

# Topical Coverage Analysis of Library and Information Science Discipline's Learning Objects of ePG Pathshala with UGC-NET Syllabus A Study for Future Sustainability with Emerging Topics

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## Abstract

*Online learning resources are an advantageous option for supporting teaching and learning in the present environment. Different types of learning objects are available on different topics in many subject learning object repositories. This study evaluates and presents a comprehensive and evaluative mapping of the coverage analysis of learning objects (LO) in Library and Information Science (LIS) discipline available in the national learning object repository e-PG Pathshala (ePGp) with the latest syllabus of University Grants Commission (UGC)- National Eligibility Test (NET). This evaluation will provide the stakeholders using these learning object repositories with an overview of the subject coverage analysis to help in LIS teaching and learning. It also identifies gaps in the subject coverage of the learning objects which need to be addressed by content producers for future sustainability and relevance in LIS education.*

**Keywords:** E-Learning, E-PG Pathshala, Indian Higher Education, Learning Object (LO), Learning Object Repository (LOR), Open Educational Resources (OER), UGC-NET Syllabus, University Grant Commission (UGC)

## 1. Introduction

Hindu and Buddhists learning centres are evidence of the richness of education culture in India. The journey of education from gurukul education system to classroom system was very popular among disciples of traditional schools in the last few years enhancement in Information and Communication Technologies (ICT) has changed the style and shape of learning in education systems with the development of web based, e-learning or virtual learning comprising of open/close educational learning objects (which can have different formats).

Global education has been radically influenced with these web-based learning platforms providing learning resources to their learners anytime, anywhere, anyplace and on any device. India has taken some major initiatives in this direction like NPTEL, SWYAM, e-PG Pathshala, Eklavya, Vidya-mitra, eGyankosh etc. which are the major learning object repositories (LORs) where online educational resources are available in many disciplines.

### 1.1 About ePGp

ePG Pathshala a project of MHRD, under its National Mission on Education through ICT get funds for development of e-content in 77 disciplines, LIS is one of them, there are 15 papers with 215 modules which is further divided in four quadrants and aims to cover all aspects of LIS discipline traditional,

modern and technological and states to add value in LIS education. This course is designed for PG level students and referred by students from different universities.

The structure of content in ePGp is 1 subject should have 16 paper max (or less) each paper should contain 40 module (can be less) 1 module is the combination of 4 quadrant/type of LO (ET eText+ Self learn (Video content)+SA (Self-Assessment)+ LM (Learn More) which contain, 1 subject (should have 16 papers), 1 Paper (should have 40 modules), so there should be 640 modules in each (16 papers\*40 modules=640) (ePGp, 2019).

### 1.2. Background of LIS education In India

W.A. Borden was the man behind the initiating of LIS education in India by starting the first formal Library training course in 1911 at Baroda state (Jayanna, 2009). The pioneering course which started as a training program has expanded and evolved over the years into research and development activities offered by different universities in India with programmes ranging from certificate courses to PhD programmes. To maintain a uniform standard of curriculum, pattern, quality of teaching, and evaluation in LIS education, the UGC has given emphasis on curriculum design and time to time form committees for proper recommendation and guidance. Following are the committees which were formed from 1959 to 2001 to enhance LIS education. (Jayanna, 2009)

- ❖ U.G.V\C Review Committee Report on Library Science in Indian Universities, 1965.(Chairman: S.R.Ranganathan)
- ❖ U.G.C. Curriculum Development Committee in Library and Information Science, 1993.(Chairman: P.N. Kaula)

- ❖ U.G.C. Model Curriculum: Library and Information Science, 2001. (Chairman: C.R. Karisiddappa)

The last revision on LIS curriculum at national level was made by the Karisiddappa Committee (on Curriculum Development in Library and Information Science) in 2001 (Wallace, 2002).

Each of these Committees have made recommendations on curriculum suitable to LIS education of their times. However, there are tremendous changes in the subject after 2001.

### 1.3. About UGC-NET

The University Grants Commission of India (UGC India) is a statutory body set up by the Indian Union government in accordance to the UGC Act 1956 under Ministry of Human Resource Development for improvement of standards of higher education, teaching and research. (www.ugc.ac.in) The test for Junior Research Fellowship was started in 1984. To conduct the eligibility test for lectureship, UGC started National Eligibility Test from December 1989 combining JRF and eligibility for lectureship (<https://www.ugc.ac.in/net/aboutnet.aspx>) The tests, at present, are conducted twice a year normally in June and December (Raju, 2017).

