

CURRICULUM

FOR THE TRADE OF

HOSPITAL WASTE MANAGEMENT

UNDER

APPRENTICESHIP TRAINING SCHEME

2017



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENURESHIP
DIRECTORATE GENERAL OF TRAINING

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2. BACKGROUND

2.1 Apprenticeship Training Scheme under Apprentice Act 1961

The Apprentices Act, 1961 was enacted with the objective of regulating the programme of training of apprentices in the industry by utilizing the facilities available therein for imparting on-the-job training. The Act makes it obligatory for employers in specified industries to engage apprentices in designated trades to impart Apprenticeship Training on the job in industry to school leavers and person having National Trade Certificate(ITI pass-outs) issued by National Council for Vocational Training (NCVT) to develop skilled manpower for the industry. There are four categories of apprentices namely; **trade apprentice, graduate, technician and technician (vocational) apprentices.**

Qualifications and period of apprenticeship training of **trade apprentices** vary from trade to trade. The apprenticeship training for trade apprentices consists of basic training followed by practical training. At the end of the training, the apprentices are required to appear in a trade test conducted by NCVT and those successful in the trade tests are awarded the National Apprenticeship Certificate.

The period of apprenticeship training for graduate (engineers), technician (diploma holders and technician (vocational) apprentices is one year. Certificates are awarded on completion of training by the Department of Education, Ministry of Human Resource Development.

2.2 Changes in Industrial Scenario

Recently we have seen huge changes in the Indian industry. The Indian Industry registered an impressive growth during the last decade and half. The number of industries in India have increased manifold in the last fifteen years especially in services and manufacturing sectors. It has been realized that India would become a prosperous and a modern state by raising skill levels, including by engaging a larger proportion of apprentices, will be critical to success; as will stronger collaboration between industry and the trainees to ensure the supply of skilled workforce and drive development through employment. Various initiatives to build up an adequate infrastructure for rapid industrialization and improve the industrial scenario in India have been taken.

2.3 Reformation

The Apprentices Act, 1961 has been amended and brought into effect from 22nd December, 2014 to make it more responsive to industry and youth. Key amendments are as given below:

- Prescription of number of apprentices to be engaged at establishment level instead of trade-wise.
- Establishment can also engage apprentices in optional trades which are not designated, with the discretion of entry level qualification and syllabus.
- Scope has been extended also to non-engineering occupations.
- Establishments have been permitted to outsource basic training in an institute of their choice.
- The burden of compliance on industry has been reduced significantly.

3. RATIONALE

[Need for Apprenticeship in Hospital Waste Management trade]

The most important objective of waste management in developed countries is to protect the environment. All other objectives are, by far, less important. For a developing country like India, the situation with regard to the objectives of waste management is not so simple. Environmental protection, productivity improvement, employment generation, resource recovery, welfare needs of a huge population, and so on are also important with respect to waste management. Thus the problem of ascertaining the objectives of waste management in such cases is many faceted. There can be many objectives of waste management at aggregate and sectorial levels, which have relationships among each other and hence a structure associated with them.

Proper handling, treatment and disposal of biomedical waste play a vital role in hospital infection control programme. Objectives of BMW (Biomedical waste) management mainly involves preventing transmission of disease from patient to patient, from patient to health worker and vice versa, to prevent injury to the health care worker and workers in support services, while handling biomedical waste, to prevent general exposure to the harmful effects of the cytotoxic, genotoxic and chemical biomedical waste generated in hospitals. If properly designed and applied, waste management can be a relatively effective and an efficient compliance-related practice. This review article discusses about the collection, segregation, treatment and disposal of biomedical waste and its various types.

4. JOB ROLES: REFERENCE NCO

Brief description of Job roles:

5151.9900

Cleaning and Housekeeping Supervisors in Offices, Hotels and Other Establishments, Other Housekeepers and Related Workers, other include other workers who organize, supervise and carryout housekeeping functions in hotels, clubs, boarding schools and other enterprises and institutions and in private households not elsewhere classified.

9612 Refuse Sorters

Refuse Sorters identify, collect and sort discarded items suitable for recycling at dump sites and recycling enterprises or in buildings, streets and other public places.

