UNIT 7  OPEN EDUCATIONAL RESOURCES

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7.1 INTRODUCTION

Learning resources play a pivotal role in the teaching –learning process as they help teachers organise an effective classroom environment and students to actively participate in learning. Learning is more live and effective in classrooms supported by learning resources. Apart from the traditional audio visual teaching aids, development in information and communication technology (ICT) has provided various innovative teaching-learning resources, which teachers need to use them in their teaching-learning activities. Open Educational Resources (OERs) are such resources, which are readily available in the internet. Teachers are free to use such resources. They need to select, adapt and integrate those OERs in teaching –learning process. This unit discusses the concept and nature of OERs, types of licences associated with OERs and various OER repositories. In the end, we will discuss various initiatives taken by both state and central agencies in utilizing and maintaining OER repositories.

7.2 OBJECTIVES

After reading this unit, you will be able to:

• describe the meaning of open educational resources(OERs);
• explain uses of OERs;
• create OERs suitable for teaching-learning process;
• identify and share OERs online for public use;
• describe the limitations of OERs;
• explain different creative commons licences;
• locate creative commons license in OERs;
• describe OERs repositories;

7.3 OPEN EDUCATIONAL RESOURCES

In the information age, data (contents) is available in different forms; it can be in printed form, electronic form, or Internet (online) form, etc. The contents in the printed form at the school level are available in various school textbooks. The teacher uses these textbooks for teaching while students use them for learning. Textbook contents can be used by anyone without taking the permission of the author. But if anyone uses the contents of the textbook (say for preparing a similar text with a few alterations or reprinting the text in one’s own name, etc) without permission, then it is considered as the violation of copyright. So, whoever wants to reuse contents of others (text, message, image, video, etc.), then he/she needs to take their permission as they have created these contents. But the biggest challenge for teachers and students is to identify the appropriate contents and utilize them.

7.2.1 Meaning of OER

Before explaining the concept of OER, let us understand how OERs came into existence. Earlier teachers were using audio-visual aids in the teaching-learning process. Even today audio-visuals are extensively used by teachers in classroom teaching. But later on, audio-visual aids were treated as ‘learning objects’. Thereafter, the concept of ‘reusable learning objects (RLO)’ came into effect. RLO refers to the reusable educational resources. For example, if a teacher of history develops a presentation (e.g. PPT) on a particular topic, the same can be made available on the Internet (online) and can be used by other history teachers. Thus, RLO denotes teaching-learning resources that can be adapted and reused. But while using RLOs, you need to consider the legal aspect as RLOs are copyrighted. Thus, if you want to use any RLO, you need to take the permission from the author.

With the widespread use of digital technologies, many educational resources (learning objects) are available on the Internet/online (public domain) and can be accessed via digital devices like computer, iPod, etc. These educational resources that are available in the public domain are called Open Educational Resources (OERs). The key difference between RLOs and OERs is that OERs are attached with legal copyright label or open license that gives information on the rights of an individual to reuse them. Thus, OERs can be adapted and reused depending on kinds of rights attached to it. Let us go through some definitions which are given below;

• “Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use,
adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation” (UNESCO.)

- “Open Educational Resources (OER) describes any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for the use in teaching and learning) that are openly available for use by educators and students, without an accompanying need to pay royalties or license fees” (COL.).

- “Open Educational Resources (OER) are teaching and learning materials that are freely available online for anyone to use, whether you are an instructor, student of self-learner. OER can exist as smaller, stand-alone resources that can be mixed and combined to form larger pieces of content, or as larger course modules or full courses” (Open Commons.).

The above definitions explain that OERs are any form of teaching-learning materials that are available in the public domain with open license. Generally, OERs refer to online materials that can be adapted, reused, shared and even used for commercial purpose. Thus, OERs are reusable teaching-learning materials. OERs can be as short as small text, audio, video, image files, etc. as well as big files like textbooks or whole courses. The OERs that are arranged in logical and sequential manner to accomplish particular objectives are called “learning objects”. Similarly, OERs developed as a whole course are called as Massive Open Online Course (MOOC).

Examples of OERs

Let us discuss a few examples of OERs. The National Repository of Open Educational Resources (NROER) of NCERT is an OER repository containing digital textbooks and audio video files for various classes. The educational resources available in the NROER repositories can be used by the public without taking the permission from NCERT. Similarly, there are many such repositories like MERLOT, OER commons, etc.