UGC has been conducting the NET in library and information science (LIS) since 1987" (Raju, 2017). In LIS discipline the NET qualified student can use this certificate for two purposes. One is to determine the eligibility for the award of the Junior Research Fellowships (JRF) and secondly, to determine the eligibility of candidates for the positions of assistant professors and/or assistant/college librarians at the universities and colleges in India.

After a long break, in 2019 UGC-NET updated the syllabus for LIS discipline. This new LIS UGC-NET syllabus has introduced new emerging topics from the LIS field. A LIS aspirant preparing for this national level examination has many educational resources available in different formats on various platforms like ePGp, CEC, SwyamPrabha, e-gyankosh, SWYAM etc. This study has analysed the operational aspects (Ochoa & Duval, 2009) of ePGp and evaluated the coverage and map the learning objects available in ePGp with UGC-LIS NET syllabus and also

## **2. Objectives**

This study aims to evaluate the completeness and coverage of learning objects present in the LIS discipline of ePGp. The syllabus of UGC-NET has been used for comparison as a benchmark as both programs are the initiatives of the Ministry of Human Resource Development (MHRD), Government of India. The main objectives for this study are:

- ❖ To find the total number of modules and Learning objects uploaded in each paper.
- ❖ To study the page length pattern of the eText (internal consistency in the textual LO) for comprehensiveness.
- ❖ To find the coverage of UGC-NET topics in ePGp.
- ❖ To identify the topics not covered by e-PGP

## **3. Methodology**

The data for this study is collected from the INFLIBNET and MHRD website (<https://epgp.inflibnet.ac.in/index.php>) in June 2019. LIS is classified under social science in ePGp. The data collected was tabulated and analysed using MS

Excel. Data about Subject, Paper, Expert and developed content (SL and ET) have been collected to examine the operational aspects of the ePGp like size of LO (size analysis) growth, development and current status of learning objects (LO) in LIS discipline and to find the coverage of LIS with UGC-NET LIS. To compare the UGC-NET LIS syllabus with ePGp LIS LOs, the units of UGC-NET LIS syllabus is divided into individual concepts/topics. All data has been collected in between 1-5<sup>th</sup> June, 2019

The study uses curriculum mapping for evaluation because “Curriculum mapping is useful in identifying the vertical and horizontal alignments of learning outcomes within a course and in the program as a whole respectively” (Jacobs, 2004; Uchiyama & Radin, 2009; Lam & Tsui, 2013).

## **4. Analysis and Interpretation**

### **4.1. Data about ePGp learning objects in LIS discipline**

There are very rich and useful learning resources available on ePGp (Thakur, Kumar & Pallavi, 2013). Table 1 shows there are 15 papers in LIS discipline with 396 modules containing 388 ET, 379 LM, 377 SL and 380 SA. Distribution of pages maximum and minimum pages is given in Table 1 (Table-1: Detail of available papers in LIS discipline of ePGp).

**Table 1: Detail of available papers in LIS discipline of ePGp**

Paper Name and Number	Module uploaded	et	LM	SL	SA	Max page	Min page
P-01. Knowledge society	17	16	16	17	16	53	6
P-02. Knowledge organization and processing: classification	26	26	26	26	26	32	11
P-03. Knowledge organization and processing: cataloguing	34	34	34	32	34	51	7
P-04. Information sources, systems and services	35	35	35	35	35	44	11
P-05. Information communication technology for libraries	39	35	38	37	38	31	10
P-06. Management of library and information centres & knowledge centres	31	31	31	31	31	30	9
P-07. Information storage and retrieval	15	15	11	15	14	18	8
P-08. Digital libraries	30	30	30	30	30	23	10
P-09. Social science information systems	15	15	13	13	15	42	8
P-10. Informetrics & scientometrics	19	19	19	19	19	23	10
P-11. Academic libraries	23	22	21	22	22	39	9
P-12. Special and research libraries	28	26	26	27	27	55	12
P-13. Public libraries	36	36	35	36	36	24	8
P-15. Library use and user studies	31	31	31	26	31	25	7
P-20. Media and information literacy	17	14	13	11	6	27	11
	396	388	379	377	380		
		1524					

#### 4.2. Size of LO of each paper in the development of LIS discipline in ePGp

The analysis of the contribution of each paper (their LO) is essential for the development of LOR of LIS in ePGp. Total no of LO (ET+SL+SA+LM), shows available no. of LOs in the modules of a paper. Table 2 (Table-2: Detail of paper with their LO) shows there are 10 papers out of 15 where contribution has been noted more than 5% and 1 paper where contribution is noted 2.89% which is the lowest.

