
**Guidelines for
Assessing Bodies(ABs)**

under

**Skill Development Initiative Scheme (SDI)
Scheme based on
Modular Employable Skills (MES)**

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The Guidelines for Assessing Bodies(ABs) under Skill Development Initiative Scheme (SDI) Scheme based on Modular Employable Skills (MES) Manual has been revised with effect from September 2010 on the basis of the decisions taken during the 4th meeting of the Apex Committee constituted at National level for Skill Development Initiative (SDI) Scheme held on 22nd September 2010, under the Chairmanship of Secretary (L&E) at New Delhi.

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PREFACE

Being competent is not mere possessing technical, professional and interpersonal skills only but it is beyond that. It is an approach to deliver excellence in real work environment. It is performing according to standards already set which includes variety of activities such as planning, coordinating with man, machine and material, executing, evaluating and handling emergencies etc.

The world has come to realize that a piece of paper i.e. certificate or diploma/degree etc. tells nothing about an individual's competence but the workers get their value from their ability to perform on the job. Assessment process under Skill Development Initiative Scheme aims at testing and certifying the competency of those persons seeking certification of their skills.

We have made strenuous efforts in designing and preparing this document while paving a way for systematic approach towards conducting competency assessment.

We are thankful to Quality Council of India for extending their cooperation by giving valuable suggestions in enriching the quality of content of the guidelines.

I hope that the guidelines would stimulate interest amongst the assessing bodies and particularly, the assessors in devising suitable strategies for conducting competency assessment with an objective to accomplish the ultimate objective of producing world class technicians who not only meet the domestic but also global industrial requirement.



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1.0 SDI Scheme – The Genesis

While India has large young population, only 10% of the Indian labour force have acquired vocational skills whereas the percentage in industrialized countries varies between 60% and 96%. Only about 3.1 million (as in 2007) vocational training seats are available in the country whereas about 12.8 million persons enter the labour market every year. Even out of these training places, very few are available for early school dropouts (about 63% dropout before reaching Xth std). This signifies that a large number of school dropouts do not have access to skill development for improving their employability at one side and availability of 12.8 million jobs at the other side. Further, the largest share of new jobs in India is likely to come from the unorganized sector that employs up to 94% of the national workforce, but most of the training courses cater to the needs of the organized sector.

The Ministry of Labour & Employment, Government of India, considering the need for early school leavers and existing workers, especially working in the unorganized sector, their education, social and economic background, developed a new strategic framework for skill development in close consultation with industries, micro enterprises in the unorganized sector and State Governments.

Based on the above, on 22nd May 2007, the Ministry of Labour & Employment has launched the “Skill Development Initiative(SDI)” as a 100% Centrally Sponsored Plan Scheme to address the need of the following target group with a minimum age limit of 14 years(no upper age limit):

- Workers seeking certification of their skills acquired informally
- Early school drop-outs and unemployed
- Workers and ITI graduates seeking skill up gradation
- Previously child labour and their families.

So far, 1161 short term training courses(as on 30th October 2010) based on Modular Employable Skills (MES) in 52 Sectors have been identified which are the ‘Minimum Skills Set’ sufficient for gainful employment and 6084 Vocational Training Providers(VTP) are registered. The minimum age limit for persons to take part in the scheme is 14 years with no upper age limit.

1.1 Assessment Process under SDI Scheme

An Assessment is defined as a structured process in which evidence of performance is gathered and evaluated against agreed criteria. Assessment is the process of evidence collection of a person’s competence level through range of methods – tests, observations, interviews, assignments and professional discussions etc.

The assessment process under SDI Scheme aims to test and certify the competency of the persons those seeking certification of their skills acquired informally or the persons who have been trained at the registered VTPs. Assessment methodology has been designed keeping in mind the basic educational qualification of the candidates, the need of theoretical and practical knowledge with appropriate level of competency and the aim of generating employable workforce in the country.

The competency assessment of the candidate is being done by independent Assessing Bodies(AB) which are not involved in training delivery, to ensure an impartial assessment. So far, 41 Assessing Bodies have been empanelled under Directorate General of Employment & Training(DGE&T), Ministry of Labour & Employment to carry out the independent assessments all over the country.

