

## AUDIO VISUAL EDUCATION

SCRIPT BOOK

Time: 45 Minutes

Module III

Projected Aids

Unit 9

Multi-imagery &amp; Multi-media

1. You have completed Module I and II and under Module III, kinds of projected aids, projection systems, filmstrips, slides, motion picture, overhead and opaque projectors and television. Now we come to Multi-imagery and multi-media presentations, that is the combined or co-ordinated use of audio visual materials.
2. While multi-image is strictly a variety of more than one projection, multi-media is a combination of systems including projection systems. Open your WORKBOOK. Go through the objectives. STOP PRESENTATION, TAKE 2 minutes. Restart.
3. Multi-image refers to the simultaneous projection of two or more pictures. Most often these are slides. Overhead transparencies and motion pictures can also be used in conjunction with slide-tape sequence.
4. Multi-media is the sequential use of a variety of instructional media, either for presentation to groups or for independent study.
5. In planning and developing either multi-imagery or multi-media programmes, attention should be given to a number of factors in addition to those you would normally consider when producing a single type of audio visual materials. We will now discuss each of these here.
6. MULTI-IMAGERY  
In all conventionally projected visual forms- filmstrips, slide series, motion pictures or television, image is presented sequentially. Exceptions are split screen or similar techniques for simultaneous comparison or relationship.
7. The sequential continuity conveys meaning to the viewer. When two or more images are viewed simultaneously, their interaction can be dynamic, requiring the viewer to grasp meaning of multiple images quickly.

8. This allows the viewer to process larger amounts of information in a short time. In this process, certain kinds of information are more effective and efficiently learned. The quantum of information can be increased effectively and quicker.
9. Besides motivating and giving exciting experience to the viewer, efficiency of communication is a major reason for using multi-image presentations. The variety inherent in such presentations can help us to design presentation for audiences of any size.
10. The purposes served by the multi-imagery presentations are many.
11. Panoramic or wider view of a subject across two or more screens.
12. Comparing and contrasting objects and events.
13. Showing the same subject at the same time from different camera angles or distances.
14. Presenting sequentially segments relating to a single idea.
15. Simultaneous projection across multiple screens, to depict motion.
16. Gives meaning to an abstract idea with several supporting visuals.
17. Emphasising a fact or concept by repeating identical images.
18. Illustrating relationships of the part of a whole from to function and model or diagram to actual object.
19. Developing concepts aesthetically like growth or change ,
20. Let us go through the purposes again:  
Multi-imagery provides:  
a wider view across more screens, compares and contrasts objects, shows subject from different angles and distances, presents sequentially segments, simultaneous projection across multiple screens, gives better meaning to abstract idea with several supporting visuals, emphasises facts and concepts through identical images, illustrates relationships, develops concepts aesthetically.
21. Refer to WORKBOOK and answer questions 1 to 4. STOP FOR 3 MINUTES AND RESTART.

22. Let us look at the correct answers. Take question 1.

The definition of multi-media is

the sequential use of a variety of instructional media including projection systems.

You can have programmed instruction, books, workbooks, lectures, demonstrations, any projected presentations, self study packages based on the need and objectives.

23. The question 2.

Multi-imagery is a variety of projections simultaneously made on adjacent screens.

24. Question 3.

It is motivating

It provides exciting experiences

It is an efficient means of communication

It processes larger amount of information.

25. Now question 4:

It provides

a wider view across more screens

compares and contrasts objects and events, shows subject from different angles and distances, presents sequential segments of a single idea, simultaneous projection across multiple screens to depict motion, gives meaning to abstract idea with several supporting visuals, emphasises facts and concepts through identical images, illustrates relationships of parts to whole and develops concepts aesthetically.

26. A word of caution. Multi-imagery has many advantages. It has limitations also. It requires careful coordination during planning, preparation and use. It is a complex process.
27. Protagonists, often become fascinated with the gimmickry of using number of projectors, multiple screens, multiple audio, and sophisticated equipment.
28. If you are not careful, the message may be overpowered by the techniques and prove to be uncoordinated mis-impressions.
29. If this is your first impression with multi-images, dont be amazed. Too much work and energy has gone under the bridge in its presentation, just to make you aware of the potentialities. If your objectives demand, you have the resources, energy and capacity, then this medium is superior that can produce better results.