**Table- 2: Detail of paper with their LOs**

Paper	Total no of LO (n)	n*100/1524% contri of LO
P-01. Knowledge society	65	4.27
P-02. Knowledge organization and processing: classification	104	6.82
P-03. Knowledge organization and processing: cataloguing	134	8.79
P-04. Information sources, systems and services	140	9.19

P-05. Information communication technology for libraries	148	9.71
P-06. Management of library and information centres & knowledge centres	124	8.14
P-07. Information storage and retrieval	55	3.61
P-08. Digital libraries	120	7.87
P-09. Social science information systems	56	3.67
P-10. Informetrics & scientometrics	76	4.99
P-11. Academic libraries	87	5.71
P-12. Special and research libraries	106	6.96
P-13. Public libraries	143	9.38
P-15. Library use and user studies	119	7.81
P-20. Media and information literacy	44	2.89
	1524	100.00

The percentage contribution of LO in a paper is analysed by:

$$\% \text{ of contribution of LO in a paper} = \frac{n}{1524} * 100$$

1524 (Sum of ET & SL of 15 Papers)

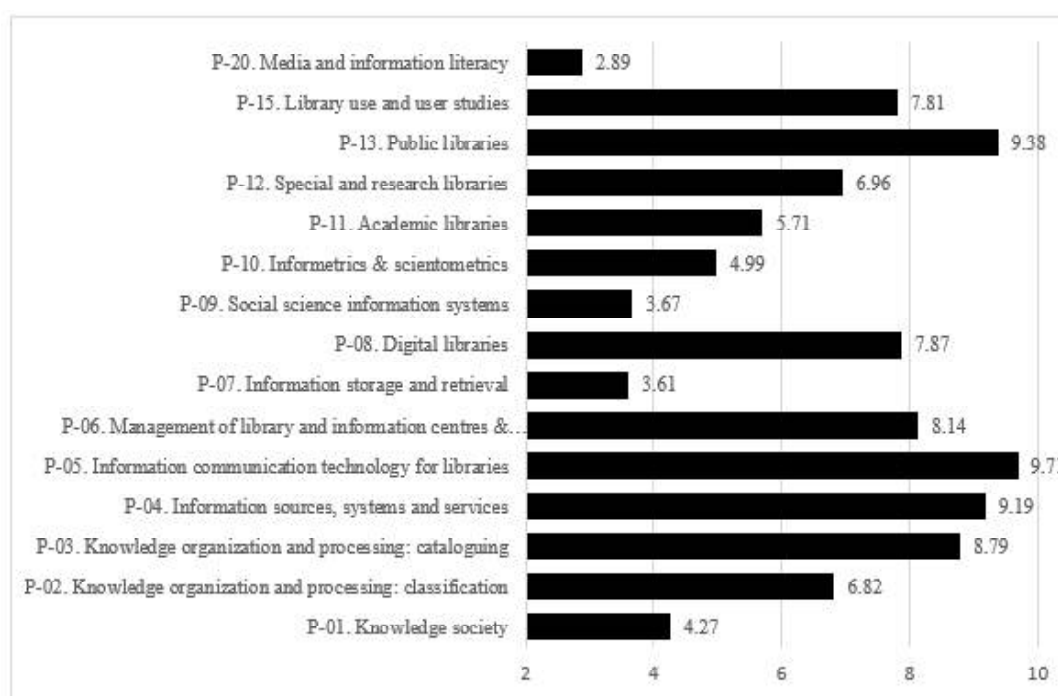


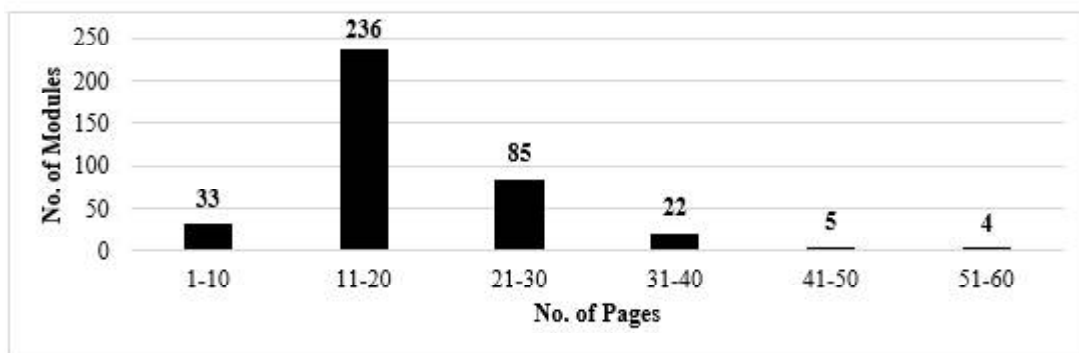
Figure 1: % contribution of each paper

### 4.3. Comprehensiveness and frequency of pages in modules

Table 3 shows frequency of pages (internal consistency in the textual LO) in 396 modules of 15 papers. Help to find no. of very small and very big modules. Where very small may add content in future to become more descriptive and the big modules can review the amount of information in e-text so that learners will not lose their concentration. The results indicate that 59% of modules have content in between 11-20 pages and 8% of modules where amount of information is given in 1-10 pages. See table 3 (Table-3: Frequency of pages in modules).

