

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– IV (New) EXAMINATION – WINTER 2019****Subject Code: 2140402****Date: 13/12/2019****Subject Name: Basic Taxonomy and Techniques****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	MARKS
Q.1 (a) Give the details about the five kingdom classification.	03
(b) Define the terms with example: Species, Genus, Family, Class	04
(c) Explain DNA hybridization for microbial classification.	07
Q.2 (a) Specify the characters are used to distinguish closely related microorganisms from one another.	03
(b) Write about physiological significance of morphological characters.	04
(c) How significant was the contribution of Aristotle in field of taxonomy? Give your view point to point.	07
OR	
(c) Giving the scientific base, discuss the contributions of Theophrastus and Linnaeus.	07
Q.3 (a) Which genomic regions apart from 16s rRNA genes are used for classifying micro-organisms?	03
(b) What is the difference between bryophytes and pteridophytes?	04
(c) Narrate the vascular plant divisions with examples of each.	07
OR	
Q.3 (a) What is the role of sequence similarity, homology and conserved sequences, in taxonomy?	03
(b) What technique was used to prove the existence of the taxonomic rank above Kingdom? Give example of molecular characterization technique.	04
(c) Briefly explain the important taxa of the plant kingdom.	07
Q.4 (a) Explain the term: “tree of life”. What is cladograms?	03

(b) Discuss the method for finding G+C% and its use in distinguishing organisms. 04

(c) Explain the phylum in which following features emerged during evolution: 07

Organism A : No spinal cord, jointed legs, has exoskeleton

Organism B: has nerve ring

OR

Q.4 (a) What is numerical classification? 03

(b) Give the reasons why 16 s rRNA gene used for phylogenetic studies. 04

(c) What is the current status of taxonomy for plant and animal taxonomy? 07
Give only points.

Q.5 (a) "Binomial classification is not enough for microorganisms". Justify. 03

(b) Discuss the divisions of plants with no vascular tissues. 04

(c) Give the history of plant taxonomy. 07

OR

Q.5 (a) Distinguish between gymnosperms and angiosperms. 03

(b) Give the idea about the family- Fabacea. 04

(c) Narrate the different plant divisions. 07

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