- Internal collection of waste bags and waste containers and their transport to the central storage facility of the hospital on a daily basis.
- Liaise with the Stores and Supplies Department to ensure that an adequate supply of waste bags, containers, protective clothing and collection trolleys are available at all times.
- Ensure that sanitary staff and sweepers immediately replace used bags and containers with the new bag and containers of the same type on the required time or when it is full, and, where a waste bag is removed from container, that the container is properly cleaned before a new bag is fitted there in
- Prevent unsupervised dumping of waste bags and waste containers on the hospital premises, even for short periods of time.
- Co-ordinate and monitor all waste disposal operations, and for this purpose meet regularly with the concerned representative of the local council;
- Ensure that the waste is not stored on the hospital premises for longer than 24 hours, by coordinating with the incinerator operators and with the local council.

Reference NCO:

- a) 5151.9900 - Cleaning and Housekeeping Supervisors in Offices, Hotels and Other Establishments, Other
- b) 9612 - Refuse Sorters

5.GENERAL INFORMATION

1. Name of the Trade : Hospital Waste Management

2. N.C.O. Code No. : 5151.9900,9612

3. Duration of Apprenticeship Training (Basic Training + Practical Training):15
Months

3.1 For Fresher's:- Duration of Basic Training: -

Block –I: 3 months

Total duration of Basic Training: 3 months

Duration of Practical Training (On -job Training): -

Block–I: 12 months

Total duration of Practical Training: 12 months

3.2 For ITI Passed: - Duration of Basic Training: - 3 months

Duration of Practical Training (On -job Training): 12 months

4. Entry Qualification : Passed 10th class examination

5.Selection of Apprentices : The apprentices will be selected as per Apprenticeship
Act amended time to time.

6. Rebate for ITI passed trainees : 03 months in the trade of Hospital Waste Management
Assistant

Note: Industry may impart training as per above time schedule, however this is not fixed. The industry may adjust the duration of training considering the fact that all the components under the syllabus must be covered. However the flexibility should be given keeping in view that no safety aspect is compromised and duration of industry training to be remain as 1 year.

6. COURSE STRUCTURE

Training duration details: -

Time (in months)	1-3	4-15
Basic Training	Block- I	-----
Practical Training (On - job training)	----	Block - I

Components of Training	Duration of Training in Months														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Basic Training Block - I															
Practical Training Block - I															

7. SYLLABUS
7.1 BASIC TRAINING
(BLOCK – I)
DURATION: 03 MONTHS

GENERAL INFORMATION

- | | |
|------------------------------------|--|
| 1) Name of the Trade | :Hospital Waste Management |
| 2) Hours of Instruction | : 500 Hrs. |
| 3) Batch size | : 20 |
| 4) Power Norms | : 5 KW |
| 5) Space Norms | : 30 .Sq.m. |
| 6) Examination | : The internal assessment will be held oncompletion of the Block. |
| 7) Instructor Qualification | : |

- (i) M.Sc Microbiology with one yearexperience in the relevant field
 - (ii) B.Sc Microbiology with 2 years relevant experience
 - (iii)NTC/NAC in the trade of Hospital waste Management and 3 years experience in the relevant field
 - (iv)Degree with Environmental. Engg. + One year Experience.

Desirable qualification : Preference will be given to a candidate with Craft Instructor Certificate

