UNIT 1  THE PROCESS OF COURSE PREPARATION

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1.0 OBJECTIVES

After going through this unit, you should be able to:

- describe the stages of text preparation;
- describe the different approaches to the writing and preparation of a course;
- recognise the importance of coordination and the method of management;
- identify major difficulties in course preparation and suggest some ways to overcome them; and
- manage the preparation of a study unit or, on a larger scale, a full course.

1.1 INTRODUCTION

Course preparation in distance teaching comprises various stages: course planning, course writing, printing the text, etc. Production of radio and television programmes and audio-video cassettes also comes under course preparation. However, in this unit we shall discuss the preparation of printed materials only. Preparation of course materials for media other than print are discussed in course ES-318.

Although we have chosen the preparation of teaching materials in print as the focus of our discussion, we shall not go into the details of every aspect
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of course preparation. The reason is obvious: each aspect is to be considered in separate units/blocks. For instance, course design has been thoroughly discussed in block 2. In this block we have five units. We have discussed the process of course preparation in unit 1. The process of editing and role of language has been explained in unit 2. Unit 3, describes the phases of course maintenance and revision. We have focused on the quality assurance in open and distance learning materials in unit 4. Unit 5 presents some of the applications of new technologies in the preparation of texts.

The purpose of this unit is to present you an overall picture of the various processes of course preparation. We focus here on the process of ‘preparing’ of course materials for self-study. In this unit, we only look at printed text materials—written words and still pictures, since print text is the most commonly used medium in distance education.

1.2 COURSE PREPARATION: THE PROCESS

Even today in developing countries, some of which have already been practising distance education for more than thirty years, self-learning materials for distance learners are not always prepared by those who teach them. Therefore, discussing the basics of course preparation will be of immense use for all who are directly involved in preparing texts for distance education.

1.2.1 Need for self-learning materials

Teaching a learner through self-learning texts is different from any other kind of teaching. The kind of writing required for such materials is quite different from that used in writing a lecture or an article for a journal. In distance learning situations, what is most vital is to keep the ‘learner’ in mind and imagine that we are tutoring an individual learner. As writers, we would like the learner to remain engaged in activities which go beyond textbook learning, and gradually to become more open and critical in his/her approach to the subject-matter. What might be the characteristics of such ideally useful learning materials? We may answer this question by suggesting what such materials should do. They should:

i) help the individual learners find their way into and around the subject by repeating the content in different ways and at different stages,

ii) tell them what they need to do before going through the material,

iii) make clear what they should be able to do on the completion of the material (i.e., in terms of objectives).

iv) advise them how to tackle the work (i.e., how much time to allow for different sections, how to plan for an assignment, etc.),

v) explain the subject-matter in such a way that the learners can relate it to what they already know;
vi) encourage them sufficiently to make whatever effort is needed in coming to grips with the subject,

vii) engage them in exercises and activities that make them work with the subject-matter—rather than merely read it,

viii) give the learners feedback on these exercises and activities enabling them to judge for themselves whether they are learning successfully, and

ix) help them to sum up their learning at the end of the unit.

1.2.2 Course planning

It is necessary to plan the writing of a course carefully and well in advance. In face-to-face teaching, it is easy to make on the spot adjustments in teaching strategies which will suit the needs of different groups of learners. In distance teaching, this is not possible. The teaching material is prepared in advance, and the distance learners don’t have the teacher with them to help them interpret its content. So the suitability of the materials must be decided before they are written. For this reason, systematic planning is essential in preparing distance education/self-learning material.

We can consider the question of systematic planning at two stages. First we have to decide the overall planning of the educational project, which includes the decision about the place for written materials within the scheme. Secondly, we should plan the production of materials. We discuss the first stage here, and the second stage will be discussed under the heading ‘Course Development’.

Whether or not you have taken part in course planning, this unit will help you learn more about the planning process. There are a number of possible approaches to course planning, and the one we present here is only one of them.

