

BE Semester- 5th (Biomedical Engineering) Question Bank

(BM- 705 ADVANCE MEDICAL TECHNIQUES)

All questions carry equal marks (10 marks)

Q.1	Describe advances & benefits in telemedicine.
Q.2	Explain in detail telemedicine system.
Q.3	Explain about major components of telemedicine.
Q.4	Write short note on Different communication methodology and media which are used in telemedicine.
Q.5	Explain in detail wireless telemedicine.
Q.6	Write short note on Internet technology in telemedicine.
Q.7	Explain in detail mobile telemetry units.
Q.8	Write limitations of telemetry system.
Q.9	Explain patient monitoring system in wireless telemetry
Q.10	Explain in detail wireless communication in telemetry system.
Q.11	Give brief explanation about fuzzy set theory.
Q.12	Write properties of fuzzy sets.
Q.13	Explain in detail how classification is done using Fuzzy logic.
Q.14	Explain the following terms: (a) Resting potential. (b) Nernst equation. (c) Action potential. (d) Refractory periods. (e) Chemical synapses.
Q.15	Differentiate single layer and multilayer networks.
Q.16	Explain Minimum Distance Classification with a suitable example.
Q.17	Give a brief note on multilayer perceptrons.
Q.18	What is the activation function used in the perceptron network.
Q.19	Compare and contrast supervised and unsupervised learning strategies.
Q.20	Explain training and testing of neural network.
Q.21	What is the learning of neural network? Explain types of learning strategies.
Q.22	Describe fuzzy sets to fuzzy events with example.
Q.23	Write short note on fuzzification.
Q.24	Write short note on rule base interface engine.
Q.25	Write short note on defuzzification.
Q.26	Explain design of fuzzy system with one example.
Q.27	Explain elements of fuzzy systems.
Q.28	Write application of fuzzy system with example.
Q.29	Explain Automatic ECG analyzer and Diagnosis of heart disease using fuzzy logic system.
Q.30	Give brief explanation about neural network architecture.
Q.31	Explain the organization of the brain in detail.
Q.32	Distinguish between artificial intelligence and neural network models.

Q.33	Explain different neural network topologies.
Q.34	What is meant by uncertainty? What are various types of uncertainties? Explain the measures of uncertainty.
Q.35	<p>Ship age is defined as follows:</p> $old = \left\{ \frac{0}{0} + \frac{0.1}{5} + \frac{0.3}{10} + \frac{0.5}{15} + \frac{0.7}{20} + \frac{0.9}{25} + \frac{0.1}{30} \right\}$ $young = \left\{ \frac{1}{0} + \frac{0.9}{5} + \frac{0.7}{10} + \frac{0.5}{15} + \frac{0.3}{20} + \frac{0.1}{25} + \frac{0.0}{30} \right\}$ <p>Find very old, very old & very young, not very old and more or less young.</p>
Q.36	<p>Suppose we have a universe integers, $y = \{1, 2, 3, 4, 5\}$. We define the following linguistic terms as a mapping on to y,</p> $Small = \left\{ \frac{1}{1} + \frac{0.8}{2} + \frac{0.6}{3} + \frac{0.4}{4} + \frac{0.2}{5} \right\}$ $Large = \left\{ \frac{0.2}{1} + \frac{0.4}{2} + \frac{0.6}{3} + \frac{0.8}{4} + \frac{1}{5} \right\}$ <p>Find very small, not very small, not very small and not very large, very large.</p>
Q.37	Explain the properties of Commutativity, Associativity, Distributivity, Idempotence, Identity with respect to crisp sets.
Q.38	Explain what is an artificial neural network and show how a basic ANN is constructed using a biological neuron.
Q.39	Explain Basic Fuzzy set operations.
Q.40	Differentiate fuzzy set from classical set and name the properties of classical (crisp) sets.