANSWERING any Three (3) of Questions VI through X.

VI-Forest Mensuration
VII- Forest Administration
VIII- Engineering
IX- Forest Policy
X-Forest Management

Question VI-Forest Mensuration

OBJECTIVE

To demonstrate your ability to analyze, summarize and present basic harvesting data to a public audience.

SITUATION:

As an RPF, you have been retained by your county's planning commission. You have been charged with reviewing a petition to the County Commissioners requesting they propose county specific rules to the Board of Forestry and Fire Protection limiting Clear-cuts, extensive sanitation/salvage and "similar" site disruptive harvest methods. Your first task is to attend a hearing where you will publicly explain and critique several presentations (CALFIRE, a forest Industry group, and the petitioners: Friends Aware of Clearcut Travesties, FACT) to the planning commissioners. You have agreed to be scrupulously neutral and scientific in your analysis. You have recently applied to both a major forest landowner and CALFIRE for full-time RPF positions.

QUESTIONS:

1. **20% (Total)** In a court of law, a witness swears to present "The truth, the whole truth, and nothing but the truth".

However, an Attorney at Law is duty-bound to advocate zealously for their clients. Rules of Professional Conduct which impose on attorneys a duty of truthfulness to third parties may occasionally conflict with the attorney's duty to advocate zealously on behalf of clients. Historically attorneys have attempted to categorize such posturing as something other than a statement of material facts. They may assert that a statement of opinion is not actionable, nor is a statement of puffery (exaggerated or extravagant statement). A statement of puffery is one that is "extremely unlikely" to induce reliance. Ultimately, the difference between a statement of fact and mere puffery rests in the specificity or generality of the claim.

To characterize situations in the best light for their clients, advocates sometimes "cherry pick" data and create their own "grey literature" rather than publish raw data or cite multiple peer reviewed research. Advocates will often make a true statement of fact then follow with a conclusion that supports their position but may not be completely supported by the fact statement.

(15%) **1.a.** What are the duties of an RPF to their clients with regard to the truthfulness and completeness of their statements and actions? How should an RPF distinguish between fact and opinion? How should an RPF respond to a client's requests which may be contrary to the intent of the FPRs? How should an RPF respond to requests for service beyond the scope of their knowledge or experience?

(5%) **1.b**. What are the duties of an RPF to third parties with regard to the truthfulness and completeness of their statements? What are the duties of an RPF with regard to third parties' request for a client's information?

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CALFIRE offers a data sheet describing harvesting in a local 10,000-acre watershed over the past decade. Data from CALFIRE and Cal Tax and Fees Administration averaged data with permission of the timberland owners.

	Clear Cut	Shelterwood Removal	Fire Salvage	Selection	Group Selection
# of proposed THPs	10	5	4	15	5
# of Approved THPs	10	5	4	15	5
Acres in Approved THPs	2000	1000	2000	3000	1000
Total MBF Volume Harvested	15,000	20,000	40,000	30,000	14,000
Ave. Vol / Acre Harvested	30 MBF	20 MBF	20 MBF	10 MBF	14 MBF
Acres Actually Harvested	500	1000	2000	3000	1000
Acres within approved THP burned before harvest	(500 wildfire burned)	(500 wildfire burned)	All these acres burned after other THPs originally approved	(1000 wildfires burned)	0

2. 20% (Total) The petitioners (Friends aware of Clearcut Travesties FACT) make the first presentation. The commissioners ask you to fact check some of their assertions:

For each assertion write a brief paragraph advising the Commissioners as to the truthfulness, completeness, and relevance to the petition for new county rules, of their statements.

2.a. (5%) ”Virtually all proposed THPs are approved by Cal Fire, therefore there is no regulatory limit on harvesting.”

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2.b. (5%) "Clearcuts and harvesting with similar site disturbance (shelterwood removal, fire salvage and group selection (2.5-acre clearcuts) comprise 2/3 of the THP acres."

2.c. (5%) "90% of this watershed was harvested in the past 10 years."

2.d (5%) "~75% of the volume removed in the past 10 years was derived from heavy disturbance harvesting methods."

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3. 20% (Total) CALFIRE makes the second presentation. The commissioners ask you to fact check some of their assertions:

For <u>each</u> assertion, write a brief paragraph advising the Commissioners as to the <u>completeness</u>, and <u>relevance to the petition</u> for new county rules, of their statements.

You stipulate that the CALFIRE statements of facts are correct but still need to comment on their conclusions.