The process of course planning comprises the following stages:

i) Assessment of needs: The first stage of planning is the assessment of educational needs. Defining educational needs is basic to determining the policy of the institution concerned. When we talk about educational needs, we have in mind education in its broad sense. By saying that an educational need exists, we mean that there is the lack of something which an educational programme can help to provide. For example, adult farmers may want to further their education to increase their agricultural productivity but they may do not have the facilities to do so. Or even if the facilities are available, they may not be able to use them because of certain constraints such as shortage of time, or a difficult location.

Educational needs are assessed through surveys and formative evaluation. Various research techniques can and should be employed for this purpose. This is particularly true of rural areas.
where people may not be able to solve their problems in educational terms, i.e., a general desire for better health may indicate a need for health education but the exact form of it should be determined through specially mounted studies. We shall consider two general approaches which have proved useful in the assessment of educational needs. The first is similar to anthropological field work; the researcher stays with the community and observes their behaviour. The second is the survey undertaken to find out prevalent needs. Through individual or group interviews, the potential learners, their parents and/or other members of society are asked to answer certain questions.

If you are running an institute which offers courses on health, agriculture, etc., agencies requiring your help will come to you with their specific needs. In such cases, the assessment of needs becomes relatively easier. In other circumstances, user agencies such as Ministry of Agriculture, Health or Education of Cooperative Organisations can be approached to find out the need of the courses.

Once the needs have been assessed, a clear and detailed plan for the project must be chalked out. This requires a description of the project/course, indicating the problems that are anticipated. We should know everything about the potential learners, such as their learning characteristics, their living, educational backgrounds, and their occupations, etc. At the planning stage, we must stress the importance of analysing the entry behaviour of the learners, i.e., what they already know, and what they can do at the start of a course. A detailed statement of the entry behaviour helps us both to plan writing and to give guidelines to the course development team, which consists of the writer, the editor, etc.

ii) Defining objectives: The second step is to specify the objectives, i.e., to set down precisely what we wish to achieve. This definition of objectives should be the key document for course developers. It is a difficult but crucial part of the whole process of developing materials, since later decisions will depend on the way the objectives have been defined and whether they are relevant to the learners’ context. There are three main problems in the process of specifying the objectives:

These problems arise because it is necessary to:

a) decide and identify the most important objectives that determine the success of the course.

b) formulate/state objectives in precise and comprehensive terms. As objectives are used in evaluating the quality of materials as well as that of learners performance, they should not allow alternative interpretations.
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c) spell out objectives precisely which is not always possible.

However, objectives must be stated clearly without any ambiguity and as far as possible, should be expressed in behavioural terms which can be tested and quantified.

iii) **Analysing resources and constraints**: Before going for more detailed plans, we must have a clear idea of the resources we can depend on, and the constraints we will have to take into account.

In the first place we should keep in mind the budgetary provision for the course. All the expenditure must fall within the budget at our disposal and we must set out our objectives accordingly.

Secondly, we have to consider the availability of media. How much or what percentage of the course will be covered by text materials? How much face-to-face contact is necessary? Do we have broadcasting facilities? Are sufficient electronic gadgets accessible? These are some of the questions that have to be looked into at the planning stage. These considerations have direct and important implications for course design.

The third factor is the delivery and reception of teaching materials. We have to distribute teaching materials to learners, and therefore, have to think about the possibility of approaching them through postal services, regional centres or any other available means.

Taking all these factors into consideration, we may have to modify our priorities and the overall objectives we had originally set for ourselves.

iv) **Alternative methods and selection of criteria**: At the next stage comes the selection of alternative ways to meet the objectives. This includes:

- Preparation of an outline of requirements e.g., media, administrative arrangements, etc.
- Studying the forms of the materials and their relationship with each other (i.e., whether the audios and videos are integrated or supplementary or complementary).
- Choosing of the evaluation procedures.
- Selection of suitable strategies to achieve the objectives.
- Defining the criteria by which to choose between alternatives, including learner preferences, educational effectiveness, cost, timing, risks and policy.

