Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – May/June 2026

Date: 18-05-2026 **Time:** 01:00pm – 04:00pm

School: SOCSE	**Program:** B.TECH	
Course Code : ISE2502	**Course Name:** Information Retrieval	
Semester: VI	**Max Marks**: 100	**Weightage**: 50%

CO – Levels	CO1	CO2	CO3	CO4
Marks	24	24	26	26

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **10Q x 2M=20M**

1.	Define inverted indexes.	**2 Marks**	**L1**	**CO1**
2.	How dictionaries are implemented in inverted indexes.	**2 Marks**	**L2**	**CO1**
3.	Define normalized term frequency.	**2 Marks**	**L1**	**CO2**
4.	What are the advantages of TF-IDF weighting scheme over TF weighting scheme?	**2 Marks**	**L2**	**CO2**
5.	What are recommender systems?	**2 Marks**	**L1**	**CO3**
6.	Define text classification	**2 Marks**	**L1**	**CO3**
7.	Define text clustering.	**2 Marks**	**L1**	**CO3**
8.	What is pageRank?	**2 Marks**	**L1**	**CO4**
9.	Define CPM (Cost Per Mille).	**2 Marks**	**L1**	**CO4**
10.	What is a question answering system?	**2 Marks**	**L1**	**CO4**

Part B

Answer the Questions. **Total Marks 80M**

11.	**a.**	Explain Boolean retrieval model in detail with suitable example	**10 Marks**	**L2**	**CO1**
		Or			
12.	**a.**	**Explain types of stemming.**	**10 Marks**	**L2**	**CO1**
13.	**a.**	Describe the types of automatic indexing	**10 Marks**	**L1**	**CO1**
		Or			
14.	**a.**	**Describe applications of information retrieval systems**	**10 Marks**	**L1**	**CO1**
15.	**a.**	Explain KNN in detail with diagram.	**10 Marks**	**L2**	**CO3**
		Or			
16.	**a.**	Explain SVM in detail with diagram.	**10 Marks**	**L2**	**CO3**
17.	**a.**	Describe Index compression techniques.	**10 Marks**	**L2**	**CO3**
		Or			
18.	**a.**	Explain the working of web crawler	**10 Marks**	**L2**	**CO3**
19.	**a.**	Describe various transformer models used in NLP	**20 Marks**	**L2 2**	**CO4**
		Or			
20.	**a.**	Describe search engine architecture in detail with diagram.	**20 Marks**	**L2**	**CO4**
21.	**a.**	Documents: D1: “information retrieval system” D2: “information retrieval model” D3: “data mining system” Query: Q: “information retrieval” Find the rank of each document using BM25 formula with k = 1.5 and b = 0.75 corresponding to query Q.	**20 Marks**	**L3**	**CO2**
		Or			
22.	**a.**	Derive the expression used for ranking text documents in BIM(Binary Independence Model)	**20 Marks**	**L3**	**CO2**