30. For effective multi-image presentation, careful attention must be paid to the following.
31. Treat ideas and concepts one at a time.  
More than one message, either visual or verbal divides viewers attention.  
Both messages may lose effectiveness.
32. Use screen purposefully to communicate your message.  
You need not project images on all screens at all times unless pertinent.
33. Select relevant pictures that directly treat the subject being developed.
34. Avoid extraneous or distracting details.
35. Consider layout of related images to project like a multi page magazine layout at one time.
36. If you have a message or messages and pictures, plan to have the important message on centre screen.
37. Be flexible. Change centre of attention from one screen to another, for reasons of variation.
38. Mix different formats horizontal and vertical to provide variety.
39. Allow a picture to remain long enough on the screen for the viewer to comprehend the message, but certainly avoid too long exposures of same pictures.
40. Hold viewer's attention, plan to vary pace of image changes, to provide better understanding.
41. You may use black slides when no image is to be projected from a projector or for pleasant effect, use a solid colour slide.
42. Select and arrange slides for a sequence in advance over a light table.
43. When using slides, try to use the same model projectors and lenses so that brightness of images will be same throughout.
44. Adjust images as close as possible, without overlapping.  
Avoid keystone effect.

45. If the presentation extends to more than one tray with any projector, plan to shift to the next projector, quickly or when another projector is showing a slide on the screen, without it being noticed by the audience.
46. Consider combining slides with other visual forms, like motion picture sequences, if effective for your objectives.
47. Be sure to check yourself operation of all equipment and rehearse the presentation before the showing, and as often as you change anything in the sequence.
48. These are only a few tips. While developing multi-media programmes, you will discover many more useful principles.
49. You may manually control the projectors, use monaural (single track) or stereo audio recorded cassette with music and effect, but.
50. be sure to select music, narration, and other sounds, so that they contribute to the coherence of the message and do not conflict with visuals or communicate irrelevant information.
51. In case you have a stereo system, record narration on the first track and sound effects and music on the second track in proper relation to the narration. This will enable you, to change the narration if needed and correct errors if any without disturbing the other track.
52. This can later be transferred to another tape recorder-monaural and used manually.
53. or on the first track of a stereo tape system, so that the other track can be used for cueing signals, either by voice for manual operation or inaudible pulse for auto synchronisation.
54. The easiest way to synchronise the multi-image presentation is to use an electronically controlled programmer.
55. Another method would be to have the detailed script with the visuals all numbered as L,C and R for Left, centre, right slides, and manually control the button for each projector and the tape.
56. One can operate the tape recorder, and three assistants can operate three projectors, and the teacher can ask for L,R or C slides by asking for it in low voice at proper time. This can also be done by cueing and wearing the head-set.

57. You may use a dissolver to function either in conjunction with the programmer or without it. The projectors can be carefully aimed at the same screen, so that the images super-impose and change on command from the cues.
58. Dissolving from one slide to another, creates a smooth visual flow as compared with abrupt slide change.
59. Open your WORKBOOK and answer questions 5 and 6.
60. The answer to question 5 would be  
a) True      b) False      c) False      d) True.
61. Answer to question 6 is  
Put narration on one track and slide change cues on the second track, by voice for manual operation or inaudible cues for auto synchronisation.
62. Multi-image presentations can be made even more effective and exciting with better facilities and resources than what we have here. The electronic programmer will make a lot of differences during the presentation.
63. MULTIMEDIA APPLICATIONS  
Multi-media is a nice expression, sophisticated word, newer technology but one of the most difficult decision making, time consuming and costly system that can be adopted. But if it is need based, objectively oriented and carefully planned, it can serve your purpose well and better.
64. The sequential use of slides, motion picture etc., is an illustration of multi media application.
65. The sequential use of programmed instruction, sound-slide presentation, discussion, demonstration, and actual experiencing is another form of multi-media application. Can you not now, think of other activities? Answer question 7 in your WORKBOOK. The answer is your choice. Stop for a minute and restart.
66. For presenting certain information or for achieving specific instructional objectives, one type of audio visual material may be preferred or considered to be more effective than other forms.
67. Principle may be explained with slides, applications of the principles may be shown with a brief motion picture sequence like the one we had.

