ML Question Bank:

1. Various successful applications of Machine Learning.
2. Final design of checkers learning program – diagram and explanation
3. Questions that form issues in Machine Learning.
4. Working of FIND-S with an example (in detail)
5. Candidate Elimination algorithm using Version Spaces
6. Characteristics that problems must have to apply Decision tree.
7. Characteristics that problems must have to apply Backpropogation algorithm used in ANN.
8. Define and represent perceptrons.
9. Some of the Boolean functions cannot be represented by single perceptron.
10. Gradient Descent algorithm. Difference between standard and stochastic gradient descents.
11. Common heuristics to attempt to alleviate the problem of local minima.
12. Define genetic algorithms and writing prototypical genetic algorithm.
13. Genetic algorithm operators for manipulating bitstring hypothesis with examples.
14. Features of Bayesian learning. Significance of Bayes Theorem.
15. Brute Force MAP learning algorithm to output maximum a posteriori hypothesis.
16. Mechanism of Bayes Optimal classifier in answering most probable classification of new instances.
17. Naïve Bayes algorithm for learning and classifying text.
18. Define (i) true error (ii) training error (iii) sample error (iv) PAC-learnable (v) Sample complexity
19. k-TERM DNF and k-TERM CNF concepts.
20. Mathematical expression of K-NEAREST NEIGHBOUR. Refinement with Distance weights.
21. Locally weighted Linear Regression with constraints.
22. Genetic properties of case based reasoning systems that distinguish from K-NEAREST NEIGHBOUR.
23. Prototypical Sequential Covering algorithm.
24. Various evaluation functions for evaluating the performance used to guide search in LEARN-ONE-RULE.
25. Define (i) Literal (ii) Ground literal (iii) term (iv) Horn clause (v)Substitution (vi) Antecedant
26. Reasons for learning Perfect domain theory. Explanation based learning algorithm PROLOG-EBG.
27. Key properties of explanation based learning algorithm and its several persepectives.
28. Various methods for using prior knowledge to alter search performed.
29. Detail working of FOCL algorithm.
30. Differences between Reinforcement learning problems from other function approximation tasks. Write Q-Learning algorithm.