**Neural Network:**

Q1)

Q2)

Q3)

|  |  |  |  |
| --- | --- | --- | --- |
| Units in hidden layer | Epochs | Train accuracy out of 1 | Test accuracy out of 1 |
| 5 | 1000 | 0.6523 | 0.629 |
| 10 | 1000 | 0.84 | 0.824 |
| 15 | 500 | 0.9231 | 0.9225 |
| 20 | 900 | 0.9232 | 0.9218 |
| 25 | 600 | 0.9233 | 0.9232 |

Stopping criteria:

1. if change in batch error difference is less than epsilon

2. if change in train acc after an epoch is less than epsilon

3. if max iterations are exceeded

4. if validation error increases after an epoch

Epsilon = 10-4

Max iterations = 1000