68. Then we can have a discussion session, summarize the discussion using one or more overhead transparencies. We have done this earlier.
69. Thus multi-media can be used not only for self study but can be designed for group use incorporating projected audio visual materials-slides, filmstrips, overhead transparency, motion picture or television.
70. We can also use tape recording, either alone or in conjunction with other visual forms. There are a few, who prefer to use projected aids, with their own sound as part of the presentation, as this will cater for individual differences between groups and individuals, on the spot
71. We have studies to show that the major application of multi-media techniques is in individual learning programmes. A number of instructional resources could be included in the learning packages.
72. Trainees may be directed through a preset sequence of study or preferably a variety of materials. Treat the topic objectives and permit students make their own selection of study items. An example of this is the I.L.O's self Employable Modular concept. You learn only what you want to use.
73. Let us now compare conventional and multi-media. While conventional media treats a topic, multimedia treats a concept within a topic.
74. Conventional media serves general purpose and broad objectives whereas, multimedia can serve specific objectives leading to better learning competencies.
75. Conventional media is generally for group presentations only, except perhaps a few, whereas multimedia can be used for group use and designed for individual trainee as well.
76. In multi-media each one can be for short duration keeping with concept treatment and most of the other individual mediums could take 10 to 60 minutes.
77. Conventional teaching could be passive, whereas active student participation through coordinated activities can be organised very well with multi-media concept.
78. Each medium is used as a separate entity in conventional use, whereas in the multi-media, integration of media in structured sequence can be organised.
79. Conventional media is generally used for large group of study and all students have no choice but to view and hear at same time, same materials. In multi-media variety of materials available can be selected by students.

80. Conventional use of teaching materials usually are used at instructor's convenience and presentation pace whereas students work with multi-media materials at own pace and convenience.
81. Now open your WORKBOOK and write five differences between media for conventional use and multimedia use, against question 8. Take two minutes. STOP and then restart.
82. Your answer will be five among items 73 to 81. Check these answers with yours.
83. Given at the end of the WORKBOOK, is an example of a plan for presentation to a group using multi-media, on Rotary combustion engine. You may study this example and submit a plan for multi media application of 20 minutes duration in your trade area. This will be the answer to question 9. Evaluate your answer in a group discussion.
84. Another example of independent study programme using multi-media is also given. You may study this example also and plan for multi-media application in your trade area for an independent study programme, of 15 minutes duration. This will be the answer to question 10. Evaluate your answer.
85. We discussed in Module II instructional design, instructional objectives, testing the objectives through criterion tests and we have been following these principles throughout this course. We do not test on an item not related to the objectives or an item not taught. Remember this principle while you plan your instruction.
86. In module II, you prepared inexpensive non-projected visual aids. Anyone of you can do this in your own instructional set up, if only you have the mind to do. While you plan your practise teaching sessions try to use maximum of these instructions, which will fit with your objectives.
87. We have in this module, given you a lot on projected-aids. How to operate the various projectors. No doubt these are not completely within the reach of every one of you. As NCVT had approved provision of A.V.equipment. You will be able to use them.
88. In the next module, we will provide you with the application of duplicating equipment in your instructional development. This will enable you to operate and feel yourself how these equipment can be of immense use in your instructional activities.



89. We also hope to give you in the last module, how to use the audio tape recorder, and other audio equipment for instructional purposes. With this we will come to the end of the course on audio visual education.
90. We will present you in Unit 10, of this module, a few hints on preparation of visuals for projected aids.
91. Now we come to the end of this unit, and you may take the unit test and evaluate the same. You may like to come for a discussion session. END.