3.a. (5%) 'Each proposed THP undergoes an interdisciplinary team review. The County and Public already have the ability to comment and request changes. Every County comment will be addressed by CALFIRE before any THP is approved or denied. Therefore, there is no real need for County specific rules."

3.b. (5%) "Under existing rules, upon receipt, every proposed THP is automatically sent to the county planning agency. Every review team contains a representative of county government when the county government so requests. There is no need for County specific rules for this to happen."

3.c. (5%) "The County as member of the review team may request protective measures for incorporation into the plan, <u>even when authority for such measures is not contained in the rules and regulations of the Board.</u> So, the County may add the effect of any rule it may substantiate even when there are no County specific rules.

Continued on next page

3.d. (5%) "The County as member of the review team may file a non-concurrence with the CALFIRE Director if the review team chairperson does not accept the County request. If a non-concurrence is filed on a plan, the review team chairperson shall prepare a written report explaining how the concerns cited in the non-concurrence have been addressed in the plan and how the natural resources of concern will be protected during timber operations."

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4. 20% (Total) A Forest Products representative makes the third presentation. The commissioners ask you to fact check some of their assertions:

For each assertion write a brief paragraph advising the Commissioners as to the truthfulness, completeness, and relevance to the petition for new county rules, of their statements.

4.a. (5%) "There is no real need for County specific rules as California already has the most restrictive forest practice and environmental protection measures in the USA."

4.b. (5%) "Forest management and timber harvesting are integral to maintaining open space in the county. County specific rules would force many private timberland owners to develop their lands for residential or commercial purposes."

4.c. (5%) "Nearly 30% of the harvest area in this watershed was salvage of fire killed trees. The fire was a severe economic loss to forest landowners. These landowners voluntarily at their own expense stabilized the fire devastated area to protect the watershed and reestablished tree cover. Without active private forest management this restoration would not have happened. If County rules limited the recovery of fire killed trees such restoration might not occur."

4.d. (5%) "The County receives substantial tax revenue through timber taxes, land taxes, sawmill property taxes and the multiplier effect on retail businesses through worker wages spent in the County. Any new County rules would substantially reduce this revenue as forest landowners are forced to limit harvesting unnecessarily."

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5. 20% (Total) What are your professional responsibilities as an RPF?

5.a. (5%) Who is your real party of interest in this scenario?

5.b. (5%) What duty do you owe the real party of interest?

5.c. (5%) What is a fiduciary relationship?

5.d. (5%) Since you are an RPF presenting forestry information in a public meeting, what must you tell the audience as you begin your talks?

END OF QUESTION VI

Question VII- 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. The 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%) of the entered stands on more frequent (10-year) intervals.
6. Non timber issues were not addressed in the research.
7. While our current understanding is that smaller gaps have higher edge to area ratios resulting in more suppression of regeneration on gap edges, this study notes that just such higher edge to area ratios also increase growth of timber surrounding the gaps. This results in greater stand growth.

QUESTION:

1. **100%** Your senior forester assigns you to draft a 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%). **<u>Do not list or sign your name to avoid divulging to the graders.</u>**

   You may use the following page format for your answer. Be sure to use both the first and last page. Use as many blank pages as you wish. You may benefit from writing a brief outline before formulating your actual answer business letter.

END OF QUESTION

Applicant #: _____

Question # XIII

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

Sender:

Date:

Addressee:

Salutation:

Insert Letter Text:

BApplicant #:_____

Question # XIII

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

Continue to Insert Letter Text if needed:

Applicant #:_____

Question # XIII

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

Letter Text Continued if needed:

Signature and or Seal:

Contact Information:

Enclosures:

QUESTION VIII FOREST ENGINEERING

OBJECTIVE

To demonstrate your understanding of the relationship between management goals, forest road standards and location, and environmental effects.

SITUATION

A primary requisite to forest operations is a transportation system. In most cases, access to forestland is accomplished by the location and construction of truck roads. Management goals will dictate the standards of the roads to be constructed and thus affect the methods of location and construction employed.

QUESTIONS

20% 1. When describing road standards, explain what is meant by PHYSICAL standards **and** SERVICE standards. **Include three (3) examples for each type of standard.**

30% 2. Discuss how differing management goals may affect the selection of road standards if the forest landowner is:

a) a public agency,
b) a small private landowner,
c) a large industrial owner.

Give examples in your answer.

