

X



reviewer4@nptel.iitm.ac.in ▼

Courses » Learning about Learning: A Course on Neurobiology of Learning and Memory

Announcements Course Ask a Question Progress FAQ



Unit 2 - Memory and Associative Learning/Classical Conditioning

Register for Certification exam

Course outline

How to access the portal

Memory and Associative Learning/Classical Conditioning

- Introduction to Learning and Memory - I: Historical perspective
- Introduction to Learning and Memory - II: Classification
- Associative Learning I: Rules of Associative learning
- Associative learning II: Garcia and Koelling's Experiment, Kamin's Blocking Experiment
- Introduction to the Rescorla Wagner Model

Week 1: Assignment

The due date for submitting this assignment has passed.

Due on 2019-02-13, 23:59 IST.

Assignment submitted on 2019-02-08, 13:39 IST

This is an assignment based on Module 1 content. A few of these are MSQ (Multi-select questions, i.e. more than one correct option). They are indicated by having squares instead of circles for selecting the correct answers. In such questions, you have to select all the correct answers to gain full marks. For example, if you answer only one of the 3 correct answers you will get only one third of the marks assigned. Please be aware of the marks assigned to each question. A few of the questions do not carry any marks and thus do not contribute to the final score of assignment assessment. These are to facilitate your further thinking on the concepts taught.

1) What set would constitute the word list similar to Herman Ebbinghaus's experiment? **1 point**

- DOT, CAT, BAT.
- CAQ, XIR, MUW
- CCA, CBC, NWM
- THEN, THAT, THAN

No, the answer is incorrect.

Score: 0

Accepted Answers:

CAQ, XIR, MUW

2) Phases of memory are characterised by **0 points**

- Working memory that lasts until the duration of the task and independent of any intervention
- Long term memory requires protein synthesis to form
- Long term memory does not require protein synthesis to form
- Short term memory requires protein synthesis to form

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -

A project of



In association with



Funded by

Wagner Model of Learning

Reinforcement learning/Operant Conditioning

DOWNLOAD VIDEOS

Molecular basis of Memory and Learning

ce De

Short term memory does not require protein synthesis to form

3) HM could not remember

0 points

- his house address
- his school address
- the address of the hospital where he was operated
- the capital city of his country

No, the answer is incorrect.

Score: 0

Accepted Answers:

the address of the hospital where he was operated

4) Anterograde amnesia refers to

1 point

- the inability to recall memories
- the inability to form new memories
- the inability to learn a new skill
- inability to remember old memories

No, the answer is incorrect.

Score: 0

Accepted Answers:

the inability to form new memories

5) After undergoing surgery on the brain, a patient exhibits inability to learn how to use chopsticks to eat. The possible brain region that is taken out is :

1 point

- Medial temporal lobe
- Amygdala
- Striatum
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Striatum

6) Sensitisation refers to a form of non-associative learning where

1 point

- the response increases in intensity in response to a harmful stimuli
- the response increases in intensity in response to a benign stimuli
- the response decreases in intensity in response to a harmful stimuli
- the response decreases in intensity in response to a benign harmful stimulus.

No, the answer is incorrect.

Score: 0

Accepted Answers:

the response increases in intensity in response to a harmful stimuli

7) Why is sensitisation helpful to an animal?

1 point

- Because it helps the animal filter out what is important and what is not important to react to, thus saving energy
- Because it keeps the animal weary and able to react quickly to danger
- Because it keeps the animal's habitat protected



- Because it helps the animal find food more easily

No, the answer is incorrect.

Score: 0

Accepted Answers:

Because it keeps the animal weary and able to react quickly to danger

8) Habituation and sensitisation effects perform which of the following functions? **0 points**

- Focus attention on all stimuli present.
- Direct responses to all stimuli present.
- Focus attention on background stimuli.
- Focus attention on relevant stimuli.



No, the answer is incorrect.

Score: 0

Accepted Answers:

Focus attention on relevant stimuli.