- 8) **Tools, Equipments& Machinery required** : - As per Annexure – I

7.1 DETAIL SYLLABUS OF BASIC TRAINING

7.1.1 DETAIL SYLLABUS OF PROFESSIONAL SKILLS & PROFESSIONAL KNOWLEDGE

**Block –I
Basic Training**

Week No.	Professional Skills	Professional Knowledge
1	<p>Waste survey in a hospital practice on categorization of hospital waste. Awareness of environmental pollution.</p> <p>Demonstration on disease epidemiology. By various chart and video demonstration.</p>	<p>Introduction, definition of general and hazardous health care waste and diseases, Infectious waste, genotoxic waste, waste sharps, biomedical waste categories categorization and composition of Biomedical waste. Specification of materials. Color coding. Sources of Health care wastes, Hospitals and health care establishments & other sources. Specifically Communicable diseases, Diseases epidemiology and mode of transmission of disease and prevention. Environmental pollution, its causes, consequences, mitigation and remedies.</p> <p>Health impacts of biochemical's waste. Direct & indirect hazards. Potential health hazards. Persons at risk .Basic information about infection? Infection agents on organizations spread of infection and Hospital acquired infection.</p>
2	<p>Vaccination and Prevention of various diseases. Infection control system.</p> <p>Pathological, microbiological and radiological waste.</p>	<p>Legislation, policies and law regarding environment on Health care waste management. Biomedical waste management and handling rules, 1998 and its amendment thereafter. CPCB guidelines. (Central pollution control board) Some idea on safe disposal of Radioactive waste rules, 1995 guideline of BARC</p>
3	<p>Practice (on simulated basis) on Segregation. Poly bags collection. Bin. Autoclaving Incineration Labeling Use, care & maintenance of Autoclave</p>	<p>Basic steps in Health Care Waste Management Segregation at the point of generation sharp Decontaminating/Disinfections unit on container for autoclaving Sharp waste containers for storage and transportation autoclaving/ shredding /incrimination /bio hazard symbols.</p>
4	<p>Practice on collection & handling of waste(simulated)</p>	<p>Collection & Handling of waste. Infection control system in hospital. Needle sticks injury and other sharp injury and hospital policy for protection of health care workers.</p>
6	<p>Practice on digging vats, Pits, trenches.</p>	<p>Conventional Treatment Technologies a) Wet thermal technology</p>

		b) Incineration-different models Alternative Treatment Technologies Microwave Technology Rotaclave system,
7	Demonstrations/Practice on a)Composting b) Vermi composting. Demonstration/practice on disposal	Treatment of General/Non-infectious wastes a) Composting Rotating jumbling system French composting b)Vermi-composting Disposal Technologies a) Sharp disposal pit b) Deep-burial pit c) Secured land fill
9	Occupational safety/practices Practice/Demonstration on pretreatment of line, laundry, central sterilization.	Health & safety Practices Usage of protective equipment Occupational health programmers & safety practices Emergency measures Management of non-clinical support devices pretreatment of linen, laundry, central sterilization unit(CSSD)
10	practice on waste Audit	Estimate of various items of waste management based on no. of wards, no. of beds in each ward, other units like Laboratory, kitchen-waste Audit
11	Estimating various items of waste management Practice in maintenance of records Visit Ideal waste management sites like waste generation and segregation on site disinfection, Transportation Storage and final disposal.	Hospital budget allocation for hospital waste management Maintenance of records, annual report Visit to hospitals & health care units
12	Revision	
13	Examination	

7.1.2 EMPLOYABILITY SKILLS

GENERAL INFORMATION

- 1) **Name of the subject** : **EMPLOYABILITY SKILLS**
- 2) **Applicability** : **ATS- Mandatory for fresher only**
- 3) **Hours of Instruction** : **110 Hrs.**
- 4) **Examination** : **The examination will be held at the end of two years Training by NCVT.**
- 5) **Instructor Qualification** :

- (i) M.Sc Microbiology with one year experience in the relevant field
- (ii) B.Sc Microbiology with 2 years relevant experience
- (iii) NTC/NAC in the trade of Hospital waste Management and 3 years experience in the relevant field
- (iv) Degree with Environmental Engg. + One year Experience.

Desirable qualification : Preference will be given to a candidate with Craft Instructor Certificate

7.1.2.1 SYLLABUS OF EMPLOYABILITY SKILLS

A. Block – I Basic Training

Topic No.	Topic	Duration (in hours)
	English Literacy	15
1	Pronunciation : Accentuation (mode of pronunciation) on simple words, Diction (use of word and speech)	
2	Functional Grammar Transformation of sentences, Voice change, Change of tense, Spellings.	
3	Reading Reading and understanding simple sentences about self, work and environment	
4	Writing Construction of simple sentences Writing simple English	
5	Speaking / Spoken English Speaking with preparation on self, on family, on friends/ classmates, on know, picture reading gain confidence through role-playing and discussions on current happening job description, asking about someone's job habitual actions. Cardinal (fundamental) numbers ordinal numbers. Taking messages, passing messages on and filling in message forms Greeting and introductions office hospitality, Resumes or curriculum vita essential parts, letters of application reference to previous communication.	
	I.T. Literacy	15
1	Basics of Computer Introduction, Computer and its applications, Hardware and peripherals, Switching on-Starting and shutting down of computer.	
2	Computer Operating System Basics of Operating System, WINDOWS, The user interface of Windows OS, Create, Copy, Move and delete Files and Folders, Use of External memory like pen drive, CD, DVD etc, Use of Common applications.	
3	Word processing and Worksheet Basic operating of Word Processing, Creating, opening and closing Documents, use of shortcuts, Creating and Editing of Text, Formatting the Text, Insertion & creation of Tables. Printing document. Basics of Excel worksheet, understanding basic commands, creating simple worksheets, understanding sample worksheets, use of simple formulas and	

