

UNITED STATES CIVIL SERVICE COMMISSION

FOREST RANGER EXAMINATION

DEPARTMENT OF AGRICULTURE

SECOND SUBJECT—PRACTICAL QUESTIONS

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY

Place of Examination

(City or town)

Examination No.

Date

Time commenced

Time finished

One sheet of scratch paper will be issued with this sheet.

Three hours are allowed for this sheet.

Insert your answers in the spaces provided.

RATING

GENERAL

1 to 5. Give in the blanks below the names of five leading breeds of beef cattle suitable for open range grazing.

- ☐ 1.
 2.
 3.
 4.
☒ 5.

6 to 22. In the following statements supply the missing words:

6. A good 1,100-pound saddle horse doing average work requires pounds of oats per day.
 7. Such a horse requires pounds of hay per day.
 8. A horse of this kind should carry a 160-pound man with 50 pounds of equipment an average of miles per day for 20 days each month.
 9. An 800-pound pack mule will in an emergency, without injury, carry pounds for 5 miles over trails with slopes not exceeding 20 per cent.
 10. Such a mule will without injury carry pounds for 20 miles per day over similar trails for 20 days each month.
 11. A team of 1,400-pound draft horses hitched to an ordinary farm wagon should be able to pull a load of pounds, not including weight of wagon, on a dirt road with occasional adverse grades up to 15 per cent.
☒ 12. A team of heavy draft horses, hauling lumber from a sawmill to a railroad a distance of $7\frac{1}{2}$ miles, should be able to make round trips per week.
☒ 13. For a ten-day trip in the mountains with two companions I would take along pounds of flour, assuming that no other breadstuffs were taken.
 14. For such a trip I would take pounds of sugar.
 15. I would take for this trip pounds of cured meat provided no fresh or canned meats were available.
☒ 16. It takes about tons of hay to winter 40 head of cattle through a 4-months' feeding period.
☒ 17. A sound log 16 feet long, with a top diameter inside the bark of 10 inches and butt diameter of 14 inches, contains board feet.
☒ 18. It would require feet of flooring for a room 12 feet by 16 feet.

[OVER]

19. Ordinarily poles per mile are used for a single telephone line.
20. A seasoned man on moderately rough trails can carry about pounds on his back on a five-days' walking trip.
21. One of the two principal sources of revenue of the national forests is from timber; the other is from
22. On a day's trip over good trails in a rolling mountain country, a good, sound saddle horse will average about miles per hour.

FIRE

- 23 to 27. In working a crew of 150 men from 3 camps on a fire, the number of men needed in addition, in the following capacities are (enter the number you would employ): (23) cooks, (24) general foremen, (25) straw bosses, (26) time keepers, (27) water boys.
28. Since it is better to prevent forest fires than to suppress them, this is the chief aim of Federal fire protection. Many fires are started through carelessness of tourists and campers. To secure more care on the part of these people, the following means have been suggested. Check the one which you would consider most effective:
..... Spark arresters. Fire breaks. Public education. Closing forests to visitors.
29. As a ranger you find a fire burning in the woods in old timber with little undergrowth, but considerable leaves and duff and some grass. What tool would you prefer to put it out with, provided only one were allowed? (Enter below.)
.....
30. One of your duties as ranger is protecting a large area from fire. You receive notice that a fire has just started at X. There are three roads to the locality: (a) You may go by A, get 10 additional men, and reach the fire in $1\frac{1}{2}$ hours; (b) you may go by B, get 15 additional men, and reach the fire in 2 hours; (c) you may go by C, pick up 2 men en route, and reach the fire in 1 hour. Check the one you would choose:
..... (a). (b). (c).

31. Most forest fires which are not caused by man are caused by Supply the missing word.

FORESTRY

32. Mark with an X one of the following trees which sprouts readily from the stump:
..... Pine. Spruce. Oak. Douglas fir. Cedar. Redwood. Hemlock.
33. Mark with an X one tree whose seeds are scattered readily by the wind:
..... Oak. Hickory. Chestnut. Douglas fir.
34. Mark with an X the tree whose seeds are not readily scattered by the wind:
..... Pine. Juniper. Ash. Elm.
35. Check the tree which occurs chiefly in wet soils:
..... Juniper. Pinon pine. Western yellow pine. Alder.
36. Of the following species, check the one which grows readily on hillsides or flats away from streams or wet places:
..... Cottonwood. Bald cypress. Pine. Willow.
37. From among the following reasons check the one which you believe of greatest importance in making 3-year-old spruce nursery stock preferable to 1-year-old stock for field planting:
..... Large tops. Low cost. Large roots. Long needles.
38. Coniferous seedlings planted for forest purposes are ordinarily spaced feet apart each way. Supply the missing word.