![Fig. 7.1: Homepage of NROER](http://nroer.gov.in/welcome)

Apart from OER repositories, educational resources are also available in the Internet/online and such resources are identified using the open license attached to it. To identify OERs in the Internet, you have to check for the license attached to it. Generally, the open license of creative commons is attached to OERs. For example, the report ‘The United Nations World Water Development Report 2014’
Open Educational Resources available at http://unesdoc.unesco.org/images/0022/002257/225741E.pdf (accessed on 08/12/17), is an OER as it is attached with CC-BY-SA license as shown in figure given below.

Check Your Progress

Notes: a) Write your answers in the space provided.

   b) Compare your answers with the one given at the end of the unit.

1. What do you mean by Open Educational Resources (OERs)? Give some Examples
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7.2.2 Use and Identification of OERs

Technology provides teachers and students the scope to use different open educational resources that are readily available in the Internet/online. OERs can be used by teachers for teaching while students use them as supplementary materials for learning to enhance their subject knowledge. But the important concern is how to find out and select OERs suitable for teaching and learning. As we have discussed, there are many OERs in the Internet in the forms of texts, videos, games, simulations, and other digitised formats. So, one should be careful while identifying suitable OERs. So, let us discuss the availability of these OERs and their adaptation and integration in the teaching-learning process.

As mentioned in the earlier paragraph, OERs are available in the Internet/online. This means, OERs are generally available in any website. So, one can use any search engine (like google, Bing, yahoo, etc) to locate OERs. Since the world wide web (WWW) contains enormous educational resources and other materials, it is, sometimes, very difficult to locate them. Therefore, to locate OERs available online, one can use specialised search engines. Specialised search engines locate the resources/materials more accurately i.e. if you use specialised search engines for OERs, they will filter the materials available and will provide only the OERs. Some of the specialised search engines are given below:

- Creative Commons (https://creativecommons.org/)
• Directory of Open Educational Resources (http://doer.col.org/)
• OER Commons Open Educational Resources (https://www.oercommons.org/)
• Folksemantic (http://folksemantic.com/)
• DiscoverEd (https://wiki.creativecommons.org/wiki/DiscoverEd)

Apart from the specialised search engines, there are other search engines that are helpful in searching and locating OERs. Some of these search engines are given below:

• Open Education Consortium(http://www.oedconsortium.org/)
• Computer Science Open Educational Resources (http://iiscs.wssu.edu/drupal/csoer)
• temoa (http://temoa.info/)

The other way to identify OERs is using Google. But while using Google, you may make changes in the settings by clicking ‘Advanced Search’. Then after, you may choose one among the options provided under ‘usage rights’. Then save the changes and do google search for any OERs. The steps to be followed in searching OER materials via Google is given below:

Step 1

Step 3

Step 4

Step 4

The other commonly used method to identify OER is searching OER repositories. OER repositories are websites where digital materials are stored. The digital materials include e-texts, audio and video files, multimedia files, etc. Thus, OER repositories are web spaces where educational resources of varied nature are stored. In the Internet, there are many such OER repositories where educational resources are stored. Some of the OER repositories are NROER, MERLOT, Sakshat, Wikipedia, Teacher Tube, You Tube, etc. The description of some of these OER repositories are given in section 7.4.
We have discussed the search strategies for identification of OERs. Let us discuss how to utilize OERs in teaching-learning process. The three common ways of utilizing OERs in teaching-learning process are mixing, adaption and asset extraction (COL, 2015). Mixing means combining different OERs and adding additional content to produce entirely a new content that suits local context. For example, you can develop a new video for students of class ten by mixing two videos available at teacher tube (OER repository) and adding a video produced by yourself to it. Adaption occurs when one OER is used and multiple adaptations are developed to suit multiple contexts. For example, you can select an OER and translate the same into different languages for use. In asset extraction, only selected assets/parts of an educational resources/material are extracted (taken) and used in a completely different context. For example, a single image from an OER in PDF format is used for teaching in ninth standard.

Having discussed the common ways of using OERs, let us understand how OER is used with an example. Suppose you are teaching the concept of energy to students of eighth class. They find it difficult to understand. In such a situation, you may think that a video on the concept of energy will make your children understand better. But you have not developed such a video. Therefore, you can search OER repositories for videos on the concept of energy. You may download a video available at YouTube or Teacher Tube for use. But make sure that the videos that you download are OERs and are attached with open licence. Acknowledge/give credit to the owner of the videos depending on the licence attached to it. In this way you can utilize the available open educational resources in the teaching-learning process.