One of the important decisions we have to take is concerning the choice of media. Which medium will be most effective in achieving
the objectives? And how can different media be brought together to achieve a common goal? Generally, print is used in the form of informative booklets, while radio and television programmes may be used to help the learner to work through the course. In case there is no printed material available, broadcasts may be used as the main means of sending the messages or information. For example, in the rural radio forum, a group meets to listen to radio programmes and discuss them. During SITE (Satellite Instructional Television Experiment 1975-1976) community television was used to telecast messages of family planning and educating the rural masses about the problem of population explosion in India.

At IGNOU, efforts are being made to see that each block is accompanied by audio and video tapes. All the components will thus be supplemented and complemented by each other.

v) **Developmental trials:** It is obviously ideal to try out a course as a pilot programme before it is finally printed. Even if it is not feasible to try out all the self-learning material in a pilot version, it may be possible to try out part of it on a small group of learners and to draw upon their reactions to improve the course material.

After incorporating the modifications suggested by the learners, the course may be given its final shape, and sent it for printing.

vi) **Evaluation:** Evaluation/assessment may take two forms:
   a) *Assessment of courses by learners themselves:* A brief questionnaire seeking information regarding the quality of the study units may be sent along with the materials, and the students asked to respond. The responses received should provide an idea of the strengths and weaknesses of the materials from the point of view of the students. Improving study materials on the basis of such analysis is bound to enhance their pedagogic value.

   b) *Assessment of courses by another person (Tutor, Trainer or Counsellor):* Over a period of time, it is necessary to evaluate courses and see how far they are meeting the educational needs which they were identified in the beginning. It should be possible to design worksheets on a course so that the tutors, may provide some information about its effectiveness. Tutors and course-writers can make use of such information at a later stage when they want to revise the courses. We shall elaborate on this theme in the last unit of this block.

vii) **Feedback:** Feedback is of crucial importance at each stage of the process of developing teaching materials. The reactions of learners are used to make the text more suited to their needs. The assumption
behind the concept and collection of feedback is that there is usually no single perfect solution to a problem, and that even if there is one, we are unlikely to find it at the first attempt. So we can use ‘feedback to the learner’ in order to help him/her with the next stage of his/her work and can use feedback from him/her in our effort to develop better self-learning materials.

The learner needs some standard to measure his/her own answer to the self-assessment questions. He/she lacks the immediate response normally provided by a tutor or a group of fellow learners, and so the text must itself include a response. Usually, we need to include not only correct answers but also a discussion of ‘why’ these are correct and what makes other answers wrong. Discussing through an answer in this way is what the good classroom teacher does all the time. The learner who is still uncertain can then be directed back to the relevant section of the text.

In this section we have discussed course planning, and concentrated on the first stage of course preparation as a process. We have tried to keep our discussion as brief as possible.

Check Your Progress 1

List the stages of course planning.

Note: a) Write your answer in the space given below.
   b) Compare your answer with the one given at the end of this unit;

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1.2.3 Course development

The second stage in the process of course preparation is called course development, and it pertains to the actual writing of the course materials. The essential aspects of this process are discussed in the following paragraphs under three sub headings: i) Arranging the topics, ii) Preparing unit outlines and iii) Writing the text.

i) **Arranging the topics**: The first task in course writing is to arrange topics in a logical sequence, which should be based on the learner's
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present knowledge of the subject. Thus, a course should start at a point which all the learners who have opted for it will be comfortable with it. So the opening sections should be of an elementary nature.

From this starting point, the subject-matter should proceed step by step. Each step should take the learner a little further on and help him/her consolidate his/her learning through some activities before he/she goes to the next step. While on a topic, we should introduce it, explain it and reinforce it sufficiently before going on to the next one. As a general principle, all the topics of a course should be roughly similar in terms of content density, learner activities and length. For the sake of convenience we shall denote the textual body covering a topic by the expression study unit or simply ‘unit’.

ii) Preparing unit outlines: Having arranged the topics in a logical sequence, the next step is to prepare outlines for individual units. We need to plan and structure each unit in such a way that the learner experiences a minimal learning load while absorbing the content maximally.

iii) Writing the text; the entire textual material of a study unit may be broadly divided into the following sections: opening section, the main body of the text and the ending of the unit.

a) Opening section: The opening section of a unit should help the learner approach the content, preferably on the basis of his/her previous knowledge or skill. This section includes:

- The title and the number of the lesson/unit — the title should contain the fewest possible words to describe the content of the text.

