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PG/2nd Sem/MLI-209/24

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M.A. 2nd Semester Examination

**Master of Library and Information
Science**

PAPER : MLI-209

(Studies of Academic Metrics)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks.

*Candidates are required to give their answers
in their own words as far as practicable.*

GROUP—A

Answer *any two* of the following questions : 10×2=20

1. (a) Distinguish between Bibliometrics, Scientometrics and Informetrics.
- (b) Explain De Solla Price' model of 'growth of literature'.
- (c) Explain Lotka's law of author productivity. 3+4+3=10

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(2)

2. (a) Define immediacy index and normalized impact factor.
(b) Explain Bradford's law of scattering of articles over the journals.
(c) Explain Benford's law of distribution of numerical digits. $3+4+3=10$
3. (a) Discuss Sengupta's correction to Bradford's law.
(b) What is SJR ranking of journals?
(c) Explain the concept of obsolescence. $5+2+3=10$
4. The citation distribution of ranked articles contributed by an author is presented in the table below :

S. No.	Articles	Number of Citations Received
1	Article_1	80
2	Article_2	51
3	Article_3	41
4	Article_4	35
5	Article_5	30
6	Article_6	26
7	Article_7	21
8	Article_8	21
9	Article_9	19

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6. What is Altmetrics? Mention different components used to calculate 'Altmetric Attention Score'. $2+3=5$
7. What are the demerits of *h*-Index? Define *W*-Index. $2\frac{1}{2}+2\frac{1}{2}=5$
8. What is normalized *h*-Index? Define Matthew effect in science. $2\frac{1}{2}+2\frac{1}{2}=5$
9. Write short notes on (a) Vosviewer and (b) Biblioshiny. $2\frac{1}{2}+2\frac{1}{2}=5$
10. For a subject 'S', the relationship between the number of contributing authors and the number of contributed articles may be presented as follows :
- 1 author contributed 82 articles
 - 2 authors contributed 48 articles each
 - 3 authors contributed 22 articles each
 - 6 authors contributed 12 articles each
 - 18 authors contributed 10 articles each
 - 28 authors contributed 3 articles each
 - 50 authors contributed 2 articles each
 - 85 authors contributed 1 article each
- Find out Lotka's equation for this authorship distribution.

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S. No.	Articles	Number of Citations Received
35	Article_35	2
36	Article_36	2
37	Article_37	1
38	Article_38	1
39	Article_39	1
40	Article_40	0
41	Article_41	0
42	Article_42	0
43	Article_43	0
44	Article_44	0
45	Article_45	0

Calculate the following indicators from this table :

(a) *h*-Index; (b) *i*-10 Index; (c) *g*-Index; (d) *e*-Index; (e) *R*-Index; (f) *a*-Index; (g) Number of Tail Citation; (h) Number of *h*-excess citation; (i) Cited-Uncited Ratio; (j) *h*-excess-*h*-tail Ratio.

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GROUP—B

Answer *any four* of the following questions : $5 \times 4 = 20$

5. Explain power model, exponential model and Gompertz model of growth of literature of a subject.

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S. No.	Articles	Number of Citations Received
10	Article_10	17
11	Article_11	17
12	Article_12	16
13	Article_13	15
14	Article_14	14
15	Article_15	14
16	Article_16	13
17	Article_17	13
18	Article_18	12
19	Article_19	12
20	Article_20	11
21	Article_21	11
22	Article_22	11
23	Article_23	10
24	Article_24	10
25	Article_25	9
26	Article_26	8
27	Article_27	7
28	Article_28	6
29	Article_29	5
30	Article_30	4
31	Article_31	4
32	Article_32	3
33	Article_33	3
34	Article_34	3

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