1.2 The Objectives of Assessment & Certification under the SDI Scheme

The essence of the scheme is in the certification of Competency from the National Council of Vocational Training (NCVT) that is nationally and internationally recognized in the world of work. The main objectives of testing and certification under the SDI Scheme are:

- Testing & Certification of formally / informally acquired skills of one million persons in the country over a period of five years and a million persons every year thereafter.
- Testing & Certification process being conducted by independent Assessing Bodies, not involved in training delivery in order to ensure neutrality.
- Certification being recognized by national and international governments, private, industries and trade organizations.

2.0 Assessment under SDI Scheme - Measurement of Competency

Competency can be defined as a cluster of related knowledge, skills and attitudes that affect major part of one's job and that correlates with performance on the job that can be measured against well accepted standards.

The competencies are about "performing" and not knowing. The performance should meet the occupational standards and be demonstrated in real work environment. Competence is sum total of Knowledge, Skills and Attitudes (KSAs) of a person which provide him/her the ability to:

- handle the specific job effectively
- transfer skills to new work situations
- learn new skills on his / her own initiative

Three important criteria are presented in the assessment strategy:

- The standards require evidence of consistent occupational competence through relevant work activities
- A variety of assessment methods should be used to confirm competence.
- The assessment of knowledge should be integrated with assessment of Performance, wherever possible.

2.1 Assessment Criteria

Assessment Criteria are statements that describe the standard to which one must perform the actions, knowledge, understanding, skills and attitudes stated in the outcomes. The following

critical outcomes must be included and assessed in each qualification:

- Identifying and solving problems using critical thinking.
- Organizing and managing oneself and one's activities responsibly and effectively.
- Working effectively with others as a member of a team.
- Collecting, analyzing, organizing and critically evaluating information.
- Communicating effectively using visual, mathematical, and/or language skills
- Using the technology effectively and critically showing responsibility towards the environment.

3.0 Constituents of High Quality Assessment

As assessment is central to the recognition of achievement and the quality of the assessment is therefore important to provide credible certification. Credibility in assessment is assured through assessment procedures and practices being governed by certain principles.

- | | | |
|--------------|---|--|
| Objectivity | - | All decisions related to Assessment should be objective. |
| Validity | - | It refers to accuracy of the evidence. A valid test is one that assesses what is supposed to assess. |
| Reliability | - | It refers to consistency of the information and evidence collected. Technically, reliability refers to the consistency of results. In practical terms: <ul style="list-style-type: none">• A person, who is declared competent, should be competent, if tested again on the same test.• If an equivalent test is given to a competent person, he should be declared competent again.• Whosoever carries out assessment, competent persons will be declared competent and incompetent persons will be declared incompetent. |
| Sufficiency | - | It collects adequate and appropriate evidence to make an accurate assessment. |
| Currency | - | The evidence collected is recent and still relevant. |
| Authenticity | - | The evidence collected and presented for assessment is of the candidate being assessed. |
| Transparency | - | The candidate is kept informed of assessment criteria at all times and provided accurate and timely feedback. |
| Fairness | - | Assessment should be fair to the candidates in terms of contents, difficulties, tasks to be performed, time allocation and Administration.

An assessment should be fair to the society in the sense that : <ul style="list-style-type: none">• Highly competent person should be identified and certified• Incompetent persons are not allowed to practice |

4.0 Assessment Methodologies

The assessor must produce a report of every assessment observation and a copy of this will become a piece of evidence in the candidate's portfolio. The details include:

- Assessor observation reports
- Work products
- Questioning
- Professional discussion
- Direct Performance Observation
 - At the work place
 - Simulated Work Environment
 - Laboratory/Workshop

There must be a detailed record of the discussions for verification.

