

Please read the following instructions, they are crucial to formatting answers so you can earn points. This test has 111 questions, 159 points, and is 50 minutes long. There are 10 "stations" on this exam but you are free to answer all questions in any order and progress at your own pace. Though the individual station timings are not enforced in any way, this is very much still a stations test in spirit. If you are taking too long on one station, don't hesitate to move on.

- ^ means a tiebreaker
- * means will be hand-graded but please keep these concise!
- All answers must be spelled correctly (auto-grader will mark them wrong otherwise); for any identification, give the **common name**. For species, abbreviate the genus and write out the specific epithet (H. sapiens, NOT Homo sapiens).
- All numbers should be entered as "1", not "one".
- Fill-in-the-blank questions are generally one word per blank unless specified otherwise and use the official spellings of all taxa on the 2021 National Bird List.
- Identification questions are at the Regional level.
- Brevity is your friend! Some questions require that you answer in "no more than one sentence", but really these can be answered with just a few words in most cases. This will help you answer questions faster (improper grammar is fine within reason).
- This exam is open-note, closed-internet; looking up information online is strictly prohibited and a violation of science olympiad ethics.
- **Please don't stress too much on fill in the blank questions, all of them (we will try our best) will be hand graded and double checked.**
- Feel free to message me if you run into any issues while taking the exam, especially with the audio file. Good luck and you got this!!!

~Alisa Zhang (Mason '20, Pitt '24) axolotl#5248 on Discord

Per Texas Science Olympiad rules, you must have printed notes for this event. If you are communicating with your partner through a voice or video call, please start it before you begin the test itself.

Significant time spent outside of the browser window is grounds for a penalty or disqualification per TSO policies.

Station 1

1. (1.00 pts)



Identify Specimen A (edited black and white for the next question).

Greater Roadrunner

2. (2.00 pts) Specimen A has a bare patch of skin behind each eye. What color is the part closest to the eye and what color is the part farthest back (neither are white)?

blue

red

3. (1.00 pts) What foot arrangement does Specimen A have?

zygodactyl

4. (3.00 pts) Which of the following does the roadrunner eat?

(Mark **ALL** correct answers)

- ☐ A) Grass
- ☒ B) Scorpions
- ☒ C) Nestlings
- ☒ D) Eggs
- ☒ E) Sumac seeds
- ☐ F) Cacti

5. (1.00 pts) Which mating system does Specimen A have?

- ☐ A) Polygyny
- ☐ B) Polyandry
- ☐ C) Polygynandry
- ☒ D) Monogamy

6. (1.00 pts) Which type of tribe believed roadrunners were medicine birds?

Pueblo

7. (3.00 pts) Which of the following will the male do during courtship?

(Mark **ALL** correct answers)

- ☒ A) Lift and drop wings
- ☒ B) Spread tail
- ☐ C) Scratch ground
- ☒ D) Offer food
- ☐ E) Run in circles
- ☒ F) Lift head

8. (1.00 pts) What time of day do males incubate the nest?

Night

9. (4.00 pts) *Describe how Specimen A regulates its body temperature throughout the day.

Expected Answer: Lower body temperature [1] entering a state of torpor [1] to conserve energy. Basks during the day [1] by exposing dark patches of skin to the sun [1].

10. (1.00 pts) ^What is the name of the predator that chases after Specimen A in the Warner Brothers Cartoon?

Wile E. Coyote

Station 2

11. (1.00 pts)



Identify Specimen B.

Lapland Longspur

12. (1.00 pts) What region of the US does Specimen B most commonly winter in?

Great Plains

13. (1.00 pts) Which other bird on the list is Specimen B commonly seen foraging and feeding with?

Horned Lark

14. (4.00 pts) Which of the following are true statements about Specimen B?

(Mark **ALL** correct answers)

- ☒ A) Eggs are gray marked with dark streaks
- ☐ B) Both female and male incubate the eggs
- ☒ C) Male feeds the female while incubating
- ☒ D) Both parents feed the nestlings
- ☐ E) They lay 2 broods per year
- ☒ F) It can winter in Russia

15. (2.00 pts) Areas with which two tree types are preferred by Specimen B?

