

2024
Basic Course in Ornithology
Week 4 final Assignment

- 1) What does scientific research attempt to achieve?
 - a. To find answers to any possible question
 - b. To bring fame and glory to the scientist
 - c. To describe or explain or predict**
 - d. All of the above

- 2) Based on the lecture on Asking and Answering Questions, a statement about the world that cannot be directly observed is termed
 - a. An experiment
 - b. A hypothesis**
 - c. A prediction
 - d. A control

- 3) What kind of scientific goal is implied by the research question: "How will breeding seasonality be affected by future climate change"?
 - a. Description
 - b. Explanation
 - c. Prediction**
 - d. None of the these

- 4) If you found a negative correlation between the abundances of Species A and Species B, what is a possible explanation?
 - a. Species A inhibits Species B
 - b. Species B inhibits Species A
 - c. Some other factor promotes one species but inhibits the other
 - d. All of these.**

- 5) What is the best way to draw conclusions about cause and effect?
 - a. Make careful observations of the phenomenon
 - b. Build mathematical models of the phenomenon
 - c. Conduct surveys to elicit people's opinion on the matter
 - d. Conduct a controlled experiment**

- 6) What are examples of research questions of an immediately 'applied' nature ? (choose 2)
 - a. What role has the Palghat gap played in the evolutionary differentiation of bird populations?
 - b. How is the breeding success of the endangered Great Indian Bustard affected by ground predators?**

c. What is the cause of decline of vulture populations?

d. What is the structural and chemical basis of peacock feather colouration?

7) In the scheme laid out in the lecture on Asking Research Questions, which of the following is true?

a. Tasks are carried out to meet a particular Objective

b. The specific Goals of a study lead to the overall Motivation

c. The Goals and Objectives are most often unrelated

d. All of the above.

8) In the koel-crow egg mimicry experiment described in the lecture on Asking and Answering Questions, what flaw would be introduced if there were no artificial crow-egg control condition?

a. We would not know whether or not ANY artificial egg would be rejected

b. We would not know whether crows are intelligent

c. We would not know whether artificial koel eggs are accepted

d. We would not know whether crows have a good sense of sight

9) In the koel-crow egg mimicry experiment described in the lecture on Asking and Answering Questions, what is the key comparison to make if we want to know how well koel eggs mimic crow eggs?

a. Acceptance rate of black eggs compared with polka eggs

b. Acceptance rate of black eggs compared with koel eggs

c. Acceptance rate of koel eggs compared with crow eggs

d. Acceptance rate of koel eggs compared with polka eggs

10) For the koel-crow egg mimicry experiment to succeed in assessing whether or not koel eggs mimic crow eggs, what outcomes are necessary?

a. Most koel-looking eggs should be accepted, and most crow-looking eggs should be rejected

b. Most koel-looking eggs should be accepted, and most black/polka eggs should be rejected

c. Most black/polka eggs should be accepted and most crow-looking eggs should be rejected.

d. Most crow-looking eggs should be accepted and most black/polka eggs should be rejected.

11) In cooperatively breeding birds, group members exhibit alloparental care. This is an example of:

a. Agonistic behaviour

- b. Selfish behaviour
- c. Spiteful behaviour
- d. Altruistic behaviour**

12) Kleptoparasitism in birds is a behaviour in which:

- a. a bird lays its eggs in the nest of another bird
- b. a bird mates with the mate of another bird
- c. a bird's young ones are infested with parasites
- d. a bird steals food from another bird**

13) Select the option that **DOES NOT** represent possible direct benefit of grouping in the formation of mixed species flocks.

- a. Deriving warmth when roosting together
- b. Increased vigilance against predator
- c. Reduced wind resistance when flying together
- d. Increased access to information by eavesdropping on others**

14) In birds, the genetic relatedness between two siblings is:

- a. 5.1
- b. 0.5**
- c. 1.5
- d. 5.0

15) Social animals are expected to have complex system of communication because as compared to solitary animals, social animals:

- a. possess specialised anatomical structures to produce complex vocalization
- b. interact more frequently with other individuals in diverse contexts**
- c. have poor vision and are more dependent on sound for communication
- d. have a much longer life so they can learn sounds better

16) In Arabian Babblers, dominance within a group is established by

- a. Helping behaviour**
- b. Aggressive behaviour
- c. Rotation amongst group members
- d. Collective decision making

17) According to the idea of inclusive fitness, an act of altruism is said to occur when

- a. The actor is benefitted and recipient is harmed and the actor and recipient are unrelated
- b. The actor is benefitted and recipient is harmed and the actor and recipient are related
- c. The actor is harmed and recipient is benefitted and the actor and recipient are related**
- d. The actor is harmed and recipient is benefitted and the actor and recipient are unrelated

18) The major prediction of the Life History Hypothesis is that the common feature of cooperatively breeding birds is:

- a. the genetic relatedness between group members
- b. the age of dispersal from natal groups
- c. that they have limited access to resources
- d. that they have longer life span**

19) According to the Ecological Constraint Hypothesis, in which condition is early dispersal most likely:

- a. Chance of acquiring territories is low
- b. Resources in the habitat are plentiful**
- c. Initial reproductive success of breeder is poor
- d. Mates are hard to find

20) Choose the option that is true for all cooperatively breeding birds

- a. They all inhabit the same geographical region of the world
- b. They all belong to the same taxonomic Family of birds
- c. They all live in social groups where they can either be breeders or helpers**
- d. They all exhibit murmuration