	functions, Printing of simple excel sheets	
4.	<p>Computer Networking and INTERNET</p> <p>Basic of computer Networks (using real life examples), Definitions of Local Area Network (LAN), Wide Area Network (WAN), Internet, Concept of Internet (Network of Networks),</p> <p>Meaning of World Wide Web (WWW), Web Browser, Web Site, Web page and Search Engines. Accessing the Internet using Web Browser, Downloading and Printing Web Pages, Opening an email account and use of email. Social media sites and its implication.</p> <p>Information Security and antivirus tools, Do's and Don'ts in Information Security, Awareness of IT - ACT, types of cyber crimes.</p>	
	Communication Skill	25
1	<p>Introduction to Communication Skills</p> <p>Communication and its importance</p> <p>Principles of Effective communication</p> <p>Types of communication - verbal, non verbal, written, email, talking on phone.</p> <p>Non verbal communication -characteristics, components-Para-language</p> <p>Body - language</p> <p>Barriers to communication and dealing with barriers.</p> <p>Handling nervousness/ discomfort.</p> <p>Case study/Exercise</p>	
2	<p>Listening Skills</p> <p>Listening-hearing and listening, effective listening, barriers to effective listening guidelines for effective listening.</p> <p>Triple- A Listening - Attitude, Attention & Adjustment.</p> <p>Active Listening Skills.</p>	
3	<p>Motivational Training</p> <p>Characteristics Essential to Achieving Success</p> <p>The Power of Positive Attitude</p> <p>Self awareness</p> <p>Importance of Commitment</p> <p>Ethics and Values</p> <p>Ways to Motivate Oneself</p> <p>Personal Goal setting and Employability Planning.</p> <p>Case study/Exercise</p>	
4	<p>Facing Interviews</p> <p>Manners, Etiquettes, Dress code for an interview</p> <p>Do's & Don'ts for an interview</p>	

5	Behavioral Skills Organizational Behavior Problem Solving Confidence Building Attitude Decision making Case study/Exercise	
	Entrepreneurship skill	15
1	Concept of Entrepreneurship Entrepreneurship- Entrepreneurship - Enterprises:-Conceptual issue Entrepreneurship vs. Management, Entrepreneurial motivation. Performance & Record, Role & Function of entrepreneurs in relation to the enterprise & relation to the economy, Source of business ideas, Entrepreneurial opportunities, The process of setting up a business.	
2	Project Preparation & Marketing analysis Qualities of a good Entrepreneur, SWOT and Risk Analysis. Concept & application of Product Life Cycle (PLC), Sales & distribution Management. Different Between Small Scale & Large Scale Business, Market Survey, Method of marketing, Publicity and advertisement, Marketing Mix.	
3	Institutions Support Preparation of Project. Role of Various Schemes and Institutes for self- employment i.e. DIC, SIDA, SISI, NSIC, SIDO, Idea for financing/ non financing support agencies to familiarizes with the Policies /Programmes& procedure & the available scheme.	
4	Investment Procurement Project formation, Feasibility, Legal formalities i.e., Shop Act, Estimation & Costing, Investment procedure - Loan procurement - Banking Processes.	
	Productivity	10
1	Productivity Definition, Necessity, Meaning of GDP.	
2	Affecting Factors Skills, Working Aids, Automation, Environment, Motivation How improves or slows down.	
3	Comparison with developed countries Comparative productivity in developed countries (viz. Germany, Japan and Australia) in selected industries e.g. Manufacturing, Steel, Mining, Construction etc. Living standards of those countries, wages.	
4	Personal Finance Management Banking processes, Handling ATM, KYC registration, safe cash handling, Personal risk and Insurance.	
	Occupational Safety, Health & Environment Education	15