M III/9-9/SB

Module III

Projected Aids

Unit 9

Multi Image & Multi Media

Instructional Objectives:-

1. Classify by definition multi-imagery.
2. Classify by definition multi-media.
3. List four advantages of multi-imagery.
4. State five purposes served by multi-imagery presentation.
5. State three points to be considered for effective presentation of multi imagery.
6. Explain the method adopted for recording narrations and to provide for (manual and automatic) sound slide synchronisation in audio tape.
7. Identify two topics in his own trade area where multi-media approach is applicable.
8. Differentiate between the conventional approach and multi media approach.
9. Organize and present a multi-media lesson.

## -AUDIO VISUAL EDUCATION

## WORK BOOK

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Module III

Projected Aids

Unit 9

Multi imagery and  
Multi Media  
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1. Define Multi imagery.
2. Define Multi Media.
3. List four advantages of multi-imagery presentation.
  - a.
  - b.
  - c.
  - d.
4. List five purposes served by multi-imagery presentation.  
It provides -
  - a.
  - b.
  - c.
  - d.
  - e.

5. Which of the following statements are true according to instruction given through this unit?
- \_\_\_\_\_ a. In planning multi-image presentation, relate it to a multipage magazine layout.
  - \_\_\_\_\_ b. Project images on each one of three screens continuously during a presentation.
  - \_\_\_\_\_ c. Each separate screen can be used to treat its own idea or concept.
  - \_\_\_\_\_ d. In composition, generally major messages should be on the centre screen.
6. List out two applications of multi media in your teaching.
7. When you use a stereo system or two track recording, how will you record the narration, and make necessary arrangements for slide change manually and automatically for synchronisation?
8. List five differences between media for conventional use and multi media use.
9. You are to submit a plan for multi-media presentation, later based on the sample plan given at the end of this unit.
10. Present a multi media programme as a group work.

# EXAMPLE OF PLAN, FOR PRESENTATION

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## USING MULTI MEDIA

### FOR AN INDEPENDENT STUDY

| TOPIC : OHM'S LAW |  | Target: Ist year M.T.I. trainees in<br>Electrical-Electronics Group |  |                                |
|-------------------|--|---|--|--------------------------------|
| S.No.             | LEARNER OBJECTIVES   | MEDIA CHOICE  |  |                                |
|                   |  | I   | II   | III                            |
| 1.                | Define voltage and relate it to e.m.f. and p.d.                              | Programmed Instruction  | Handout<br>Test                                  | 16 mm Film<br>Work book        |
| 2.                | Define current and explain its flow.   | Hand out<br>Test  | 16 mm film<br>work book                          | Programmed<br>Instruction      |
| 3.                | Define Resistance and explain its application                                | Filmstrip<br>and work<br>book                                       | audio tape<br>work book                          |                                |
| 4.                | With these three quantities form an electrical circuit                       | Handout<br>Test   | Sound slide<br>system with<br>work book.         |                                |
| 5.                | Identify a closed electric circuit   | Handout<br>learner<br>activity                                      | 8 mm loop<br>film and<br>work book               | Video<br>cassette<br>work book |
| 6.                | State the relationship (Ohm's law) between V, I and R in a closed circuit    | Sound slide<br>and work<br>book.                                    |  | Hand out<br>Test.              |
| 7.                | Derive the equation or formulae involving V, I and R applying the Ohm's law. | Hand-out<br>learner<br>activity.                                    | Audio tape<br>work book                          |                                |
| 8.                | Solve simple problems, applying Ohm's law.                                   | Audio tape<br>and work<br>book.                                     | Assignment<br>with work<br>book &<br>key answer. | Tutorial                       |
| 9.                | Shall be able to use the law for practical purposes.                         |   |  | Practical<br>Exercise.         |

AN EXAMPLE OF A PLAN FOR PRESENTATION  
USING MULTI MEDIA TO A GROUP

276

TOPIC:- Rotary engine (Wankel Engine.)