Check Your Progress

Notes: a) Write your answers in the space provided.
    b) Compare your answers with the one given at the end of the unit.

2) How will you locate OERs available online?

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3) Discuss the different ways of utilizing OERs in teaching–learning process?

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7.2.3 Creation of OER

Being teachers, we develop a number of lesson plans, teaching-learning aids and use them for teaching-learning purpose. But with the emergence of the concept of OERs and knowledge sharing, teachers have the option of sharing their teaching learning resources with the public. Thus, the public has the advantage of using teaching learning resources produced by someone else and somewhere. Thus, sharing resources helps others make use of your teaching learning resources. But there is a word of caution. While sharing resources, the owner has the right to decide upon the ways his/her teaching learning resources are to be used by the public. Here the role of the license comes into picture. While sharing the teaching learning resources, the owner attaches a license to it. The most popular and commonly used license is the creative commons license (discussed in section 7.3). So whenever you develop a material and attach an open license to it, then that material becomes OER and the public can use and distribute that material as well as remix and develop new material out of it as per the license attached to it.

How can you convert your teaching-learning resources as OERs? To do so, you may first develop the teaching learning resources; could be text, audio, video, presentations, images, etc. After developing the material, you may attach an open license to it. Depending upon the nature of open license attached to your teaching learning resource, the public may distribute, remix, share, develop new material using your material or may use it for commercial purpose. The public has to necessarily give credit to or acknowledge your work.

Let us see how open licenses are attached to the educational resources/materials that you develop. As discussed earlier, first develop your teaching learning material and thereafter select an open license. To select an open license, decide upon the right that you plan to give to the public. For example, whether you permit them to simply share your work, remix, make derivatives or use it for commercial purpose. Depending upon the right that you assign, the public can use your teaching learning material. The six creative commons license types are given in Fig 7.2. You may use any of these licenses for the material that you develop.

Also, you make use of the creative commons website to decide upon the license you want to assign. For this visit creative commons website. While visiting creative commons website, the homepage appears (Fig. 7.3). Thereafter, click on the ‘share your work’ link. After clicking on the link, you may choose the option for two questions ‘allow adaptations of your work to be shared’ or ‘allow commercial uses of your work’. Depending upon the options that you provide, the website automatically selects the type of license that you may use.
Fig. 7.3: Homepage of Creative Commons

Check Your Progress

Notes:  
a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

4) How are OERs developed? Discuss

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5) Discuss the ways of using creative commons website to decide upon the open licences needed to attach with OERs?

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7.2.4 Sharing of OERs

We have discussed the ways of developing OERs. Let us discuss how one can share them for general use. The possible ways of sharing OERs are: i) post the OER in your own website, ii) post the OER in institutional website, iii) post it in OER repositories, iv) Create OER online, and v) use social networks for sharing OER. Let us discuss these in brief.

i) **Own Website:** After developing OERs, the owner can share them through his/her own websites. Individuals create websites of their own. These websites are used for various purposes including educational use. Such websites can be used to host the OERs and the same can be accessed by the public.

ii) **Institutional Website:** Educational institutions have their own websites. These websites can also be utilized for sharing the OERs. For example, IGNOU hosts its self-instructional materials and audio/video programmes through its institutional website. Similarly, NCERT also shares various educational resources in its website.

iii) **OER Repositories:** There are many paid and free open source OER repositories. These repositories are sources for hosting the OERs. To submit OERs in such repositories, one has to register in those repositories. Thereafter submit the OERs which will be reviewed and evaluated for quality criteria prescribed by the repositories. Those OERs which meet those criteria will be available in their database and can be accessed by anyone. Various OER repositories are discussed in the section 7.4.

iv) **Build Online:** There are websites which allow online development of OERs. It is possible to create educational resources in an online environment i.e. the content available at websites can be edited, added and modified online. For example, the websites like connexion (http://cnx.org), wikieducator (http://wikieducator.org), Wikipedia (http://wikipedia.org), etc. allows online adding and editing of contents. As you add content, the websites themselves attach open licenses as per their copyright policy.

v) **Social Networks:** Social networks can also be used a medium to share OERs. Today social networking sites are extensively used for communication and have gained wide popularity. Thus, OERs shared through social networks can reach large population. There are some common social networks used for sharing OERs. For example, flicker (www.flickr.com) is used to share images and YouTube (www.youtube.com) for sharing videos having creative commons license attached to it. Similarly, twitter, and Facebook can also be used to provide information about OERs online.
Check Your Progress