1	Safety & Health Introduction to Occupational Safety and Health importance of safety and health at workplace.	
2	Occupational Hazards Basic Hazards, Chemical Hazards, Vibro-acoustic Hazards, Mechanical Hazards, Electrical Hazards, Thermal Hazards. Occupational health, Occupational hygienic, Occupational Diseases/ Disorders & its prevention.	
3	Accident & safety Basic principles for protective equipment. Accident Prevention techniques - control of accidents and safety measures.	
4	First Aid Care of injured & Sick at the workplaces, First-Aid & Transportation of sick person	
5	Basic Provisions Idea of basic provision of safety, health, welfare under legislation of India.	
6	Ecosystem Introduction to Environment. Relationship between Society and Environment, Ecosystem and Factors causing imbalance.	
7	Pollution Pollution and pollutants including liquid, gaseous, solid and hazardous waste.	
8	Energy Conservation Conservation of Energy, re-use and recycle.	
9	Global warming Global warming, climate change and Ozone layer depletion.	
10	Ground Water Hydrological cycle, ground and surface water, Conservation and Harvesting of water	
11	Environment Right attitude towards environment, Maintenance of in -house environment	
	Labour Welfare Legislation	5
1	Welfare Acts Benefits guaranteed under various acts- Factories Act, Apprenticeship Act, Employees State Insurance Act (ESI), Payment Wages Act, Employees Provident Fund Act, The Workmen's compensation Act.	
	Quality Tools	10
1	Quality Consciousness : Meaning of quality, Quality Characteristic	
2	Quality Circles : Definition, Advantage of small group activity, objectives of quality Circle, Roles and function of Quality Circles in Organization, Operation of Quality circle. Approaches to starting Quality Circles, Steps for continuation Quality	

	Circles.	
3	Quality Management System : Idea of ISO 9000 and BIS systems and its importance in maintaining qualities.	
4	House Keeping : Purpose of Housekeeping, Practice of good Housekeeping.	
5	Quality Tools Basic quality tools with a few examples	

7.2 PRACTICAL TRAINING (ON-JOB TRAINING) (BLOCK – I)

DURATION: 12 MONTHS

GENERAL INFORMATION

- 1) **Name of the Trade** : **Hospital Waste Management**
- 2) **Batch size** : a) Apprentice selection as per Apprenticeship Guidelines
b) Maximum 20 candidates
- 3) **Examination** : i) The internal assessment will be held on completion of the block
ii) NCVT exam will be conducted at the end of Apprenticeship Training
- 4) **Instructor Qualification** :

- (i) M.Sc Microbiology with one year experience in the relevant field
 - (iv) B.Sc Microbiology with 2 years relevant experience
 - (iii) NTC/NAC in the trade of Hospital waste Management and 3 years experience in the relevant field
 - (v) Degree with Environmental Engg. + One year Experience.

Desirable qualification : Preference will be given to a candidate with Craft Instructor Certificate

- 5) **Infrastructure for On-Job Training** : - As per Annexure – II

7.2.1 BROAD SKILL COMPONENT TO BE COVERED DURING ON-JOB TRAINING

BLOCK – I

1. Safety and best practices (5S, KAIZEN etc.)
2. Record keeping and documentation

DURATION: 12MONTHS (52WEEKS)	
SL NO	LIST OF PRACTICAL SKILLS TO BE COVERED DURING ON JOB TRAINING
1.	Instruction in safety precaution as applicable to the trade. Awareness of environmental pollution, occupational health hazards, its causes, consequences, mitigation and remedies. Health impacts of bio chemical waste.
2.	Practice on disease epidemiology. Vaccination and prevention of various diseases
3.	Waste survey in hospital practice on categorization of hospital waste
4.	Practice on segregation, Polly bags collection, bin, autoclaving, labeling. Use, care and maintenance of autoclave, Incinerator, Microwave Hydro pulping. Plasma Touch.
5.	Practice on collection and handling of waste. Pretreatment.
6.	Demonstration on hazards of various chemicals use in hospital Pathological, Microbiological and radiological waste.
7.	Infection control system in hospital. Visit to ideal waste management site.
8.	Record keeping and various form to be submitted to the government and waste auditing.
9.	Practice on digging, vats, Pits, Trenches. Practice on composting, Vermi composting
10.	Demonstration in recycling.
11.	Demonstration on pretreatment of linen, Laundry. Central sterilization
12.	Mechanical treatment and chemical disinfections store and off site transportation.
13.	Liquid waste treatment using different technologies. Conventional treatment technologies. Alternative treatment technologies, Microwave, Rota clave, Hydro clave, ETP, Electron beam technology.
14.	Occupational health programmers and safety practices
15.	Preparation of paper for legal proceeding.
16.	Estimate of various items of waste management based on No. of wards, No. of beds in each ward.