20% 3. Define the following elements of forest road route selection. Briefly **discuss** how these elements relate to one another in practice.

a) Reconnaissance
b) Control points
c) Grade-lines

30% 4. Poor choices of road standards **and** route selection can result in significant negative environmental impacts. Identify **three (3)** road standards **and two (2)** route selection considerations that may result in significant negative environmental impacts. Identify **two** possible impacts **for each** route standard **and** route selection you have chosen to discuss and **for each impact, briefly discuss mitigation**, which might address each possible impact you list. Consider using a matrix for your answer.

END OF QUESTION

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 sale thus as the timber owner he 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? Explain why.

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?

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 sale 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 you will have to meet during the marking of the stand? Explain your answer by addressing details of each of the above three items underlined.

Continued on Next Page

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 regard to newly discovered conflicts of interest during the course of 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 ability to apply basic management knowledge to reduce wildland fire hazard and loss at the watershed scale.

SITUATION: As a California RPF you have been assigned to develop an even-aged management plan for a set of company owned Site Index 80 stands. Company policy seeks to maximize volume growth as measured by sawlog production with a target final crop tree size of ~28" DBH (26" to 30"). The company prefers to utilize clearcut and plant regeneration, limiting clearcuts to <=20 acres. The company is capable of marketing 11" dbh and larger trees as sawlogs.

The company manages 80,000 acres in interior forestlands. You have been assigned a ~ 5,000-acre sub watershed which is totally owned by company.

Your assignment is to develop stand structure, composition, and spatial distribution goals to meet company sawlog goals and reduce wildland fire loss.

Company biometricians have analyzed copious inventory data from sites like your assigned stands to project lifetime average crop tree radial growth rates of five rings per inch by maintaining stand densities within a range of 50% to 70% of normal stocking. This density range also optimizes sawlog volume growth.

You have reviewed aerial photography for the sub watershed and found it to be situated on a modest west facing slope ranging from a main ridgetop at 4,500 ft elevation to class I watercourse and public road at 3,500 ft elevation. It has good road access thus is suited to tractor operations. The sub watershed is traversed by several Class I watercourses. There are no listed species issues.

The aerial photographs reveal a variety of even-aged stands due to past management activities. Stands older than 40 years are more irregular in composition, spacing and density as the result of natural seed fall regeneration, commercial thins and past sporadic high grading. These stands consist of mixed species (conifer PP, DF, WF, IC, SP (each >= 10% of TPA)) and 10% hardwoods (BO) trees with a QMD range of 22" to 28" dbh.

Younger stands are more regular because of site prep, planting, weeding and PCT. These stands are primarily PP and DF with <= 5% each WF, IC, GS, BO, and SP.

Natural and activity fuel management have **not** been a high priority in the past.

QUESTIONS:

10% **1.** What are the main **stand** structure elements that determine the relative resistance or ease of crown fire initiation and subsequent spread in the **absence** of extreme wind events?