Target:- Advanced course trainees in internal  
combustion engines- 4th year.

| S.No. | LEARNING OBJECTIVES  | MEDIA   |
|-------|--|---|
| 1.    | To identify the basic components of an eccentric rotor type engine.                        | a) Transparency (over lay) showing the basic components of a Wankel engine.<br>b) Hand out - indicating the basic parts of a Wankel engine.<br>c) Lecture.  |
| 2.    | To explain the eccentric motion of the rotor.  | a) Loop film single concept (silent)<br>b) A sectionized model of Wankel engine.<br>c) Discussions/explanations.  |
| 3.    | To explain the four phases of operation  | a) A sectionized model of Wankel engine.<br>b) Hand out with sketches indicating the position of eccentric shaft, rotor and the chambers in each phase of its operation with explanation about the events taking place in each of its operational phases.<br>c) Discussion. |
| 4.    | To compare the advantages and disadvantages of rotary engine with the reciprocating engine | a) 35 mm coloured slides with sound synchronization.<br>b) Assignment sheet/ work book for trainees to write the advantages and disadvantages.<br>c) Discussion.  |

## AUDIO VISUAL EDUCATION

|                            |                                       |
|----------------------------|---------------------------------------|
| Module III                 | Projected Aids                        |
| Unit 9                     | Multi-imagery & Multi-media           |
| Practical Exercise No: 41- | Organizing a Multi-Media Presentation |

A. PROBLEM:

Select topic from your trade area and organize a multimedia presentation.

B. GUIDELINE:

While organizing a multimedia programme there are many aspects to be taken into consideration. Selection of the type of medium for different teaching situations is based on the anticipated learner outcomes and capability of the medium to serve the objectives. Success of the programme depends on the careful consideration of these aspects, and how well the media materials are integrated during simultaneous and sequential presentation. Everything needs to be looked as a whole from the point of learner attainments and there should be a smooth transition from one medium to another.

You will be required to consider the facilities available and fix time for projection facilities. You will also fix time for using other equipment needed.

You are advised to limit the content for a presentation of not more than fifteen minutes, to start with unless you have previous experience. Later on when you gain experience, you may be able to take up larger projects, at any rate no session should exceed fortyfive minutes. This is a group work and not an individual assignment.

Suggested pre-production stages in preparing a multi-media programme.

1. Define your audience/learner.
2. Start with an idea/subject.
3. Develop terminal behaviours and objectives.
4. Consult subject matter experts in appropriate fields.  
(if you are not an S.M:E.)
5. Develop an outline of the content in terms of objectives.
6. Prepare descriptive synopsis of the content.
7. Visualise your synopsis.
8. Prepare the treatment.
9. Prepare and collect materials to fit your topic closely.
10. Write the script.
11. Prepare visuals where needed.
12. Develop the script, and visuals.
13. Consider and estimate the duration of your programme.
14. Schedule all activities.
15. Get the rights if you are using copyright materials.

PRODUCTION:

1. Check all your preparations.
2. Complete art work, titles, captions and drawings as required.
3. Edit pictures, edit captions.
4. Arrange pictures, drawings, and captions in sequence.
5. Complete filmingwork for slides/ filmstrips.
6. Process the film, make work copies.
7. Prepare masters for transparencies, if completed and make copies.



8. Record narrations.
9. Conduct individual try out of your product.
10. Add or remove anything if found necessary.
11. Reproduce materials in final quality.

#### POST PRODUCTION:

1. Write the instructional manual.
2. Write the list of materials to be used.
3. Validate on a representative sample of target audience.
4. Evaluate final product for further use.

#### C. MATERIALS AND EQUIPMENT

You prepare list based on requirement and on stock list.  
Limit outside purchase to minimum. Take guidance of  
visual aid workshop faculty where you find difficulty.

#### D. POINTS FOR GRADING:

1. Appropriateness of objectives.
  2. Content accuracy.
  3. Selection of methods and media.
  4. Appropriateness of visuals scripts and media materials.
  5. Learner participation.
  6. Overall organisation.
  7. Presentation techniques.
  8. Learner outcome.
  9. Time (within the stipulated time).
- E. Deadline for the project: June 1st.