Notes: a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

6) What are possible ways of sharing OERs? Give some examples of OER repositories that are used for sharing OERs

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7.2.5 Advantages and Limitations of OERs

The uses of OERs have considerably increased owing to its several advantages.

i) The cost of obtaining educational resources has reduced as educational resources are available anytime anywhere online.

ii) OERs provide quality materials as there is involvement of eminent experts and sharing of educational resources among the users located in any part of the world.

iii) Learners of any age group get access to excellent study materials

iv) OERs promote independent and collaborating learning.

v) Teachers can also share their teaching resources across the world as OERs and thus help to enhance the quality of teaching by comparing their resources with other teachers.

vi) Teachers can publish their work(educational resources) with an open licence for the use of public.

Although OERs have several advantages, their limitations act as obstacles in the acceptability of OERs in the field of education.

i) The first limitation is the policy pertaining to OER use. It is difficult on the part of the stakeholders of education to use and adapt OERs available online in the absence of a well-defined policy on OER.

ii) Second, the copyright issues also hinder the use of OERs. Even though OERs have an open licence, the restrictions imposed on them make them difficult for many users in identifying and adapting as per their contextual requirement. This brings out the issues of identification and contextualisation. Online provides numerous OER materials but to identify context specific OERs using specialised search engines are time consuming and difficult. Even if the OER is identified, adapting it with context specific examples is difficult.

iii) The third limitation is associated with quality concerns and validity of OERs. Today, it is possible for anyone to develop educational resource and upload the same as OER. But those who create OERs may find problem in
identifying reliable OER repositories or websites that assure the copyright concerns.

iv) The fourth limitation is regarding the willingness of experts in posting educational resources online. They may be willing to share the resources among the colleagues but not to the public. This may be due to their fear of losing credit of their work or for some other reasons.

v) The fifth limitation is concerned with the quality of OERs. No one can assure that the OERs available online are valid and reliable as there is no such well-defined policy checking the quality of OERs. So many OERs may not be relevant and authentic. There are issues of language and cultural barriers of OERs. OERs might have been developed by their creators keeping in view of their own culture and language, but they may not be suitable for public at large and may be difficult to contextualise as per the local requirement.

vi) The last limitation is concerned with technical issues associated with OERs. It is fact that teachers and learners are technologically literate but they may not possess computer and Internet facilities. For them, searching and identifying OERs may be a difficult task.

Check Your Progress

Notes:  

a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

7) List some advantages and disadvantages (limitations) of OERs

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7.3 CREATIVE COMMONS LICENSE

As you know, when you create a lesson plan and upload the same on the Internet, automatically you are the copyright holder of that particular lesson plan. Unless and until you allow, the public cannot use your lesson plan. Also no one is supposed to reuse, adapt (modify) or share it. In this case, your lesson plan is not an OER. But OERs are legally free and the right to use OERs is expressed through a license called the open license. This right implies OERs can be accessed, used, adapted, shared, redistributed by anyone with a few restrictions. In other words, the owner or the copyright holder of the OERs grants others permission to use, adapt, modify, share and distribute his/her educational resources but with a few restrictions. For example, a lesson plan of yours can be made an OER and posted on the Internet with an open license attached to it. Similarly, whatever teaching materials you prepare, such as audio, video, diagrams, presentations, diagrams, images, and pdf texts, can be made OERs with an open license attached to them.
As there are plenty of OERs available in the Internet, the methods of identifying such OERs need to be understood. We will discuss the same in the coming sections.

Thus, OERs always attach some kind of licenses commonly called the open licenses. What are those licenses? The commonly used and most popular licenses in use are Creative Commons (CC) licenses. Creative Commons Licenses are internationally recognised, standardised and well established. CC licenses are easy to understand. CC licenses allow others legally to use work, edit, and remix (You may be aware of the remix of songs by singers.). In remixing, different songs are mixed to produce a new tune or a new version of the song. In the similar way, various educational resources can be clubbed and new materials can be produced, adapted and redistributed without taking the permission of the copyright holder. Once the educational resources (text, audio, video, images, presentations, etc.) are developed, the owner attaches the CC licenses to it so that anyone can use and reuse, depending on the license attached, without taking the permission of the owner. But while you reuse other’s content/educational resources, you need to give credit to the copyright owner. If you fail to give credit to or acknowledge the author/owner, then it is considered as plagiarism.

