

NPTEL Basic Course in Ornithology
Week 6 Final Assignment

- 1) One key goal of a good study design is that:
 - a. The answer matches the pre-conceived idea
 - b. The results are only applicable to the sample set
 - c. The results can be generalised from the sample to the larger world**
 - d. The study is so complicated that it is hard to understand and therefore looks impressive

- 2) In a study, my objective is to estimate the sex ratio of female to male painted-snipe. In this species, females are known to be larger, more colourful, and more active than males. I visit several lakes, and count the number of females and males I see. I find 20 females and 30 males, ie, 40% were female. Based on your understanding of study design, which of the following conclusions is likely to be true?
 - a. The population is roughly 40% female
 - b. The population is less than 40% female**
 - c. The population is more than 40% female
 - d. No conclusion can be drawn

- 3) If you know that your population contains two potentially different sets of entities - eg male and female Painted Storks, what is the best sampling strategy to estimate the overall parasite loads in Painted Stork populations?
 - a. Completely random
 - b. Stratified random**
 - c. Certified random
 - d. Applied random

- 4) What principles are NOT relevant if you want to maximise the chance your results are generalisable?
 - a. Ensure that samples are easily accessible**
 - b. Define the sampling frame
 - c. Ensure you have a representative sample
 - d. Ensure independence of samples

- 5) In the context of study design, what is a synonym for 'population'?
 - a. Inhabitants
 - b. Occupants
 - c. Sample
 - d. Sampling frame**

- 6) What is an example of simple random sampling?
- a. Dividing an area into grids and choosing trees at random within each grid
 - b. Giving each tree a number and choosing numbers at random**
 - c. Walking along a path, and choosing a tree every 200m
 - d. All of these
- 7) Pseudoreplication is when..
- a. The researcher only pretends to collect data on multiple samples
 - b. The sampling units are not independent of each other**
 - c. The study is only a pilot study
 - d. All of the above
- 8) What affects the precision of an estimate? (Choose two)
- a. Sampling bias
 - b. Measurement bias
 - c. Population variability**
 - d. Sample size**
- 9) I want to understand the effect of elevated testosterone levels on the aggressive behaviour of Peacocks, and so catch a set of 'treatment' birds and inject them with the hormone. What is the most appropriate thing to do with 'control' birds?
- a. Catch them and inject estrogen
 - b. Catch them and inject saline**
 - c. Catch the birds, but don't inject anything
 - d. Don't catch or inject the birds
- 10) What is a major problem with using 'natural experiments' to make causal inferences?
- a. Since they occur by themselves, they are more natural than manipulative experiments
 - b. It's more difficult to measure what we want in natural experiments
 - c. Natural experiments may occur far away from us, complicating logistical arrangements
 - d. There are likely to be underlying differences that contaminate the results**
- 11) A migratory bird uses different routes both during southward and northward migration. This is termed as:
- a. Broadband Migration
 - b. Loop Migration**
 - c. East-West Migration
 - d. Leap Frog Migration
- 12) Which among the following species is known to undertake short-distance altitudinal migration in the Himalayas:
- a. Great Knot
 - b. Spoon-billed Sandpiper
 - c. Blue-fronted Redstart**

d. White-browed Bulbul

13) Why do birds undertake migration?

- a. Find good nesting locations
- b. Avoid predation
- c. Escape harsh winters
- d. **All of the above**

14) To fuel their journey, long-distance migratory birds store energy in the form of:

- a. Carbohydrate
- b. **Fat**
- c. Protein
- d. All of the above

15) Which among the following species (also known as the 'Moon bird') is known to undertake the longest migration in the animal world of 90,000 km from Greenland to the Weddell Sea?

- a. Caspian Tern
- b. Arctic Skua
- c. Bar-tailed Godwit
- d. **Arctic Tern**

16) Which of the following statements is false in regards to bird migration?

- a. Birds depend on multiple cues like earth's magnetic field, odours, stars and sun to remain in correct path during migration
- b. For some bird species, migration is an innate (inborn) behaviour
- c. **All young birds during their first migration journey stay back in the wintering grounds and only return to breed in the second year.**
- d. Most of the long-distance migrants gain double the average weight of the bird to sustain long duration of flight

17) Migratory Raptors that use air currents to soar, tend to undertake migration during:

- a. Morning
- b. **Day**
- c. Dusk
- d. Night

18) A study site in India shows a pattern of sudden increase in migratory bird numbers only in the months of September and March every year. What could this site be termed as:

- a. Wintering site
- b. Breeding site
- c. **Stopover site**
- d. Moulting site

19) Which of the following tracking devices needs to be retrieved in order to obtain bird movement data?

- a. Satellite Transmitter
- b. Light-level Geolocator**
- c. Motus tag
- d. Radio Transmitter

20) A Greater Sand Plover wintering in the coast of Gujarat, India could be from which of the following Flyways:

- a. Mediterranean & Black Sea
- b. East Atlantic
- c. West Pacific
- d. West Asian East African**