**Table 3: Frequency of pages in modules**

No. of Pages	Frequency of pages in modules
1-10	33
11-20	236
21-30	85
31-40	22
41-50	5
51-60	4



**Figure 2: Length of e-Text in modules**

### 4.4. Data about LIS UGC-NET syllabus

Table no. 4 shows the units of LIS UGC-NET syllabus there are 10 units, these units are further divided in 10 major topics and subtopics. To get an accurate analysis, the researcher has divided the topics and subtopics of UGC-NET LIS syllabus into individual concepts (Raju, 2017).

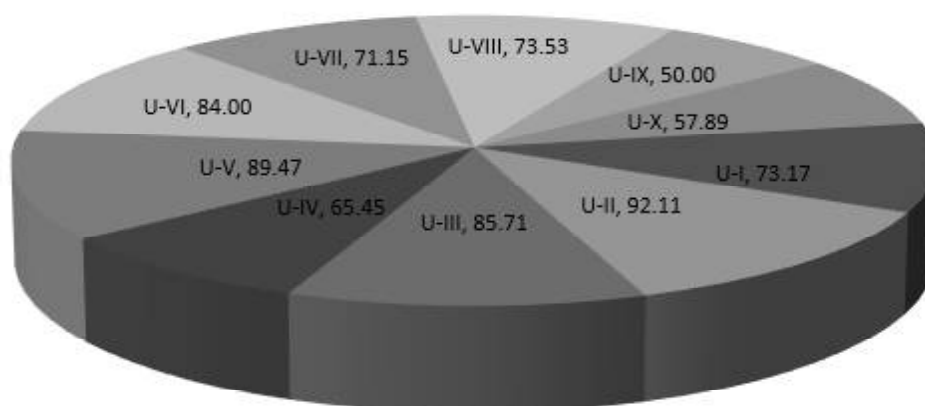
### 4.5. Coverage analysis of ePGp LO with LIS UGC-NET syllabus

Table 4 (Table-4: UGC-NET LIS concepts covered in ePGp) shows the coverage of LOs of ePGp with the UGC-NET syllabus. It reveals that 74.84% topics (in form of individual concepts) from the syllabus are being covered by ePGp modules. The percentage coverage of the topics in different units varies from each other.

Figure 3 given below represents the percentage of available UGC-NET syllabus topics in ePGp. The study shows that the coverage of ePGp is quite good for PG level and NET aspirants as it covers more than 70% of topics from 7 units of syllabus. Coverage of topics from Unit-IX Research Methods is very less with only 50%.

**Table 4: UGC-NET LIS concepts covered in ePGp**

Units	Units name	Individual concepts found	No. of concept covered in ePGp	Availability %
U-I	Information, Communication and Society	41	30	73.17
U-II	Laws of Library Science, Resource Sharing and Networking and Library Associations	38	35	92.10
U-III	Reference Sources	42	36	85.71
U-IV	Reference and Information Services	55	36	65.45
U-V	Library Classification, Cataloguing, Indexing and Information Retrieval	38	34	89.47
U-VI	Management of Library and Information Centres	50	42	84
U-VII	Information Technology	52	37	71.15
U-VIII	Library Automation and Networking	68	50	73.52
U-IX	Research Methods	38	19	50
U-X	Types of Libraries and Digital Library	19	11	57.89
	Total	441	330	74.82