Now let us discuss the various CC licenses. There are six CC licenses and these licenses describe the rights that others can use while reusing educational resources that are located in the public domain. The licenses describe the restrictions and permission attached to educational resources and these licenses are represented using the symbols given below:

The first symbol is “Attribution” (BY). BY represents that, if you use other’s work/content/material, you need to give credit to/ acknowledge the owner. Thus, if you are using other’s/educational resource/material, definitely you need to use this symbol.

The second symbol is “Share-Alike” (SA). SA represents that you let others distribute, display, perform and modify your work, as long as they distribute the work and modify work on the same terms. This means that, when others use your material (as it is or modified form), they need to attribute the work to you and they must also attach the same license as you have attached for your material. If they want to distribute modified works under other terms, they must get your permission first.

The third symbol is “No Derivatives” (ND). ND represents you let others copy, distribute, display ad perform only original copies of your work. This means that, others cannot modify (cannot make derivatives) your material and have to use your material as it is. If they want to modify your work, they must get your permission first.

The fourth symbol is “Non Commercial” (NC). NC represents you let others copy, distribute, display and perform and (unless you have chosen NO Derivatives) modify and use your work for any purpose other than commercially, unless they get your permission first. This means, others cannot use your material for commercial purpose i.e. your material cannot be sold and make profit out of it.
You will see these symbols or combination of these symbols in OERs. Depending on the license attached to OERs, the public can reuse it. The six CC licenses and the meaning of each of these licenses are described below:

1) **Attribution (CC BY)**

This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they give credit to you for the original creation. This is the most used form of licenses. It is recommended for maximum dissemination and use. (https://creativecommons.org/licenses/). In the educational context, suppose you use the lesson plan prepared by someone else having CC BY license, then you can use it for your teaching purpose, but you need to acknowledge/give credit to the owner of the lesson plan.

2) **Attribution-ShareAlike (CC BY-SA)**

This license lets others remix, tweak, and build upon your work even for commercial purposes, as long as they give credit to you and license their new creations under the identical terms. This license is often compared to “copyleft” free and open source software licenses. This is the license used by Wikipedia, and is recommended for materials that would benefit from incorporating content from Wikipedia and similarly licensed projects(https://creativecommons.org/licenses/). In the educational context, you may use lesson plan of others and you are free to modify it. But after modifying you need to give the same license.

3) **Attribution-NoDerivatives (CC BY-ND)**

This license allows for redistribution, commercial and non-commercial, as long as it is passed along unchanged and in whole, with credit given to you(https://creativecommons.org/licenses/). This license is opposite of the Attribution Only license which means, you have to give credit to other’s works but are not allowed to make any changes in the content. But you can use other’s content for any commercial, non-commercial, educational purposes, or whatever purposes you look for by giving due credit to the original owner. In the educational context, you can use a OER video available online but cannot remix (edit) to produce a new video.

4) **Attribution-Noncommercial (CC BY-NC)**

This license lets others remix, tweak, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don’t have to license their derivative works on the same terms(https://creativecommons.org/licenses/). You can use other’s material but not for any commercial purpose. In the educational context, you can use an ‘OER image’ for teaching-learning purpose. Also, you can develop a new text with that image included but cannot sell and earn money in your name.
5) **Attribution-Noncommercial-Share Alike (CC BY-NC-SA)**

This license lets others remix, tweak, and build upon your work non-commercially, as long as they give credit to you and attach the license to their new creations under the identical terms (https://creativecommons.org/licenses/). In the educational context, you may use materials (text, audio, video, presentations, etc.) carrying CC BY-NC-SA license i.e. you are free to remix, adapt and build upon those materials. But the new material developed must carry the same license and have the facility to share. Also the new material should not be used for any commercial purpose.

6) **Attribution-Noncommercial-No Derivatives (CC BY-NC-ND)**

This license is the most restrictive of six main licenses, only allowing others to download your works and share them with others as long as they give credit to you, but they can’t change them in any way or use them commercially i.e. with this license all you’re able to do is: share the work. Of course, you must provide “appropriate credit”, but you cannot modify the work in any manner and distribute it even if the distribution is not for commercial gain. In the educational context, you may use a text available in the internet as it is providing due credit to the owner. You are not supposed to edit (remix or adapt to produce a new material) the text or use it for commercial purpose.