Birch

Willow

16. (1.00 pts) What does Specimen B's name refer to? (two words, singular)

hind claw

17. (2.00 pts) What kind of food does Specimen B eat when feeding young? What about normally? (both plural)

insects

seeds

18. (1.00 pts) In which season can Specimen B be found farthest south?

winter

19. (1.00 pts) What time of day does Specimen B sing the most?

morning

20. (3.00 pts) *Describe this bird's courtship ritual. Who arrives at the breeding grounds first? What does the male do in the air and on the ground to court the female?

Expected Answer: Males arrive before females on the nesting grounds [1] flying up from ground to 30' or higher [1], then gliding down while singing. In courtship on ground, male may sing while running about with wings drooped, bill pointed up [1].

Station 3

21. (1.00 pts)



Identify Specimen C.

crested caracara

22. (1.00 pts) What is Specimen C?

- ☐ A) Eagle
- ☐ B) Hawk
- ☐ C) Osprey
- ☒ D) Falcon

23. (2.00 pts) What is unique about Specimen C within the group of birds you selected above?

- ☒ A) It builds its nest in a tree
- ☐ B) It that steals food
- ☐ C) The females are larger than males
- ☐ D) Fledglings have longer flight feathers
- ☐ E) Their wings dig through the air when they fly

24. (1.00 pts) What does Specimen C use to kill its prey?

beak

25. (1.00 pts) What are the plumes on Specimen C's legs called?

flags

26. (1.00 pts) What is the status of Specimen C according to the United States Fish and Wildlife Service?

Threatened

27. (4.00 pts) Which of the following would Specimen C look for as signals of food?

(Mark **ALL** correct answers)

- ☒ A) Circling vultures
- ☒ B) Large areas of freshly overturned soil
- ☒ C) Wildfires
- ☒ D) Raptors with a prey item
- ☒ E) Highways
- ☒ F) Stampeding cattle

28. (3.00 pts) Which three states can Specimen C be found in? (alphabetize if you want to make my life easier)

Arizona

Florida

Texas

29. (1.00 pts) The rule created by which individual determines that individuals of Specimen C that live in colder areas are larger?

Bergmann

30. (1.00 pts) What is the name of the white patch on the outer primaries revealed in flight?

window

31. (1.00 pts) How many days will Specimen C incubate its eggs for? (just enter a number)

30

32. (1.00 pts) T/F: This bird migrates.

☐ True ☒ False

33. (1.00 pts) What is a male in the genus of Specimen C called?

tercel

Station 4

34. (1.00 pts)



Identify Specimen D.

Eastern Kingbird

35. (1.00 pts) Which sense does Specimen D use the most when hunting?

- ☐ A) smell
- ☐ B) hearing
- ☐ C) taste
- ☒ D) sight
- ☐ E) touch

36. (2.00 pts) *What is different between the habitats where Specimen D breeds and where they winter?

Expected Answer: They breed in open habitats (1) but winter in forests (1).

37. (4.00 pts) Which of the following are true about Specimen D?

(Mark ALL correct answers)

- ☒ A) Lays 3-4 eggs
- ☐ B) Eggs are white and speckled red
- ☒ C) Female incubates the egg entirely
- ☐ D) Incubation for 5-10 days
- ☒ E) They can fly after 16-18 days
- ☒ F) Young are tended to by parents after fledging

38. (1.00 pts) What makes up Specimen D's diet in the winter?

berries

39. (1.00 pts) *What is different about Specimen D's migration from most other songbirds?

Expected Answer: Travels during the day

40. (1.00 pts) Specimen D has only one species in its genus; what word describes this taxonomic genus?

monotypic

41. (1.00 pts) What color is Specimen D's patch on the crown?

red

42. (1.00 pts) What is Specimen D's call frequently compared to?

electric fence

Station 5

43. (1.00 pts) Identify Specimen E from the audio file.