4.1 Questioning Techniques

- Question must be clear and have only one interpretation.
- Question must be easy to use and require minimum time to answer
- As far as possible equal time should be given to all questions having same scores
- Question having same time and same score should have same degree of difficulties
- Assessment should be practical and instructions should be simple and direct
- Assessment should be reasonably direct, simple and easy to mark
- Assessment should spread over the entire syllabus

4.2 Kinds of Tests – An Overview

4.2.1 Theory Tests (as recommended under SDI Scheme)

Much of theoretical knowledge can be tested in its application in practical. For example, if the candidate can apply Ohm's law in doing the job, the theory questions on Ohm's law are not required. Wherever, the theory test is considered necessary:

- It must assess the knowledge, which is essential for a person to do the job. Without this knowledge, the person must not be able to do the job.
- The questions should normally be of objective type involving selection of correct response rather than writing sentences.
- The question paper should contain sketches / diagrams / photographs / drawings to overcome the problems of reading comprehension.
- The test should be of short duration. The different kinds of Tests generally applied to all kinds of assessments are:
 - ✧ Oral Test / Written Test
 - ✧ Objective Test (Example: Identification, Multiple choice, Matching, Completion, True-False etc.)

4.2.2 Performance Tests (Practical test recommended under SDI Scheme)

- Manipulative Skills to handle tools & equipment
- Speed in doing work
- Accuracy maintained
- Quality in workmanship
- Sequence of Performance
- Economical use of materials
- Neatness & House keeping
- Ability to follow Manuals/ Written instructions

4.3 Assessment Parameters

4.3.1 Knowledge

- for equipment, tools & material
- for limitation of use of tools & equipment
- of methods & procedure

4.3.2 Understanding

- of functioning of equipment & tool
- criteria to be used in selecting tools for a given tasks
- the process of measurement

4.3.3 Skill

- Precision – Finishing to required measurement
- Computing – Handling measurements & calculations
- Manual – Handling tools & equipment with ease
- Finishing – Neat finishing

4.3.4 Abilities

- To take corrective steps
- To use correct work habits
- To take measurements
- To complete the job within stipulated time
- To adopt safe practices

4.3.5 Attitude

- towards the work
- regarding appreciation for accurate & precise work
- regarding appreciation for neatness
- towards co-workers and supervisors

5.0 Duration of Testing

The duration of competence tests will vary according to the task. There will be some tests which will be speed tests and these tasks have to be performed speedily with accuracy.

For example - Stenography, Nursing, Word processing, Accountancy, Car driving etc.

Some tests will be of longer duration may be 8 hours or more, where speed of action is not the prime consideration.

For example - Tests on boilers maintenance, Machining exercise & Job Preparation, Automobile engine disassembly/ assembly, Making woolen suits etc.

The duration of the test will be based on a number of considerations:

- The time taken by a competent person in real job environment.
- The standards prescribed by professional bodies

6.0 Recording the Assessment

A competence checklist is a list of activities or performance outcomes that a candidate must be seen to be able to do in order to be considered competent in the tasks being assessed for. The checklists are written in the same way so that for each competence statement, it is possible to say either 'Yes, the candidate successfully carried out this activity' or 'No, the candidate has not yet achieved this standard.' While recording the assessment of competencies, the following points are to be kept in mind:

- Ability to apply related knowledge to practical jobs
- Selection, Care, proper use and up-keep of tools & equipment
- Selection, Care and economical use of materials
- Observing safety and work precautions
- Speed in doing the work & accuracy maintained
- Amount of work done & quality of workmanship
- Number of attempts made
- General attitude towards the works

Assessment Checklist:

Applica- tion of Know- ledge		Care for tools & equip- ment		Econo- mic use of materials		Safety Consci- ousness		Speed		Accuracy		Quality of Workma- nship		Amount of Work		No. of Atte mpts		Attitude	
S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N	S	N

S = Satisfactory

N = Not Satisfactory

On recording the observations in the checklist against each competence statement, the assessor is supposed to make his professional judgement, clearly indicating:-

either 'Yes' = The candidate has carried out successfully his activities

or 'No' = The candidate has not yet achieved the desired standard

7.0 Role and Expertise of the Assessor

The capabilities of Assessors may be decided on the followings:

- i. Relevant academic and occupational qualifications.
- ii. Understanding of factors to be considered for assessment of competencies at various levels.
- iii. Have considerable hands on experience and occupational expertise
- iv. Possess cross-field knowledge.
- v. Possess keen observation skills.
- vi. Be able to communicate in local language
- vii. Knowledge of standards and forms of assessment to be used.
- viii. Be humane, kind and sympathetic.
- ix. Be trained and certified assessors.

Assessing Bodies must institutionalize a framework to obtain feedback from VTPs, students, RDATs in order to constantly monitor and improve their (assessors') practice.