**Figure-3 availability % of ugc-net syllabus topics in epgp**

## 5. Suggestions

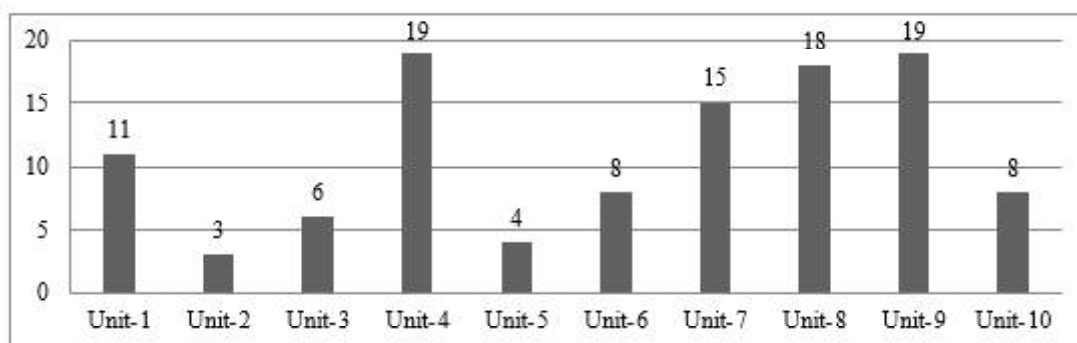
These are some topic/individual concepts from the syllabus which was not found in ePGp after mapping. Unit 4, 8 and 9 have maximum no. of not found concepts (19, 18, 19) where experts can work and come up with good learning resources. Some of the topics in unit 4, 7 and 8 have new and trendy topics which might become part of MLIS syllabus in different universities in future if content will be created on them that might

be used by the universities also. The table 5 (Table-5: Topics with their unit of UGC-NET LIS Syllabus not available in ePGp LIS discipline) and graph may

help the experts and policy makers, where they need, to update and add the new learning objects.

**Table 5: Topics with their unit of UGC-NET LIS Syllabus not available in ePGp LIS discipline**  
**Annexure-5**

Units	Name of topics/concepts in the syllabus (not available in ePGp)	Not found in ePGp
Unit-1	Information Life Cycle - Generation, Collection, Storage and Dissemination, Role of Information in Planning, Management, Socio-economic, Cultural, Educational and Technological Development, Trends in Scholarly Communication.	11
Unit-2	IATLIS, SLA; Role of UGC,	3
Unit-3	Statistical sources, Electronic Information Resources - Subject Gateways, Web Portals, Bulletin Boards, Discussion Forums /Groups, Multimedia	6
Unit-4	Mobile based Library Services and Tools – Mobile OPAC, Mobile Databases, Mobile Library Website, Library Apps, Mobile Library Instructions, Augmented Reality, SMS Alerts, Geo-Location, Reference Enquiry, Collaborative Services-Social Networks, Academics Social Networks, Social Tagging, Social Bookmarking, Web – Scale Discovery Services, SENDOC, NICNET, ERNET, National Knowledge Network (NKN), Biotechnology Information System Network	19
Unit-5	Folksonomy, Trends in Classification, Bibframe, Z39.71	4
Unit-6	Hazards and Control Measures of Library Materials, Staff Manual, PEST, Green Library Building; Information Commons, Crisis Management	8
Unit-7	Character Representation (ASCII, ISCII, Unicode), Scripting; Web Languages, PSDN, Standards and Protocols, Entity Search engines, Hypertext, Hypermedia, Multimedia, Video conferencing, Virtual Reality, Augmented Technologies, Cryptographic Techniques, Intrusion Detection System	15
Unit-8	QR Code, Biometric, DOAR, SHARPA-ROMIO, Content Management Systems – Architecture, Data Integration, CMS Software –Selection, Implementation and Evaluation, Application of Artificial Intelligence, Expert Systems and Robotics in Libraries; Social Mobile Analytics Cloud (SMAC), Big Data	18
Unit-9	Research - Scope and Ethics; Types of Research – Basic and Applied, Interdisciplinary and Multidisciplinary; Research Methods- Descriptive, Delphi; Methods of Data Collection-Interview, Scales and Checklist.	19
Unit-10	Public Library and Information System, Archive, Museums and Oriental Libraries, Community Information System.	8



**Figure :4 No. of topics of UGC-NET syllabus not found in ePGp LIS discipline**



## 6. Conclusion

The study shows that the coverage of LIS topics for UGC-NET syllabus is very satisfactory 74% topics have been covered by ePGP portal in LIS discipline. This paper also investigates the topics which have not been covered by the portal. There are 111 topics which need to be developed according to the new UGC-NET LIS syllabus. Some of these topics are very trendy and may be added in MLIS syllabus very soon by different universities. The study compares all the units of UGC-NET LIS syllabus ePGP LIS modules the result shows unit no.4, 8 and 9 have maximum no. of topics which are not found in the LOR ePGP which is designed for the PG level student in LIS discipline. From this study experts can easily find the topics which is not available in ePGP as module and send the proposal to authorizing body or the vice versa for creating or updating in new modules which will provide the completeness to the discipline with recent trends in it.

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