- The outline of the unit content presented as unit structure or simply as structure.

- The statement on the unit objectives which can be expressed in different ways explaining what the learners are expected to do and learn, as they should know where we are trying to lead them.

- An introduction which explains in brief the content of the units. The introduction is a crucial part of the unit. It must be attractive and encouraging and must make the learner feel that he/she can manage the rest of the unit. Besides providing adequate motivation to the learner, the introduction should provide appropriate information and guidance with regard to the skills or knowledge a learner needs to have in order to comprehend the content properly and easily.
b) **Main text/body:** The main text comprises the actual thematic content of the unit, and is based on learning activities. It refers to other sources of information available. The relevant references include text books, audio-video programmes, earlier units and so on.

Active learning: To sustain the motivation of the learners, we need to ensure that the text is based on an active approach to learning and that the learning activities are diverse enough to maintain the learners’ interest. These activities enable the learners to perform various educational acts from thinking to carrying out scientific experiments. They help learners comprehend and retain the information and knowledge obtained from the unit.

Language and style: Language and style are also important factors since they help to make a text effective, if they are used with care. We should use simple language and avoid long, unfamiliar words, double negatives, the passive voice and other difficult structures, unless they are demanded by the text. Common words should be used in a straight-forward way to avoid creating any confusion in the learner’s mind.

The language of a unit should be as warm and friendly as possible; and the style conversational for which the learner should be addressed directly.

Illustrations: The insertion of illustrations and diagrams in the main body of the text makes the content clearer and more comprehensible, and prove can helpful to the learners by informing them about the points made in the text or by reminding them of what they have already learnt.

c) **Ending:** The last part of the unit should summarise all that has been discussed in the unit, and supply feedback on all the activities carried out so far. Thus, the learner is prompted to revise whatever is important in the text.

Assignments are given out at the end of a unit/block and the learners are asked to send their responses to the tutor for marking. Tutor comments, which are sent back along with the evaluated responses, help learners prepare for their final examinations besides improving their understanding of the units.

### 1.2.4 Course production

This is the last stage in the process of the preparation of materials. It includes the production of both audio-visual and printed materials. The course management group has a limited function now—it monitors the progress of production till the materials are delivered to the learners. Audio-video production is also undertaken along with the production of
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print materials. The multi-media package thus prepared is sent to the learners to be used in their own time.

Audio and video production has been discussed elaborately in course ES-318. Here, we shall touch upon a few aspects of the production of materials.

Editing: Editing is one of the most important stages in the process of text production. Editing will be discussed in detail in unit 2 of this block. Generally, an editor performs the following tasks: he/she

i) ensures the soundness of the text, including the density and the correctness of content,

ii) prepares manuscripts for printing,

Layout: This includes consideration of the size and type of font to be used, the page size, the number of columns, the nature of margins, placement of pictures, etc. in order to make each page of the unit attractive and learner-friendly.

The other stages in the process are:
• assigning art work to artists,
• typing the text, and
• proof reading

Printing: Printing is an elaborate industrial process. We don’t intend to dwell on this theme since the institutional academic staff may not be involved in it directly. We have, however, discussed some of its managerial aspects in the next section.

Despatch: After printing the material, it is stored in the institute’s warehouse from where it is despatched to learners at the scheduled time.

Check Your Progress 2

List three stages in the process of text production.

Note: a) Write your answer in the space given below.
    b) Compare your answer with the one given at the end of this unit.