0:00 / 0:13

Northern Bobwhite

44. (2.00 pts) *What are two nicknames for Specimen E?

Expected Answer: Any of the two: Virginia quail, bobwhite quail, masked bobwhite

45. (1.00 pts) An increase in use of what led to the decimation of Specimen E's populations?

pesticides

46. (1.00 pts) What verb describes how Specimen E acquires food?

gleaning

47. (1.00 pts) What is the name of a group of Specimen E?

covey

48. (2.00 pts) What describes their mating system when nesting? What about when breeding?

monogamy

polyandry/polygamy

49. (1.00 pts) Hatchlings of Specimen E are altricial.

☐ True ☒ False

50. (1.00 pts) The parents do not tend to the young after they leave the nest.

☐ True ☒ False

51. (1.00 pts) The young feed themselves after leaving the nest.

☒ True ☐ False

52. (1.00 pts) What mainly determines the divisions between the 22 subspecies of Specimen E?

male appearance

Station 6

53. (1.00 pts)



Identify Specimen F.

brown creeper

54. (1.00 pts) What is the nickname of Specimen F?

American treecreeper

55. (2.00 pts) What forest type does Specimen F nest in? What about forage in?

hardwood

conifer

56. (2.00 pts) What makes up the majority of Specimen F's diet? What do they occasionally supplement their diet with?

arthropods

seeds

57. (3.00 pts) *Describe how Specimen F finds food. In which direction and fashion does it move? What is its body positioned like when foraging?

Expected Answer: Start at the bottom of a tree trunk (1) and go up in a spiral (1) with their body flattened (1) against the bark.

58. (1.00 pts) Specimen F prefers forests where trees are more far apart.

☐ True ☒ False

59. (1.00 pts) The bills of Specimen F are the only way to tell a male and female apart: a female has a longer bill than the male.

☐ True ☒ False

60. (1.00 pts) Specimen F doesn't forage on tree branches.

☐ True ☒ False

61. (1.00 pts)

Say you encounter a nest of Specimen F and find it has two openings. One faces up and the other faces down. What is the one facing down called? What is the one facing up called?

entrance

exit

62. (1.00 pts) Specimen F is an indicator for the effect of what on the environment?

logging

63. (1.00 pts) In which season is Specimen F the least territorial?

winter

Station 7

64. (1.00 pts)



Identify Specimen G.

Great blue heron

65. (2.00 pts) In what US state and area do the all white populations of Specimen G reside?

Florida

Florida Keys

66. (1.00 pts) What color does the bill of Specimen G turn at the beginning of breeding season?

orange

67. (1.00 pts) How many toes does Specimen G have facing forward?

3

68. (1.00 pts) What makes up the majority of Specimen G's diet?

fish

69. (3.00 pts) Which of the following are methods of hunting that Specimen G uses?

(Mark **ALL** correct answers)

- ☒ A) hovering over water
- ☒ B) diving head first
- ☒ C) diving feet first
- ☒ D) jumping from perches
- ☒ E) walking slowly
- ☒ F) probing

70. (2.00 pts) What month does Specimen G depart from the breeding site? What about arrive?

December

March

71. (1.00 pts) Specimen G uses powder to clean off fish slime. Where does this powder come from?

chest feathers

72. (1.00 pts) How do parents feed their young?

regurgitation

73. (1.00 pts) The young are capable of flight when they leave the nest.

☒ True ☐ False

74. (2.00 pts) Who builds the nest? Who gathers materials for the nest?

female

male

Station 8

75. (1.00 pts) What word describes bird bones (specifically that they are hollow)?

pneumatized

76. (2.00 pts) What word describes the quality of the breastbone as being bent? What type of birds have a breastbone which isn't bent?

keeled

flightless

77. (1.00 pts) What bone is extremely wide in swimming birds and long in walking birds?

sternum

78. (1.00 pts) What is the name of the hooks emerging from each rib to hook onto the posterior rib? (two words, plural)

uncinate processes

79. (1.00 pts) What skull type do birds have?

