

Image recognition

(viii) Choose the function of neurotransmitter.

- a) they transmit data directly at synapse to other neuron
- c) cause polarisation or depolarisation

d) none of the mentioned

- b) they modify conductance of post synaptic membrane for certain ions
- d) both polarisation & modify conductance of membrane

(ix) State a Boltzman machine.

a) A feedback network with hidden units

c) A feed forward network with hidden units

b) A feedback network with hidden units and probabilistic update

d) A feed forward network with hidden units and probabilistic update

(x) Define the objective of linear auto associative feedforward networks?

- a) to associate a given pattern with itself
- c) to associate output with input

- b) to associate a given pattern with others
- d) none of the mentioned

(xi) Select the property should a feedback network have, to make it useful for storing information.

- a) accretive behaviour
- c) both accretive and interpolative behaviour

- b) interpolative behaviour
- d) none of the mentioned

(xii) How is pattern storage task generally accomplished?

a) by a feedback network consisting of processing units with non linear output functions

c) by a feedforward network consisting of processing units with non linear output functions

b) by a feedback network consisting of processing units with linear output functions

d) by a feedforward network consisting of processing units with linear output functions

(xiii) Predict that the trajectory of the state is determined by

- a) activation dynamics
- c) both activation and synaptic dynamics

- b) synaptic dynamics
- d) none of the mentioned

(xiv) What may create basins of attraction in energy landscape?

- a) feedback among units
- c) both feedback and nonlinear processing in units

- b) nonlinear processing in units
- d) none of the mentioned

(xv) How are input layer units connected to second layer in competitive learning networks?

- a) feedforward manner
- c) feedforward and feedback

- b) feedback manner
- d) feedforward or feedback

Group-B

(Short Answer Type Questions)

3 x 5=15

2. State the limitations of using a perceptron. (3)
3. Describe fine-tuning and how is it different from transfer learning? (3)
4. What do you understand by end-to-end learning? (3)
5. How can you generate a dataset on multiple cores in real-time that can be fed to the deep learning model? (3)
6. The deep learning model is not good for small data sets, and it fails here. Explain Data Normalization. (3)

OR

Explain the reason it important to introduce non-linearities in a neural network? (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Differentiate between SVMs and Neural Networks. (5)

- 8. Define the deep learning frameworks or tools. (5)
- 9. What do you understand by Deep Autoencoders? (5)
- 10. What are the three steps to developing the necessary assumption structure in Deep learning? (5)
- 11. Discuss a dataset? (5)
- 12. Define a Random Forest. (5)

OR

What is Bias and Variance in a Machine Learning Model? (5)

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