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1.3 MANAGEMENT OF TEXT PREPARATION

Since distance teaching institutions depend heavily on printed materials, one of their main jobs is to prepare teaching materials in print. If the materials are not prepared and printed as per the schedule, the institutions will have operational and administrative problems. As a course develops from an idea to a set of printed materials, it goes through a process consisting of many stages. It is important that each person involved in this process is aware of his/her functions and responsibilities, and is sensitive to the needs of other members of all the departments to be aware of the constraints within which course preparation takes place. In this section, we shall examine the preparation of printed materials for teaching and learning.

In some institutions, all the activities connected with course preparation are carried out within the institutions by their own staff. In others, some jobs are carried out by outsiders (part-time course writers, for example), while others are looked after by associated departments within the institutions. Most distance education institutions fall under the second category, where some work is done externally. In order to ensure the smooth progress of numerous stages of course preparation, it is essential for all the members concerned to act as a team.

1.3.1 Planning a course

After taking the decision to start a course, its content is to be planned. The first question we now encounter is: who decides the content? In general, the content is planned by the ‘course consultative/planning team’ which also decides the content density.

For formal courses leading to examinations, the first step is to outline the syllabus indicating what the content must be. Once the content outline is made available, the process of course preparation enters the second stage, i.e., course development. There are six categories of people who are involved in course development:

a) The academic staff of the institution
b) The course writers
c) The media producers
d) The editors
e) Subject specialists from other institutions
f) The learners/students

In the case of non-formal education, planning a syllabus is more difficult since there are usually no available models to go by. Such planning generally depends on the assessment of educational needs which are identified through research. Once the needs are identified, the institution has to work out a plan to meet those needs through its courses. In such cases, it is not unusual to seek support from development agencies such as
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various ministries to identify the educational needs of various types of learners.

This approach to course planning has three implications. First, it emphasises close interaction among the agencies concerned. Secondly, it requires a reasonable lead time which will be longer than that meant for a formal course. Thirdly, it points to the need for the services of highly professional personnel — the course developers/writers who should be pedagogically competent besides being researchers, writers and editors at the same time.

1.3.2 Writing a text

The job of a course writer is to develop texts in the appropriate format. He/she may do this either at the individual level or by working in a team.

As an individual, he/she may be a part-time or a full-time course writer. *Part-time writers* are selected from various colleges and educational institutions engaged in teaching the same subjects to students with similar backgrounds. They are basically teachers and are engaged part-time to do certain writing tasks for the distance education institutions.

*Advantages of appointing a part-time course writer:*

He/she is a teacher who is knowledgeable about the latest developments in his/her subject/discipline and the practical possibilities of teaching it, using new techniques.

He/she can try out any idea he/she intends to implement through distance education.

The distance teaching institution can employ the writer on a temporary basis too.

*Disadvantages*

Sometimes it is difficult to find an adequate number of good part-time writers.

The part-time writer is trained in face-to-face teaching, and so he/she may not be suitable for distance teaching. Besides, the institution has limited control over him/her, so s/he may not respond to the institution’s demands, or many work at his/her own pace without bothering much about the urgency of work or the problems of the institution.

As s/he takes on the additional responsibility of writing for distance education institutions, it is very difficult for him/her to do justice to both jobs. The job of a part-time writer ends once the study unit is written. S/he
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may not contribute to the revising, updating and improving of the content to suit the distance learner’s needs.

On the other hand, a full-time writer is appointed on a permanent basis, will be on the institution’s payroll and will be accountable to the authorities involved in carrying out education at a distance. Even in this case there are advantages as well as disadvantages.

Advantages: It is easy to recruit or find a full-time writer. As s/he is appointed on a full-time basis s/he can complete the work in good time and is likely to maintain the production schedule.

S/he can make long-term plans, and he/she knows the course as a whole, he/she can update and adapt various parts of the course in response to the learner’s experience and reactions. It is easy to offer on-the-job training to the full-time course writer.

Disadvantages: Sometimes it is difficult to find the right person to be recruited on a full-time basis. Once appointed, he/she may have problems due to a lack of technical experience or competency to carry out the special tasks involved in distance teaching.

Check Your Progress 3

Compare the advantages of having part-time and full-time individual course writers.

Note: a) Write your answer in the space given below.
    b) Compare your answer with the one given at the end of this unit.