WOOD

39 to 42. Mark X before the word which completes the thought:

- 39. Ax handles are preferably made of oak, cedar, yellow pine, hick-ory, beech, chestnut.
40. Telephone poles are preferably made of oak, cottonwood, cedar, spruce, white fir, larch.
41. The most desirable wood in the manufacture of news print paper is gum, pine, spruce, oak, maple, redwood.
42. The most durable fence posts are made from pine, oak, cedar, aspen.

○ 43. Check the quality which makes cedar most desirable for shingles:

..... Color. Durability. Light weight. Soft texture. Price.
..... Hardness.

○ 44. Check the quality which makes oak most suitable for flooring:

..... Softness. Hardness. Price. Twisted grain. Light weight.
..... Rapid growth.

LUMBERING

45 to 50. By what unit measure are the following forest products commonly sold?

45. Logs
46. Pulp wood
47. Hewn railroad ties
- 48. Fuel wood
49. Fence posts
- ✓ 50. Piling

✓ 51. The following operations are necessary to convert standing trees into logs and to get them to the sawmill. Check the operation which is performed after a tree has been cut and has fallen to the ground:

..... Felling. Skidding. Loading. Undercutting. Bucking.
..... Hauling.

✓ 52. From among the following mill operations check the one which is performed after a log has been cut into boards:

..... Sawing. Planing. Grading. Trimming. Edging.

○ 53. In the following list check a condition for which a deduction is made in scaling a log:

..... Live limbs. Twisted grain. Hollow butt. Sapwood.

54 to 60. In the following statements supply the missing words:

54. A log which has a top diameter inside the bark of 10 inches and butt diameter of 12 inches, with width of bark $\frac{1}{2}$ inch, should be scaled as a-inch log.
- ✓ 55. A log which has the following dimensions—small end, least diameter 8.2 inches, greatest 9.4 inches; large end, least diameter 10.2 inches, greatest 11.6 inches—should be scaled as a-inch log.
- 56. A board foot is a piece of lumber inches long, inches wide, inches thick.
- 57. The principal tool used in felling timber is the
- 58. The principal tool used in limbing is the
59. The principal tool used in bucking is the
60. Pine lumber is ordinarily seasoned for a period of about months after sawing before it is shipped.

GRAZING

61 to 66. Supply the missing words in Questions 61, 62, 63, 64, 65, and 66:

61. A 2-year old steer should gain pounds in four months on good mountain range.
62. A lamb going onto range three weeks after lambing should gain pounds in 60 days on good open grass and weed range.
- ✓ 63. A dry cow should gain pounds in four months on good mountain range.
- ✓ 64. In a rolling mountain country there is a summer range which is stocked with 500 mixed cattle. In order to handle this outfit bulls should be put on the range.
- ✓ 65. To handle this outfit would require riders.
- ✓ 66. For these 500 cattle pounds of salt should be placed on the range each month to handle it properly.

67. Check one of the following plants which is poisonous to cattle:

..... Wild pea. Larkspur. Wild rose. Wild onion.

68. Check one of the following plants which has value for cattle (that is, one which is preferred or relished by cattle):

..... Pine grass. Blue grass. Slender wheat grass.

69. Check one of the following plants which has value for sheep (that is, one which is preferred or relished by sheep):

..... Foxtail. Yarrow. Vetch.

✓ 70. To utilize a high mountain sheep range properly for 5,000 head, it is necessary either to shorten the season 10 days on account of storms on the present high open driveway, to allow the use of a low driveway with an annual maintenance cost of \$70, or to improve a new driveway at a cost of \$1,000. Using the present low driveway would further increase the cost of administration \$15. The grazing fee is 5 cents per head per month. All other conditions on the three driveways are similar. Check the course which you would choose:

..... Use low driveway. Shorten season and use present driveway. Improve new driveway.

LANDS

71 to 80. Supply the missing word in the following:

- 71. There are acres in the NE. $\frac{1}{4}$ NE. $\frac{1}{4}$ of section 16.
72. There are acres in the S. $\frac{1}{2}$ SW. $\frac{1}{4}$ of section 16.
- ✓ 73. The E. $\frac{1}{2}$ of section 8 contains acres.
74. The E. $\frac{1}{2}$ SE. $\frac{1}{4}$ of section 8 contains acres.
75. There are acres in the NE. $\frac{1}{4}$ SW. $\frac{1}{4}$ SW. $\frac{1}{4}$ of section 8.
76. It is miles on section lines from the NE. corner of section 8 to the SW. corner of section 15.
- ✓ 77. A section corner is found with three notches (≡) on the east and three notches (≡) on the south. It is the northeast corner of section
78. A field 10 chains wide and 80 chains long contains acres.
79. There are chains in a mile.
- 80. There are feet in a mile.