- ☐ A) anapsid
- ☐ B) synapsid
- ☒ C) diapsid
- ☐ D) euryapsid

80. (1.00 pts) Which bone is numerous fused caudal vertebrae?

pygostyle

81. (1.00 pts) Which muscle makes up 15-25% of a bird's body weight?

pectoralis

82. (1.00 pts) What are the scales of a bird made of?

keratin

83. (3.00 pts) What are the classifications of bird scales in order from smallest size to largest?

cancellae

scutella

scutes

84. (1.00 pts) *Why do birds have a beak instead of a jaw or teeth?

Expected Answer: It is lighter.

85. (1.00 pts) Birds have the largest eyes to body size ratio in all of the animal kingdom.

- ☒ True ☐ False

86. (1.00 pts) Most birds cannot move their eyes.

- ☒ True ☐ False

87. (1.00 pts)



Identify this toe arrangement.

zygodactyl

88. (1.00 pts)



Identify this toe arrangement.

Anisodactyl

89. (1.00 pts)



Identify this toe arrangement.

syndactyl

90. (1.00 pts)



Identify this toe arrangement.

pamprodactyl

Station 9

91. (1.00 pts)



Identify Specimen H.

chipping sparrow

92. (1.00 pts) What is the nickname for Specimen H?

hair bird

93. (1.00 pts) What body part on the head is white when Specimen H is in breeding plumage?

supercilium

94. (1.00 pts) How many eggs does Specimen H lay? (range is okay)

2-7

95. (3.00 pts) Which of the following are colors that can be found on Specimen H's eggs?

(Mark **ALL** correct answers)

- ☐ A) orange
- ☒ B) pale blue
- ☒ C) black
- ☒ D) brown
- ☐ E) red
- ☒ F) purple

96. (1.00 pts) What does this bird do if its nest is brood parasitized?

abandon

97. (1.00 pts) Which bird has outcompeted Specimen H in cities?

House Sparrow

98. (2.00 pts) Who constructs the nest? How many days does it take to construct it?

female

4

99. (1.00 pts) Who feeds the nestlings?

- ☐ A) Male
- ☐ B) Female
- ☒ C) Both parents

100. (1.00 pts) What is a group of Specimen H known as?

tournament

101. (2.00 pts) *How is Specimen H different from many other sparrows?

Expected Answer: Prefers woodland habitat (1) over open prairies/lawns (1)

Station 10

102. (1.00 pts)



Identify Specimen I

roseate spoonbill

103. (2.00 pts) What type pigment causes Specimen I's color? What is the name of the specific pigment?

carotenoids

canthaxanthin

104. (1.00 pts) Which continent is Specimen I most widespread on?

South America

105. (1.00 pts) How many years old is Specimen I when it first begins breeding?

3

106. (1.00 pts) In what habitat do Florida populations of Specimen I nest?

mangroves

107. (1.00 pts) Specimen I can fly before leaving the nest.

☐ True ☒ False

108. (1.00 pts) Specimen I sleeps standing on one leg with its head tucked under its back and shoulder feathers.

☒ True ☐ False

109. (4.00 pts) *Describe this bird's courtship rituals. How do they interact?

Expected Answer: Male and female interact aggressively (1) then perch together (1), present sticks to each other (1), and cross/clasp bills (1).

110. (2.00 pts) Which of the following is in the diet of Specimen I?

(Mark **ALL** correct answers)

- ☒ A) crayfish
- ☒ B) fish
- ☒ C) beetles
- ☒ D) slugs
- ☒ E) mollusks
- ☒ F) roots

111. (1.00 pts) What sense does Specimen I use the most when foraging?

- ☐ A) Sight
- ☐ B) Smell
- ☐ C) Taste
- ☒ D) Touch
- ☐ E) Hearing

Thank you for taking my Ornithology test! Here's a meme to reward you for finishing your test:



Contact me if you have any questions at all and best of luck at awards!

If you have any feedback about any of the exams at this tournament, please let us know through this form: <https://tinyurl.com/utreg21feedback> (<https://tinyurl.com/utreg21feedback>)