**PART I HISTORICAL AND METHODOLOGICAL ISSUES**

Chapter 1

1. What prompted Darwin to rush into completing *The Origin of Species*?

a) Mounting debt

b) Encouragement by Thomas Henry Huxley

c) The arrival of a letter from Alfred Russell Wallace

d) A note from his publisher John Murray

e) The idea of natural selection suddenly became clear to him a year before

2. When was the Origin of Species published?

1. 1872
2. 1809
3. 1859
4. 1889
5. 1829

3. Who developed the notion of “fixed action patterns” to describe animal behaviour?

1. Herbert Spencer
2. Niko Tinbergen
3. Alfred Russell Wallace
4. Charles Darwin
5. Konrad Lorenz

4. Which sentence best describes the four “whys” of Tinbergen?

1. Why, where, what, when
2. Causation, ontogeny, evolution and function
3. Selection, survival, function and phylogeny
4. Mutation, drift, expression, selection
5. Proximate, ultimate, inevitable, enduring

5. Which sentence best describes the significance of Ivan Pavlov (1849-1936) to the study of animal behaviour.

1. Pavlov showed that certain forms of behaviour were innate and instinctive reflecting their evolutionary ancestry.
2. Pavlov showed that animals could be conditioned to behave in specific ways by repeated exposure to stimuli
3. Pavlov demonstrated the inheritance of acquitted stimuli passing down the generations
4. Pavlov was a founder of behavioural ecology showing how stimuli tended to elicit optimal behaviour
5. Pavlov provided the answer to one of Tinbergen’s “whys”.

6. Which sentence best describes the contribution of |J. B. Watson (1878-1958) to the study of psychology

1. Watson was an admirer of Freud and helped introduce Freudianism into American psychology.
2. Watson admired the work of Tinbergen and helped introduce evolutionary ideas into psychology
3. Watson was a behaviourists and sought to place psychology on an experimental footing, arguing that instinct and inherited behaviours were insignificant
4. Watson demonstrated the phenomenon of imprinting and realised that this provided an prototype for understanding all behaviours
5. Watson was a disciple of Lorenz and worked on the phenomenon of supernormal stimuli – showing that this was also found in the responses of human infants.

7. Which sentence best describes the relationship between behaviourism and logical positivism?

1. Both were concerned to project a more positive view of the role of logic in science, in contrast to Freudianism which stressed emotional wellbeing.
2. Logical positivism was used to criticise behaviourism by scientists during the cognitive revolution in psychology.
3. Logical positivism was the brainchild of Karl Popper and he was very dubious about the scientific credentials of behaviourism
4. Behaviourism looked to logical positivism for philosophical support for its view that only observable and measureable phenomena should be part of the science of psychology.
5. Logical positivism and Behaviourism both stressed the role of positive reinforcement in guiding both science to the truth and animals to correct forms of behaviour.

8. Why did Behaviourism ultimately fail in accounting for the behaviour of humans and non-human animals?

1. Freudian psychology ultimately proved more successful
2. Animal rights activists objected to animal experimentation
3. The Blank Slate model of the mind proved more successful
4. The work of Boas and Mead pointed to the role of culture
5. Some forms of animal behaviour were shown to be innate

9. Which sentence best describes the discipline of sociobiology as it emerged in the late 1970s

1. Sociobiology stressed the importance of group selection and as such was opposed to both behaviourism and the gene centred view of evolution.
2. Sociobiology took inspiration from E O Wilson’s book Sociobiology: The New Synthesis which showed how concepts such as kin selection and inclusive fitness could be applied to the behaviour of humans and other animals.
3. Sociobiology was initially regarded with much scepticism since it advocated a programme mild eugenics to improve the human gene pool.
4. Sociobiology was a hybrid of Freudian and Behaviourist psychology and ultimately revolutionised the study of human psychology.
5. Sociobiology set itself up in contrast to behavioural ecology: the former stressed the importance of socio behaviour whilst the latter pointed to the central role of individual behaviour.

10. Which statement best describes the relationship between sociobiology and evolutionary psychology (EP)?

1. They both share similar goals in explaining behaviour with reference to adaptations and fitness seeking strategies. Sociobiology is slightly more concerned with current drives towards fitness whilst EP stresses that we have cognitive adaptations to a past mode of life.
2. Sociobiology is more concerned with social problems and group level phenomena; EP is more concerned with individual behaviour and is more sceptical about the gene centred view of evolution.
3. Sociobiology is a revival of Social Darwinism and as such was regarded with political suspicion by many academics. EP, on the other hand, was a more successful fusion of Freudianism and Darwinism.
4. Sociobiology grew out of behaviourism whilst EP grew out of ethology. Initially at odds, a reconciliation of concepts and methods was finally achieved in the 1980s to form Darwinian anthropology
5. Sociobiology was concerned with the first two of Tinbergen’s “whys”, namely causation and development; whilst EP is concerned with the latter two whys: evolution and function

Chapter 2.