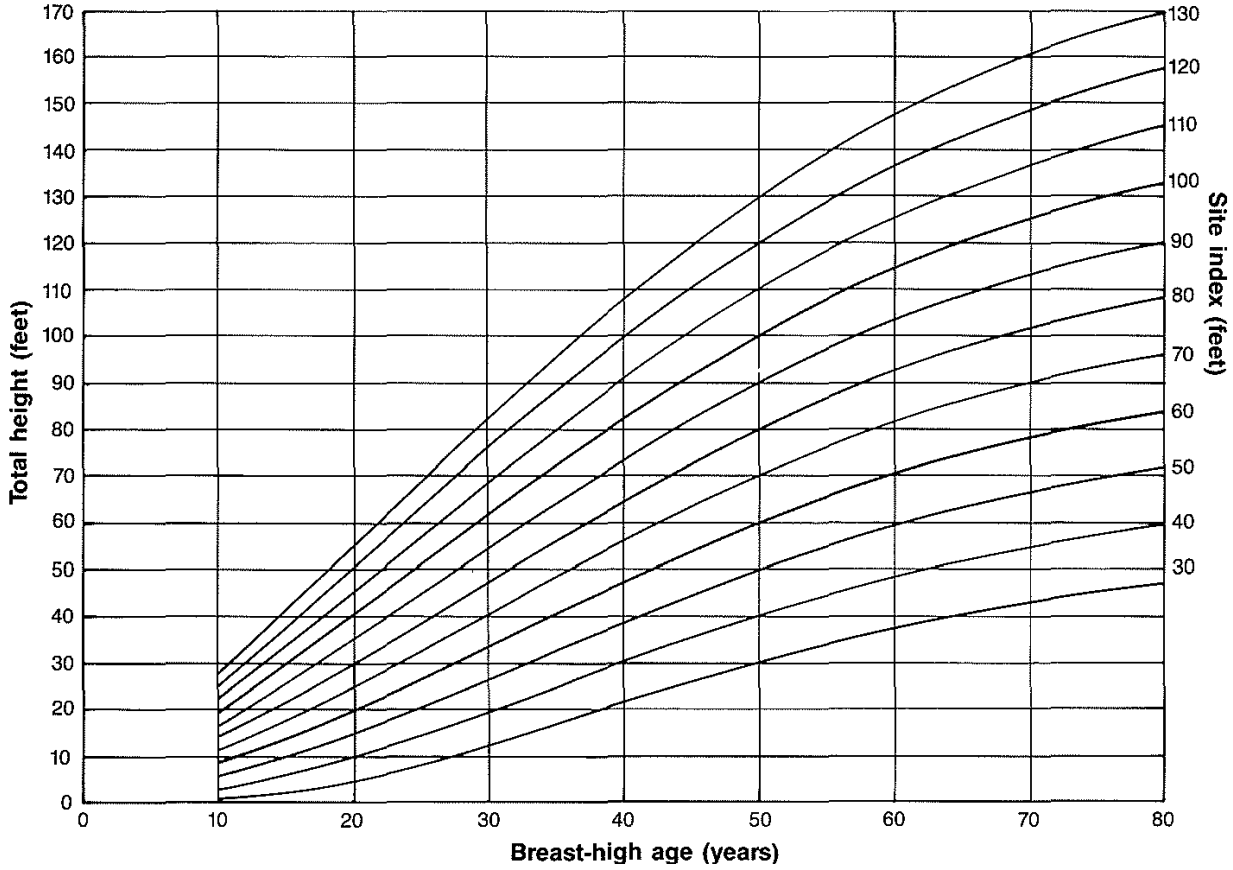
5% **2.** What are the main **individual tree** characteristics that determine their relative resistance to fire mortality?

Continued on Next Page

10% 3. Name five (5) physical locations in your sub watershed that are most at risk of fire ignitions? Explain why.

15% 4. What typical stand management would you prescribe for each of three (3) of the high-risk locations you discussed in # 3 above? Explain and justify your answers.

Site Index base age =50 years



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Normal Stand Yield Tables for your Site index 80 stand

Breast Height Stand Age	Basal Area / Acre Ft^2/ac
30	**180**
40	**250**
50	**275**
60	**290**
70	**300**
80	**305**
90	**310**

30% 5. Describe a typical stand management regime, that meets company goals and substantially reduces risk of wildfire losses, for this sub watershed for an entire rotation. Explain and justify your answer. Be specific about treatment types, timing and desired effect.

20% 6. Given the current stand structure distribution types listed on the next page, how will you prioritize stand treatments (other than critical ignition risk areas addressed in # 3 above) to achieve company goals and reduce wildfire losses? Explain and justify your scheduling.

10% 7. If the sub watershed becomes a regulated forest managed to meet stated company rotation lengths, what proportion of the area would be capable of resisting a self-regenerating crown fire (not a red flag day strong wind driven crown fire during extreme conditions)? Explain your calculations.

Continued on Next Page

Company inventory shows the following stand types and acres available* for treatment in your sub watershed.

	Stand Type	Acres	QMD	MBF/ Acre	Stand Density sq.ft./ac.	Surface Fuel Load
A	Well stocked 80 Yr Old	150	28	48	210	Moderate from past harvest fuels
B	Well stocked 70 Yr Old	500	26	41.7	200	Moderate from past harvest fuels
C	Well stocked 60 Yr Old	600	22	40	200	Moderate from past harvest fuels
D	Irregularly Stocked 80 Yr Old	300	27	27.7	120	High from past harvest fuels
E	Irregularly Stocked 70 Yr Old	200	27	31	150	High from past harvest fuels
F	Poorly Stocked 60 Yr Old	150	24	19	100	Moderate from past harvest fuels
G	Overstocked Stocked 40 Yr Old Plantations	700	14	25.7	190	Moderate from mortality & past harvest fuels
H	Well Stocked 30 Yr old Plantations	590	10	Non merch	125	High from past harvest & PCT fuels
I	Well Stocked 20 Yr old Plantations	500	4			Low from past harvest fuels
J	Well Stocked 10 Yr old Plantations	560	1			Moderate from past harvest fuels
	* Acres available Exclude WLPZ, Roads & Landings					

END of QUESTION

END of Exam