8. ASSESSMENT STANDARD

8.1 Assessment Guideline:

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking assessment. Due consideration to be given while assessing for team work, avoidance/reduction of scrape/wastage and disposal of scarp/wastage as per procedure, behavioral attitude and regularity in training.

The following marking pattern to be adopted while assessing:

a) Weightage in the range of 60-75% to be allotted during assessment under following performance level:

For this grade, the candidate with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of an acceptable standard of craftsmanship.

In this work there is evidence of:

- Good skill levels in the use of hand tools, machine tools and workshop equipment
- Many tolerances while undertaking different work are in line with those demanded by the component/job.
- A fairly good level of neatness and consistency in the finish
- Occasional support in completing the project/job.

b) Weightage in the range of above 75%- 90% to be allotted during assessment under following performance level:

For this grade, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a reasonable standard of craftsmanship.

In this work there is evidence of:

- Good skill levels in the use of hand tools, machine tools and workshop equipment
- The majority of tolerances while undertaking different work are in line with those demanded by the component/job.
- A good level of neatness and consistency in the finish
- Little support in completing the project/job

c) Weightage in the range of above 90% to be allotted during assessment under following performance level:

For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.

In this work there is evidence of:

- High skill levels in the use of hand tools, machine tools and workshop equipment
- Tolerances while undertaking different work being substantially in line with those demanded by the component/job.
- A high level of neatness and consistency in the finish.
- Minimal or no support in completing the project

**8.2 FINAL ASSESSMENT- ALL INDIA TRADE TEST
(SUMMATIVEASSESSMENT)**

SUBJECTS	Marks	Sessional Marks	Full Marks	Pass Marks	Duration of Exam.
Practical	300	100	400	240	08 hrs.
Trade Theory	100	20	120	48	3 hrs.
Employability Skill	50		50	17	2 hrs.
Grand Total	450	120	570	-	

9. FURTHER LEARNING PATHWAYS

Employment opportunities:

On successful completion of this course, the candidates shall be gainfully employed in the following industries:

1. Hospitals
2. Pathology Lab
3. Diagnostic Centres
4. Forensic Lab

TOOLS & EQUIPMENT FOR BASIC TRAINING

INFRASTRUCTURE FOR PROFESSIONAL SKILL & PROFESSIONAL KNOWLEDGE

TRADE: HOSPITAL WASTE MANAGEMENT

LIST OF TOOLS & EQUIPMENTS FOR 20 APPRENTICES

SL.NO.	DESCRIPTION OF TOOLS	QUANTITY
1	Electric tester, wire brush(for cleaning chamber after each cycle)	17 nos.
2	Wrench(for opening the chamber),(As require)	17 nos.
3	Wire brush(for cleaning chamber after each cycle)	17 nos.
4	Heavy duty gloves	17 nos.
5	Apron	17 nos.
6	Mask	17 nos.
7	Gumboot	17 nos.
8	Syringe and needle cutter	17 nos.

INFRASTRUCTURE FOR ON-JOB TRAINING

TRADE: HOSPITAL WASTE MANAGEMENT

For Batch of 20 APPRENTICES

Actual training will depend on the existing facilities available in the establishments. However, the industry should ensure that the broad skills defined against On-Job Training part (i.e.12 months) are imparted. In case of any short fall the concern industry may impart the training in cluster mode/ any other industry/ at ITI.

GUIDELINES FOR INSTRUCTORS AND PAPER SETTERS

1. Due care to be taken for proper & inclusive delivery among the batch. Some of the following some method of delivery may be adopted:

- A) LECTURE
- B) LESSON
- C) DEMONSTRATION
- D) PRACTICE
- E) GROUP DISCUSSION
- F) DISCUSSION WITH PEER GROUP
- G) PROJECT WORK
- H) INDUSTRIAL VISIT

2. Maximum utilization of latest form of training viz., audio visual aids, integration of IT, etc. may be adopted.

3. The total hours to be devoted against each topic may be decided with due diligence to safety & with prioritizing transfer of required skills.