8.0 Assessment for Persons with Disabilities (Covered under 1995 Disability Act)

- Hearing Handicapped generally requires an Interpreter /ISL Expert
- Visually Challenged requires either a Scribe(should be less qualified than the candidate) or BRAILLE language may be used
- People with Low Vision may be permitted to use magnifying glass
- Loco motor handicapped(Sensory disorder & Psychological disorder may function like normal category
- Special device to suit requirement of job for visually handicapped people:
 - Dictaphone & Tape-recorder for stenography etc.
- Special device to suit requirement of job for visually handicapped people:
 - Elevated platform or elevated & adjustable furniture for manufacturing and maintenance sectors
- Use of orthotic, prosthetic mobility & hearing aids(within the parameter prescribed for safety & security)

9.0 Competency Assessment - Salient Points at a glance

9.1 Assessment Strategy

Elements

- Occupational Standards
- Competences and Competence Criteria
- Selection of appropriate Assessment Types and Methods for selected competences
- Quality Assurance including Internal and External Assessor Qualifications
- Moderation
- Internal Assessments
- Record Keeping
- External Assessments
- Feedback

9.2 Assessment Plan

Elements

- Number of candidates
- Number of assessors
- Competences to be assessed

- Time for assessment
- Communication to Center/Candidates
- Assessment Methods (performance/knowledge)
- Space required
- Equipment required
- Materials required
- Sequence of activity
- Documentation
- Evidence Inspection
- Quality assurance checks (authenticity, rules, guidelines and procedures)
- Moderation
- Portfolio compilation
- Evaluation
- Feedback

9.3 Assessors' Qualifications and Requirements

Technical Competence

- Trade Qualification
- Assessor Qualification (Minimum Level I)

Support Skills

- Communication
- Numeracy
- Documentation and Report Generation
- Basic IT usage
- Problem Solving
- Working with others
- Assertiveness
- Grooming and Presentation

9.4 Documentation requirements

- Candidate Registration form
- Time table
- Attendance Sheet
- Internal Assessments
- Feedback Sheets
- Internal Quality Assurance Reports
- Trainer Qualifications
- Internal Assessor Qualifications
- Records of Professional Development
- Assessment Plan
- External Assessment Records
- Observation Checklists
- Evidence Records
- Tests (Written papers/records)
- Evidence Record Sheets
- Result Submission
- Feedback Sheets
- Appeals Form

Terms & Conditions For Assessing Bodies

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Pre- Assessment & Post Assessment Guidelines

Application Formats

10.0 Criteria for Selection of Assessing Body

Following parameters are considered while selecting assessing bodies:

- Should be an Industry/Employers' Association or any organisation having expertise in assessment of competencies. Organizations having experience in testing of competencies would be preferred.
- Should not be a training provider under the scheme.
- Should have branches or operations at state/regional/all India level.
- Should be an Income Tax assessee
- Should have experts of repute and integrity in different industrial trades and technology.
- Should have accredited by Quality Council of India. Such registered Assessing Bodies will have to get the ISO 17024 Certificate within one year of registration failing which they will automatically be de-registered.
- Apex Committee can review and revise the criteria.

11.0 Terms & Conditions for Assessing Bodies

Assessing Bodies abide by the following terms and conditions:

1. Assessing Body (AB) shall conduct testing in respect of States and Sectors allotted by Directorate General of Employment and Training (DGE&T) under Skill Development Initiative Scheme. The testing shall be done only for MES courses under the sectors approved by the National Council for Vocational Training.
2. Assessing Bodies (ABs) shall apply for accreditation to Quality Council of India (QCI) by November 2010 failing which the ABs will be deemed to be de-registered from the list. Thereafter, ABs shall get themselves accredited from QCI by May, 2011 failing which ABs will be deemed to be de-registered. The ABs shall get ISO 17024 accreditation within a year from the date of accreditation from QCI.
3. Assessing body will not engage any franchises for undertaking assessment on their behalf. Assessing Body shall have office/infrastructure within the State/UT they have been permitted to conduct the assessment
4. Assessing Body shall form a panel of assessors of high repute and integrity, State wise and MES sector wise and forward their name, address, qualifications, experience, contact nos., photographs to the DGE&T. Assessing Body shall upload the list of assessors with their addresses and phone nos. on the websites. These assessors shall be trained and certified by QCI after which they will be registered with DGE&T who will issue them identity cards with unique Id (Sector wise/State wise). The assessment can be carried out only by these authorized Assessors.
5. Assessing Body shall send their Assessors for training when conducted by DGE&T.
6. Assessing Body should conduct assessment only at the training centres of VTP or designated testing centres pre inspected by competent authorities.