9) In Habituation experiments, to rule out response fatigue as the cause for the decreased responding that occurs over repeated presentations of a stimulus, the researcher should **0 points**

- Determine if the subject can still sense the stimulus.
- Determine if the subject is responding to the stimulus in other ways.
- Present a new stimulus that elicits a similar response.
- Present a new stimulus that elicits an unrelated response.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Present a new stimulus that elicits a similar response.

10) The unconditional response (UR) and conditional response (CR) need not be the same in a behaviour paradigm. **0 points**

- True.
- False.

No, the answer is incorrect.

Score: 0

Accepted Answers:

True.

11) Simultaneous conditioning refers to the training paradigm where **1 point**

- CS is followed by a US after a time delay
- onset of CS and US is delayed and they co terminate
- the US precedes the CS
- US and CS are coincident in time

No, the answer is incorrect.

Score: 0

Accepted Answers:

US and CS are coincident in time

12) In Pavlov's experiment, simultaneous conditioning exhibits the least amount of learning. **1 point**

- True.

False.

No, the answer is incorrect.

Score: 0

Accepted Answers:

True.

13) Which of these temporal contiguity methods is most effective for learning?

1 point

- Simultaneous conditioning
- Trace conditioning
- Delay conditioning
- Backward conditioning



No, the answer is incorrect.

Score: 0

Accepted Answers:

Delay conditioning

14) Contiguity of the CS with US is more important than contingency.

0 points

- True.
- False.

No, the answer is incorrect.

Score: 0

Accepted Answers:

False.

15) For a given CS-US pair, what strengthens the CS-US association?

1 point

- Equal number of presentations of CS and US during training.
- The number of presentations of CS during training.
- The number of contingent presentations of CS-US during training.
- The number of presentations of US during training.

No, the answer is incorrect.

Score: 0

Accepted Answers:

The number of contingent presentations of CS-US during training.

16) A conditional stimulus's (CS) ability to predict an unconditional stimulus (US) is given by

1 point

- $P(\text{CS})$ and $P(\text{US})$
- $P(\text{US})$ alone
- $P(\text{US}|\text{CS})$ alone
- $P(\text{US}|\text{CS})$ and $P(\text{US}| \text{no CS})$
- $P(\text{CS}|\text{US})$ and $P(\text{CS}| \text{no US})$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$P(\text{US}|\text{CS})$ and $P(\text{US}| \text{no CS})$

17) A rabbit is placed in a box where a flash of red light (CS) is given on an average of 20 seconds. However, when the red light is off, the rabbit receives an air puff in the eyes (US). After a few trials, the rabbits learn to associate the lack of the red light to the air puff which they respond to by closing their eyes (CR). What is the contingency in place to learn this association?

1 point

- Positive
- Negative
- Zero
- Aversive

No, the answer is incorrect.

Score: 0

Accepted Answers:

Negative

18) To test negative contingency

- zero baseline response is required
- non-zero baseline is required
- it is immaterial whether the baseline is zero or non-zero
- negative contingency cannot be tested

No, the answer is incorrect.

Score: 0

Accepted Answers:

it is immaterial whether the baseline is zero or non-zero

19) Bait shyness refers to a rodent's behaviour where they show aversiveness towards a food associated with **1 point**

- a flavour.
- a location.
- a scientist/experimenter.
- a time of day.

No, the answer is incorrect.

Score: 0

Accepted Answers:

a flavour.

20) In Garcia and Koelling's experiment to address the inherent associative strength of US-CS, **1 point** they attempted to pair two different CS, namely "bright and noisy" flavourless water and "tasty/flavoured" water with two different US, namely stomach malaise (induced by x-rays/lithium chloride) and mild foot shock. Which of the following US-CS associations were made?

- Associated "bright and noisy" flavourless water with stomach malaise (induced by x-rays/lithium chloride).
- Associated "tasty/flavoured" water with stomach malaise (induced by x-rays/lithium chloride).
- Associated "bright and noisy" flavourless water with mild foot shock.
- Associated "tasty/flavoured" water with mild foot shock.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Associated "tasty/flavoured" water with stomach malaise (induced by x-rays/lithium chloride)
Associated "bright and noisy" flavourless water with mild foot shock.