1. What is the significance of the metaphor of “Just So” stories in evolutionary biology?
2. They point to the general problem of trying to describe events in the past for which there were no witnesses and a paucity of evidence.
3. Kipling’s *Just So* stories were very successful and are used to describe an argument that is also successful in explaining the facts.
4. Just So stories refer to the temptation to devise accounts to fit the facts (especially adaptive accounts of appearance and behaviour) without rigorous scientific testing
5. Just So stories were told by Dr Pangloss in Kipling’s *The Jungle Book* and point to the questionable assumption that everything has an adaptive purpose
6. The Just So stories were inspired by Kipling’s reading of Darwin and are models of how animal features could change through time.

Consider the following statements

1. Phylogenetic inertia – genes may not have adapted fast enough to be suited to new environments
2. Genetic drift – founder effects and neutral genetic drift may give rise to genetic differences with a species
3. Mutations are always accruing
4. Humans can devise cultural solutions to solve survival problems (e.g. clothes)
5. Which statement(s) could be used to demonstrate that adaptive solutions may not have a genetic basis
6. i) only
7. i) and ii)
8. ii) and iv)
9. iv only)
10. iii) only
11. Which statement(s) could be used to show that genes do not always give rise to features that are adaptations?
12. iv) only
13. ii) only
14. iii) and iv)
15. i) and iv)
16. i), ii) and iii)
17. The EEA stands for
18. Exceptional evolutionary adaptation
19. Environment of evolved anticipation
20. Evolutionary exceptional argument
21. Environment of evolutionary adaptedness
22. Environment of evolved allocations
23. What is the significance of “domain specific mental modules” in Darwinian approaches to human behaviour?
24. These mental modules can be identified by reverse engineering giving insight into how the minds of our ancestors were shaped by the Neolithic Revolution.
25. EP assumes that the mind will be equipped with these cognitive adaptations that allow the brain to arrive a solutions to problems that beset our ancestors in the EEA
26. Darwinian anthropology points to these modules as evidence that humans can adapt flexibly and find fitness solutions in novel environments
27. They play an important role in gene-culture evolutionary theory where they are evidence of how cultural influences direct the way we behave.
28. They provide evidence of continuing genetic variability in human populations.

Consider the following statements

1. Humans are flexible opportunists and show great developmental plasticity
2. Current indications of fitness are largely irrelevant to understanding the design of the human mind
3. Ancestral adaptations have left us with cognitive adaptations that are highly specific and constrained
4. Evolved mental mechanisms show little variability between humans
5. Humans still maximize fitness in the environments they are found.
6. Culture can drive genetic change
7. Culture itself is a source of solutions to problems and can evolve alongside genetic evolution.
8. Which statements are most strongly allied to Evolutionary Psychology?
9. ii) and i)
10. i) and vii)
11. vi) and vii)
12. ii), iii) and iv)
13. i) and v)
14. Which statements are most strongly allied to Darwinian anthropology (or human behavioural ecology)?
15. ii) and i)
16. i) and vii)
17. vi) and vii)
18. ii), iii) and iv)
19. i) and v)
20. Which statements are most strongly allied to gene-culture coevolution theory?
21. ii) and i)
22. i) and vii)
23. vi) and vii)
24. ii), iii) and iv)
25. i) and v)
26. What is the significance of the Pleistocene in applying evolutionary ideas to human behaviour?
27. This was the period (roughly 1.8 million years to 10,000 years ago) when human behaviour was incredibly plastic and variable allowing little insight into adaptive problems and solutions.
28. This was the period (roughly 1.8 million years to 10,000 years ago) when various human species emerged and set problems for which EP assumes we are still adapted to solve
29. This was the period of rapid oscillations in climate due to the ice ages and before humans moved out of Africa
30. This was a time when humans first devised culture and so domain general mental mechanisms evolved.
31. This was the period that began about 10,000 years ago and is associated with the Neolithic revolution.
32. What is the significance of the Holocene in applying evolutionary ideas to human behaviour?
33. This was the period that began about 10,000 years ago and is associated with the Neolithic revolution and as such is a period when most humans began to move away from the hunter-gather lifestyle to which they had previously been adapted.
34. This was the period (roughly 1.8 million years to 10,000 years ago) when human became adapted to a hunter-gatherer lifestyle.
35. This was the period known as the EEA and we can expect to have cognitive adaptations arising from life in this period even though they may no longer be adaptive.
36. This was the period when some humans moved out of Africa and so had to adapt to very different conditions – this led to cultural evolution and developmental plasticity.
37. This was the period when the Neolithic revolution took place and humans settled to a hunter-gather lifestyle instead of a nomadic one.
38. Which sentence best describes the difference between Evolutionary Psychology (EP) and Human Behavioural Ecology (HBE)?
39. HBE stresses that we are adapted only to past conditions
40. HBE suggests that much of modern behaviour will be adaptive but behaviour in the past was maladaptive since selection has not moulded it to optimality
41. HBE suggests that humans are flexible enough to continue to maximize fitness, EP stresses that our brain evolved to cope with conditions of the past and may now give rise to maladaptive behaviour
42. There is no fundamental difference
43. One EP suggests that all of human behaviour can be interpreted in a Darwinian framework, HBE still adheres to idea of an autonomous and immaterial human spirit