Apart from these six licenses, copyright of educational resources is neither reserved nor fully reserved. This means that, those educational resources with symbol ‘public domain’ attached to it can be used by anyone without taking any permission and credit need not be given to the owner. And those educational resources with symbol ‘All rights reserved” cannot be reused without taking the permission of the owner. Thus, the freedom (restriction) in reusing the OERs varies as shown in figure 7.3:

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**Source:** http://howlround.com/the-creative-commons-or-commonly-creative
Check Your Progress

Notes: a) Write your answers in the space provided.
   b) Compare your answers with the one given at the end of the unit.

8) What is open license? Why is it used with OERs?

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9) Briefly discuss the different creative commons open licence?

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10) Explain the meaning of the terms ‘public domain’ and ‘all rights reserved’ in the context of OERs

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7.4 OER REPOSITORIES

As we have discussed in earlier sections, OERs are developed and hosted online in your own website or OER repositories. So OER repositories are spaces where OERs are located. There are various OER repositories where you can post your OERs as well as educational resources/materials are made available for public use. OER repositories are developed and owned by both private/public and governmental agencies both at international and national levels. MERLOT, YouTube, Teacher Tube and Slide Share are some of the OER repositories available at the international level. Examples of some OER repositories are given in Box 1 and 2.
In India, a few autonomous bodies (central government organisations) and state government agencies have developed their own OER repositories. NROER has been developed by CIET, NCERT. National Programme on Technology Enabled Learning (NPTEL) has been developed by IITs, IISc and other premier institutions. Ministry of Human Resource Development(MHRD), Government of India has created Sakshat (NMEICT, Govt. of India), E-Gyankosh has been created by IGNOU. Other examples are Institutional website and Wiki based platform, OER of (NIOS), IT@School (Govt. of Kerala), Karnataka Open Educational Resources (KOER) (DSERT,Karnataka), Eklavya&OSCAR (IIT, Bombay), E-Grid (IIIT, Kerala), etc.

Now let us discuss some of the international and national level OER repositories in brief.

OER Repositories (Source: COL,2013)

In India, a few autonomous bodies (central government organisations) and state government agencies have developed their own OER repositories. NROER has been developed by CIET, NCERT. National Programme on Technology Enabled Learning (NPTEL) has been developed by IITs, IISc and other premier institutions. Ministry of Human Resource Development(MHRD), Government of India has created Sakshat (NMEICT, Govt. of India), E-Gyankosh has been created by IGNOU. Other examples are Institutional website and Wiki based platform, OER of (NIOS), IT@School (Govt. of Kerala), Karnataka Open Educational Resources (KOER) (DSERT,Karnataka), Eklavya&OSCAR (IIT, Bombay), E-Grid (IIIT, Kerala), etc.

Now let us discuss some of the international and national level OER repositories in brief.

OER Repositories (Source: COL,2013)
7.4.1 MERLOT

MERLOT (Multimedia Resources for Learning and Online Teaching) is a program of the California State University System partnering with education institutions, professional societies, and industry. Thus, MERLOT associate with various educational organisations, partnering institutions and other industries and all those stakeholders contribute educational resources to MERLOT and they are converted to OERs and made available in the website. The MERLOT project began in 1997 and is an online digital repository that houses different OERs useful for teaching learning of higher education. The MERLOT community staff, volunteers and members collects, peer review, organise and make available higher education learning resources belonging to various academic discipline in the MERLOT website www.merlot.org. Thus, MERLOT is a curated collection of free and open online teaching, learning, and faculty development services contributed and used by an international education community. You may access educational resources available at MERLOT by community (discipline) wise, ISBN number wise, etc. Also, educational organisations can associate with MERLOT by taking membership or by partnering and can provide educational resources.
7.4.2 YouTube

YouTube is an American video sharing website founded in 2005 and its headquarters is at California. Presently, Google owns YouTube. Today, YouTube is the most popular website where different videos like movies, TV show clips, music videos, short and documentary films, audio recordings, movie trailers, live streams, and other contents such as video blogging, short original videos, and educational videos, etc. are stored/archived and can be watched anytime. Generally, individuals register (those who create accounts) in YouTube and upload videos of different nature, while some companies/organisations also upload their videos in YouTube. Unregistered users are free to watch videos available at YouTube. Thus YouTube allows users to upload, view, rate, share, add to favourites, report, comment on videos, and subscribe to other users. Today, YouTube is available across the world in about fifty languages.