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<th>Part-time writer</th>
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We have discussed the case of a single writer appointed to write a course. Now, we shall consider the idea of using a team of writers for the same purpose. Through a course team we can overcome many of the disadvantages of a single writer writing courses. A course-team is generally developed by open universities or distance education institutions where course writers who specialize in different subjects come together. The team may include the following among its members:

i) Convener/Chairperson: He/she is responsible for the overall quality of the course.

ii) Course authors: These are subject experts who are responsible for writing texts/units, devising practical exercises, preparing assessment material, etc.

iii) Media producer(s): Media experts produce audio-visual materials.

iv) Educational technologist(s): Experts in instructional design who help in improving the teaching and the learning (e.g., defining objectives, choosing appropriate teaching strategies for optimum learning, etc.) as well as the quality of study materials.

v) Editors: Experts who help the writers in ensuring that the texts are linguistically correct and also in ensuring the consistency of the content.

vi) Graphic designers: They advise the team on layout, typeface and the overall graphic design of the text.

Advantages of having a Course Team

- As the work is shared by the members of the team, courses can be produced according to set schedules more easily.
- Discussion and mutual criticism can be stimulating and it improves the quality of the text.
- Individuals may work faster, because among other things they are prompted by the expectations of their colleagues.
- This is a democratic way of writing the texts.
- We can draw upon a wider range of people experienced in the teaching of a subject.

Disadvantages

- The experts may not be easily available or the institution may not be able to afford them.

- Individuals may waste time and/or clash with each other over personal or ideological matters. Individuals may opt out of unpopular tasks within the whole range of activities that constitute the development of a course.

- Individuals may dislike having to abide by majority decisions (e.g., deadlines to complete work).
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- Course-team members may dislike the necessity of having to cope with criticisms and suggestions from others on the team.

- Sometimes course-teams work slower than individuals and the costs are therefore higher in such cases.

Check Your Progress 4

In the above discussion, we have touched upon the basic issues involved in writing a text and selecting the part-time course writer. Before going to discuss about the editing the text, let us stop here to complete this exercise. Which do you think better in your context—the course-team approach or the appointing of part-time course writers? Give at least three reasons to support your answer.

Note:  
- Write your answer in the space given below.
- Compare your answer with the one given at the end of this unit.

1.3.3 Editing the text

The editor is a professional who can help writers to improve their texts, also ensuring the consistency of content and preparing the final draft for printing.

Before the course is ready for printing, there is a need for the intervention of an editor who may be involved from the initial stage of planning the course. The editor’s roles vary from one institution to another. S/he generally works on three levels during the development of a course; and

- ensures educational effectiveness in terms of learning outcomes,
- helps in deciding on the suitability and the correctness of content, and
- examines the accuracy and adequacy of the language and style.

The editor works through the first two tasks in consultation with course writers. The third task is usually left entirely to the editor. He/she scrutinizes the correctness of the written expression (including spelling and punctuation) and the consistency of the headings (type size, layout, etc.). Obviously, this job is partly educational and partly administrative as much of the editor’s work is concerned with the teaching effectiveness of the materials and s/he will therefore need to develop pedagogic skills to present information and help people to learn. In some institutions, the editor is also responsible for getting the course ready and seeing whether the texts are
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printed at the right time and in the right way. We shall present more
information on editing and the question of language in units 2 of this block.
Suffice it to say here that in certain institutions the first task is performed by
the *instructional designer* (also called the *format editor*) and the second task
by a senior subject expert usually called the *content/subject editor*.

### 1.3.4 Typing and printing

Here we shall consider the four different ways of getting course materials
printed for mass distribution. Each has its own advantages and
disadvantages. It is worth knowing something about each of them, even if
all of them may not be available to us at present. Through advances in
technology, it should be possible to use different methods of production and
we can make choices among them, depending on our needs and resources.

**Photocopying/Xeroxing**

This technique is particularly useful if we have to produce materials for a
small number of learners. Photocopierners can reproduce typed as well as
hand-written material. One of the advantages in this case is that the machine
used for the purpose is quite easy to operate. However, it becomes
everse to make a large number of copies, using this method.