## AUDIO VISUAL EDUCATION

## CRITERION TEST

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Module III

Projected Aids

Unit 9

Multi imagery and  
Multi Media.  
-----

1. Define Multi-imagery.
2. Define Multi-media.
3. List four advantages of multi-imagery presentation.
  - a.
  - b.
  - c.
  - d.
4. List five purposes served by multi-imagery presentations.  
It provides. -
  - a.
  - b.
  - c.
  - d.
  - e.

5. Which of the following statements are true according to instruction given through this unit?
  - \_\_\_\_\_ a. In planning multi-image presentation, relate it to a multipage magazine layout.
  - \_\_\_\_\_ b. Project images on each one of three screens continuously during a presentation.
  - \_\_\_\_\_ c. Each separate screen can be used to treat its own idea or concept.
  - \_\_\_\_\_ d. In composition, generally major messages should be on the centre screen.
6. List out two applications of multi-media in your teaching.
7. When you use a stereo system or two track recording, how will you record the narration, and make necessary arrangements for slide change manually and automatically for synchronisation?
8. List five differences between media for conventional use and multi-media use.
9. You are to submit a plan for multi-media presentation, later based on the sample plan given at the end of this unit.
10. Present a multi-media programme as a group work.

## AUDIO VISUAL EDUCATION

KEY TO  
CRITERION TEST-----  
Module III

Projected Aids

Unit 9

Multi-imagery and  
Multi-Media.  
-----

1. Define Multi-imagery.

Multi-imagery is a variety of projections simultaneously made on adjacent screens.

2. Define Multi-media.

Multi-media is the sequential use of a variety of instructional media including projection systems.

3. List four advantages of multi-imagery presentations.

- a. It is motivating.
- b. It provides exciting experience.
- c. It is an efficient means of communication.
- d. It allows one to process larger amounts of information.

4. List five purposes served by multi-imagery presentations.  
It provides - (Any five acceptable)

- a. a wider view of a subject across two or more screens.
- b. compares and contrasts objects and events at one time.
- c. shows subject from different angles and distances.
- d. presents sequential time segments in relation to a single event.
- e. illustrates relationships such as parts to whole, models to actual objects.

5. Which of the following statements are true according to instruction given through this unit?

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true. a. In planning multi-image presentation, relate it to a multipage magazine layout.

false. b. Project images on each one of three screens continuously during a presentation.

true c. Each separate screen can be used to treat its own idea or concept.

true d. In composition, generally major messages should be on the centre screen.

6. List out two applications of multi-media in your teaching. Answer is your choice. Two examples could be:

a. Programmed multi-media presentation with student interaction.

b. Structured course with lectures, handouts, student responses, demonstrations, practical skill etc.

7. When you use a stereo system or two track recording, how will you record the narration, and make necessary arrangements for slide change manually and automatically for synchronisation. Add narration on one track, for both manual and auto synchronisation. For manual operation, use voice or sound of bell in the second track. For auto synchronisation, use inaudible cues in the second track.

8. List five differences between media for conventional use and multi-media use.

CONVENTIONAL USE

MULTI-MEDIA USE

- |                              |   |
|------------------------------|---|
| 1. Treats a topic.           | 1. Treats a concept within a topic.           |
| 2. Serves broad objectives.  | 2. Serves specific objectives.                |
| 3. Often for group use.      | 3. Use individually also.                     |
| 4. Relatively long duration. | 4. Short, keeping with the concept treatment. |
| 5. Almost passive.           | 5. Active participation.                      |

9. You are to submit a plan for multi-media presentation, later based on the sample plan given at the end of this unit.

Study the plan given. You may make one and submit later to your instructor.

10. Present a multi-media programme as a group work.

Your choice.

You are strongly advised to discuss within your group and then with your instructor, in case you cannot prepare a plan. By now, you have seen a number of cases where multi-media was involved. You must not have any difficulty to present a topic using the multi-media approach.