The videos available at YouTube are copyrighted and thus you must properly acknowledge/give credit to the creator while reusing it. There are two ways by which you can make your videos copyrighted while uploading in YouTube. First, while you upload videos, it becomes the part of YouTube and YouTube provides a default copyright license. Second, you may attach a creative commons license to the video that you create and then upload the video in YouTube. Thus, YouTube is a website where educational resources in video form can be stored and archived and can be reused by the public depending upon the copyrights attached to them.

Check Your Progress

Notes: a) Write your answers in the space provided.
   b) Compare your answers with the one given at the end of the unit.

11) What do understand by the term ‘OER repositories’? Give some examples

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12) What kind of educational resources are stored in YouTube? Are they OERs?

7.4.3 Teacher Tube

Teacher Tube was founded in 2007. Teacher Tube is a website for sharing educational videos (instructional videos) created by teachers. Students are also allowed to upload videos created by them in Teacher Tube. Thus, Teacher Tube is a video sharing website similar to You Tube with the difference that Teacher Tube archives educational videos. Apart from educational videos, Teacher Tube also contains audio, photo(image), documents, etc. Teacher Tube houses educational videos suitable for all grades of education ranging from elementary school to higher education. The educational videos available at Teacher Tube covers broad topics like science, technical education, fine arts, health and physical education, mathematics, social sciences, technology, language, computer science, special education, etc. It also includes educational news, educational games, and podcasts.

Similar to You Tube, one has to register (create account and sign in) with Teacher Tube to upload his/her educational videos. The videos uploaded are copy righted by Teacher Tube. You can also attach creative commons license to your videos that help(s)public understand the way your videos are to be reused and adapted. Those who have not registered with Teacher Tube can watch the educational resources and are free to comment, like, subscribe, etc. Thus, Teacher Tube is basically a video sharing website that allows individual to upload, watch and reuse videos at a later stage depending on the copyright attached to them.
7.4.4 SlideShare

SlideShare was founded in 2006 with the objective of sharing knowledge across the world. In the near 2012, Linked In has taken over SlideShare and it is commonly known as SlideShare. As the name indicates, SlideShare website is basically for archiving slide shows (presentations). Thus, SlideShare is a repository that stores slide shows (presentations). Also, individual has the freedom to upload his/her slide shows (presentations). Today, SlideShare stores 18 million slide shows belonging to 35 different categories and is one of the most visited website across the world. The categories include arts, business, automotive, career, data analytics, design, hardware, economy, finance, engineering, education, entertainment, environment, food, health, internet, law, management, lifestyle, medicine, marketing, mobile, politics, real estate, presentation and public speaking, politics, HR, retail, sales, services, social media, software spiritual, sports, technology, travel, etc.

Similar to You tube and Teacher Tube, registered users (those who create account and then sign in) are able to upload their slide shows to SlideShare. The slide shows uploaded is copy righted with LinkedIn Corporation. Users can upload files privately or publicly in the following file formats: PowerPoint, PDF, Keynote or Open Document presentation. It also supports documents, PDFs, videos and webinars. SlideShare also provides users the ability to rate, comment on, and share the uploaded content. You may also upload your presentations in SlideShare by attaching Creative Commons license, so that the same will be available for public reuse and thereby sharing your knowledge to a wider community.
7.4.5 Sakshat

Along with the other objectives of National Mission on Education through ICT (NMEICT) by the Govt. of India, it is decided to develop an online educational portal to provide educational services to stakeholders of education. The facilities include: information about scholarships, certification and testing, making available educational resources and lectures/talks of educational experts/teachers, etc. With this view, an education helpline – ‘One Stop Education Portal-SAKSHAT’ was developed by Ministry of Human Resource Development, Government of India. In Sakshat portal, various educational resources like audio and video lectures, MOOC courses, virtual classrooms and various other educational resources in e-content form are available. These educational resources are licensed under creative commons license.
Check Your Progress

Notes:  
a) Write your answers in the space provided.
b) Compare your answers with the one given at the end of the unit.