**Stencil duplicating**

After cutting stencils with the help of a typewriter (lines, graphs etc. can be
drawn on stencils), copies are made by a duplicating machine, which may be
either manual or electric. The electric duplicating machine is not expensive,
and many institutions can afford it now. The quality of copies is better when
obtained from an electric machine and the study material can be duplicated
quickly. This method is cost effective and good for short print runs.

**Offset litho printing**

In this case copies are reproduced from a paper, plastic or metal plate onto
which the text is transferred photographically. Line drawings, charts and
special headings can be incorporated into the text quite easily. The quality
of print will be good up to thousands of copies. Most books are produced
commercially by offset litho as it is one of the best means of producing a
large number of copies at low cost.

**Letter press printing**

This is the traditional method of printing, where printing is done directly
from raised metal letters, each of which is fixed in its place by a skilled
technician called the compositor. Thousands of copies can be reproduced
without affecting the quality of material thus printed. In this method,
graphs, illustrations or lines have to be prepared separately.
Of the four methods of reproduction discussed above, offset litho is the most useful. What would you choose? Why do we prefer a particular method over others? The choice actually depends on the availability of technology, budget allocation and the number of copies required.

Usually, printing is done by an outside agency as it reduces the cost. Printing facilities are now widely available everywhere. But if your institution has a heavy work load and lots of material to be printed on a regular basis, it is worth having your own printing facilities, which will enable you to have a firm control over production and to ensure that the texts will be ready on schedule, or when they required.

In order to manage production, there should be a good liaison between academic units and production staff. The supervisor of the production process has to plan the production schedule according to the requirements of the academics and he/she should be realistic in judging the time required for each stage of production.

We conclude this sub-section by making a passing reference to desktop publishing which is the latest as far as the technology of printing and publishing is concerned. It combines the word-processing facility provided by computer technology with laser printing technology to give us the most efficient means of quality printing known today.

### 1.4 LET US SUM UP

In this unit we have highlighted some of the general aspects of the process of course preparation and its various stages. Course planning, course designing and writing (called course development), and course production are the main stages, which demand a high degree of co-ordination and cooperation among various departments.

At the planning stage we have to think of the requirements for a course, the resources it needs and the constraints in its production. Once the decision to offer a course is taken, we should pay focused attention to course development and then to printing. All this needs the skill, knowledge and sincerity of people who undertake any of the tasks at various stages. These aspects of the process have been discussed under the general heading the management of course preparation in section 1.3.
Check Your Progress: Possible Answers

1)  
i) Assessment of needs  
ii) Defining objectives  
iii) Analysing resources and constraints  
iv) Alternative methods and the selection of criteria  
v) Development and trials  
vi) Evaluation

2)  
i) Course Planning  
ii) Course Development  
iii) Course Production

3)  
<table>
<thead>
<tr>
<th>Part-Time Writer</th>
<th>Full-Time Writer</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Difficult to recruit</td>
<td>Easy to recruit</td>
</tr>
<tr>
<td>ii) Employment on temporary basis</td>
<td>Full-time employment on permanent basis</td>
</tr>
<tr>
<td>iii) No institutional control over him/her</td>
<td>Under the full control of the institution</td>
</tr>
<tr>
<td>iv) Works under heavy pressure; because he/she has to manage writing along with his/her other full time responsibilities.</td>
<td>Works exclusively for DE</td>
</tr>
<tr>
<td>v) Difficult to train for distance education system</td>
<td>Easy to give on-the-job training</td>
</tr>
<tr>
<td>vi) Cannot make long-term plans</td>
<td>Can make long-term plans</td>
</tr>
</tbody>
</table>

4) A course-team approach is better than single course writers because:

i) Course-team can produce good quality texts,

ii) This is a democratic way of writing texts,

iii) This approach can draw upon the wider range of experiences of the experts of different disciplines, and

iv) The course materials can be produced on schedule.