21) Which of the following is a necessary pre-requisite to carry out Garcia and Koelling's experiment? **1 point**

- The rodents prefer "tasty/flavoured" water.



- The rodents do not prefer either one of the waters ("bright and noisy" flavourless water or "tasty/flavoured" water) over the other.
- The rodents prefer "bright and noisy" tasteless water.
- It is immaterial which water the rodents prefer.
- The light and sound of the "bright and noisy" flavourless water makes it aversive to drinking the water.

No, the answer is incorrect.

Score: 0

Accepted Answers:

The rodents do not prefer either one of the waters ("bright and noisy" flavourless water or "tasty/flavoured" water) over the other.

22) What is the behavioural readout in Garcia and Koelling's experiment?

0 points

- The amount of movement and activity.
- The amount of water the rodents consumed.
- The number of jumps made over an obstacle
- The amount of food the rodents consumed.

No, the answer is incorrect.

Score: 0

Accepted Answers:

The amount of water the rodents consumed.

23) All stimuli (CS) have equal propensity to form an association with an unconditional stimulus (US).

1 point

- True
- False

No, the answer is incorrect.

Score: 0

Accepted Answers:

False

24) Which experiment provides evidence for the role of prior learning in associative learning?

1 point

- Sidman's Avoidance task
- Garcia and Koelling's Bait Shyness task
- Kamin's Blocking task
- Rescorla's Contingency experiment

No, the answer is incorrect.

Score: 0

Accepted Answers:

Kamin's Blocking task

25) The blocking effect demonstrates which of the following?

1 point

- That temporal contiguity is sufficient for associative learning
- That CS-US pairings are sufficient for associative learning
- That contiguity and CS-US pairings, when they occur together, are sufficient for associative learning
- That *only* CS-US pairings are insufficient for associative learning

No, the answer is incorrect.

Score: 0

Accepted Answers:

That only CS-US pairings are insufficient for associative learning

26) Which part of the Rescorla Wagner model denotes surprise? $\Delta V_n = \alpha (V_{max} - V_n - 1)$ **1 point**

- ΔV_n
- Alpha (α)
- V_{max}
- $V_n - 1$
- $V_{max} - V_n - 1$



No, the answer is incorrect.

Score: 0

Accepted Answers:

$V_{max} - V_n - 1$

27) According to Rescorla and Wager (1972), the increase in associative strength of the CS will: **1 point**

- Be very slow during the initial trials, but increasingly fast as training continues.
- Be extremely rapid on the initial trials, but will decline and eventually cease with continued trainings.
- Progress at the same rate throughout training.
- Be very slow during the initial and final trials, but fast during the middle of trainings.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Be extremely rapid on the initial trials, but will decline and eventually cease with continued training.

28) V_{max} represents _____ in the Rescorla Wagner model. **0 points**

- The maximum associative strength between a CS-US pair.
- The total amount of learning that can occur in the associative learning between a CS-US pair.
- The maximum number of trials needed for training.
- Both a and b.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both a and b.

29) When one changes the strength of shock used as an unconditional stimulus (CS), the parameter that changes in Rescorla Wagner model is **1 point**

- V_{max}
- Both V_{max} and Alpha
- Alpha
- None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both V_{max} and Alpha

30) A compound stimulus of a dim light and a loud tone are paired together and followed by a **0 points** shock in a number of trials with a rat. Then on test trials, the light or tone is presented alone. What should be observed?

- The rat will show an equal fear response to the light and the tone.
- The rat will show a greater fear response to the tone.
- The rat will show a greater fear response to the light.
- The rat will show no fear response; the stimuli cancel each other out.

No, the answer is incorrect.

Score: 0

Accepted Answers:

The rat will show a greater fear response to the tone.



Previous Page

End