14) Discuss the resources available at Sakshat portal

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7.4.7 E-Gyankosh

E-Gyankosh is a National Digital Repository maintained by the Indira Gandhi National Open University, New Delhi to store, index, preserve, distribute and share the digital learning resources developed by the open and distance learning institutions in the country. The educational resources available at E-Gyankosh are OERs can be accessed by anyone but while reusing one has to acknowledge and give credit to IGNOU. Presently E-Gyankosh stores self-learning materials (SLMs) of different programmes offered by IGNOU. These SLMs are arranged as per schools of studies of the university and programme wise (doctoral, masters, degree, diploma and certificate programme) in E-Gyankosh. Apart from SLMs, the video programmes developed by various school of IGNOU is also available at E-Gyankosh.
7.4.7 NROER

NROER is a digital repository for Open Education Resources. The Repository houses a wide range of educational content and resources covering all subjects and all grades for school student teachers and other stakeholders. In addition to the educational resources which are available in a wide variety of forms, the NROER also provides opportunities to users to enroll in various online courses and participate in online contests. NROER is initiated by the Department of School Education and Literacy, Ministry of Human Resource Development, Government of India and managed by the Central Institute of Educational Technology, National Council of Educational Research and Training (NROER, 2017). All the educational contents available at NROER are licensed under creative commons CC BY SA license which allows it to legally reuse, revise, remix and redistribute content. To contribute to the repository, one must ensure that they are hosting the resources under a Creative Commons license (CC BY-SA) and that the documents uploaded are encoded using non-proprietary, open standards.
Check Your Progress

Notes:  

a) Write your answers in the space provided.

b) Compare your answers with the one given at the end of the unit.

15) What is NROER? What type of open licence is attached to educational resources available at NROER?

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7.5 LET US SUM UP

With the emergence of Internet, many educational resources are available online and those resources can be used for your teaching-learning. While adapting online educational resources, you need to acknowledge their owner. Or else it may end up in copyright issues. But there are educational resources that you can use in your teaching learning without taking the consent of the owner and such resources are called OERs. Any educational resources in digital format and available primarily online are called OERs. OERs are attached with an open licence that describes the mode of reusing it. Today you may see many OERs online and each day the count is increasing. Keeping the relevance of OERs, in this unit we have discussed the various aspects of OERs like: meaning of OERs, use and identification of OERs and search strategies for finding OERs, etc. Then we have discussed the commonly used open license (creative commons license) that are used for describing the nature of reusing OERs. The unit ends with the discussion of some of the OER repositories.
7.6 REFERENCES AND SUGGESTED READINGS


OECD. (2007). Giving knowledge for free: The emergence of open educational resources. Paris: OECD.

Websites
https://en.wikipedia.org/wiki/Main_Page
http://www.sakshat.ac.in/
http://egyankosh.ac.in/
http://nroer.gov.in/welcome
https://www.merlot.org/merlot/index.htm
https://www.youtube.com/
https://www.teachertube.com/
https://www.slideshare.net/
https://search.creativecommons.org/
https://www.oercommons.org/
https://www.google.co.in/search

7.7 ANSWERS TO CHECK YOUR PROGRESS

1) The educational resources having an open licence attached available in public domain/internet are called OERs. OERs can be in the form of print, audio, videos, podcast, etc.

2) OERs can be located either using specialised search engines or search engines like Google search (use advanced search option). Or else, OERs can also be located from OER repositories.

3) Mixing, adaption and asset extraction

4) Develop the educational resource and attach an open licence (creative commons open licence is commonly used). There are six creative commons open licences.

5) Refer section 7.2.3

6) The possible ways are; post the OER in your own website, post the OER in institutional website, post it in OER repositories, Create OER online, and use social networks. Examples of institutional OER repositories includes e-Gyankosh (IGNOU), NROER (NCERT), etc.

7) Refer section 7.2.5

8) Open licences are the license attached to OERs. Open licences describe the ways of reusing the OERs i.e. the permission and restriction imposed on OERs. Depending on the open licence attached to OERS, public can adapt, reuse, remix and can use even for commercial purpose.
9) Refer to section 7.3

10) OERs mentioning 'public domain' can be reused without taking the permission of the author/creator of that particular educational resource, while for reusing OERs mentioning 'all rights reserved', permission needs to obtained from the author/creator

11) OER repositories are space/place (usually website) where OERs are stored. MERLOT, SlideShare, YouTube, NROER, E-Gyankosh are some of the examples of OER repositories.

12) Educational resources in the form of videos. Yes, videos (educational resources) available at YouTube are OERs

13) SlideShare is an OER repository used for storing educational resources in the form of presentations.

14) Refer to section 7.4.6

15) NROER is an OER repository maintained by CIET, NCERT. It mainly houses educational resources related to school education. The educational resources in NROER is licenced using CC-BY-SA licence.