7. Normally testing will be done at the training centre of concerned VTP. However, if the Assessing Body plans to carry out testing at their places, it shall draw a list of testing centres and such list will be sent to concerned RDAT and State Director for record. Testing shall be conducted at the authorised training centre or authorised testing centre only.
8. Assessment Batch size shall not be more than the prescribed i.e. 20 in case of Manufacturing and 30 in case of services, agriculture and allied sectors.
9. Assessment Batch Number (ABN) will be issued by RDATs.
10. Assessing Body shall reimburse to the TC expenses, at rate of 10%, towards conduct of assessment.
11. Assessing Body shall not enter into any agreement with any other organization for similar work without obtaining prior permission of DGE&T.
12. Assessing Body shall maintain full and complete record pertaining to candidates registered, tested, passed, fee charged, testing centres, assessors, assessment fee etc. and shall preserve all the records for at least five years to make it available to the authorised representatives of DGE&T/RDAT at any time.
13. Assessing Body shall open a separate bank account for MES scheme and all receipts & payments in this regard shall be made in this account only.
14. Assessing Body shall not charge more assessment fee than prescribed by the DGET. DGE&T reserves the right to review and revise the assessment fee as and when required.
15. RDAT shall maintain a roster of ABs sector-wise and state-wise and assign them to VTPs in order of conclusion of their training programmes, so that the same Assessing Body does not assess the same VTP again and again.
16. RDATs will closely monitor the assessment carried out by the ABs and also provide necessary guidance to the ABs for maintaining proper documentation of record in this regard.

12.0 Testing Centres (TCs)

Assessment of the persons is done in designated Testing Centers (TCs). Assessing bodies will select testing centers. The State /UT Governments will provide necessary support to the assessing bodies in selecting the Testing Centers. All VTPs and government ITIs affiliated to NCVT function as TCs. The assessing bodies will provide details of selected TCs along with skill areas in which assessment can be done to the respective RDATs and State Directors. Testing Centres will enter into agreement with the assessing bodies for at least two years Copy of such MOU should be sent to respective State/UT and RDAT. All Testing Centers (TCs) declared by ABs prior to assessment shall be inspected by a committee comprising representative of RDAT, State Director and Industry expert.

13.0 Assessment/Testing Fee

The assessment fee is charged @ ₹ 500-800/- depending on the skill area. The assessment fee for an engineering course (requiring workshop, equipment, raw material in addition to class room

training) is ₹ 800/- per trainee per course and assessment fee for a non-engineering course is ₹ 500/-. The details of such courses along with assessment fee are given in Annexure-I. Apex Committee can review and revise the assessment fee, if required. The candidate will deposit the assessment fee directly to the Assessing Bodies/VTPs. It is the responsibility of the assessing bodies to inform the candidates about the date and venue of assessment one month before the date of assessment.

14.0 Reimbursement of Assessment Fee

Initially ₹ 500-800/- person is fixed as assessment fee depending upon the skill area to be assessed. The assessment fee is reimbursed to all the successful persons who have received training from approved VTPs. In respect of persons who directly come for assessment of their skills, assessment fee is reimbursed to persons belonging to disadvantaged groups (SC, ST, OBC, persons with disabilities), women and poorer sections of the society who pass the test. Assessing bodies while forwarding the list of successful candidates to RDAT will also furnish the information to respective State/UT for reimbursement of assessing fee. State/UT will make payment, as far as possible, through ECS to Assessing bodies for onward reimbursement to successful candidates. The Assessing bodies have to furnish a certificate within fifteen days from the date of receipt of cheque from RDAT that they have reimbursed the assessment fee to the successful candidates.

15.0 Methodology for Reimbursements

15.1 For students undergoing assessment after training

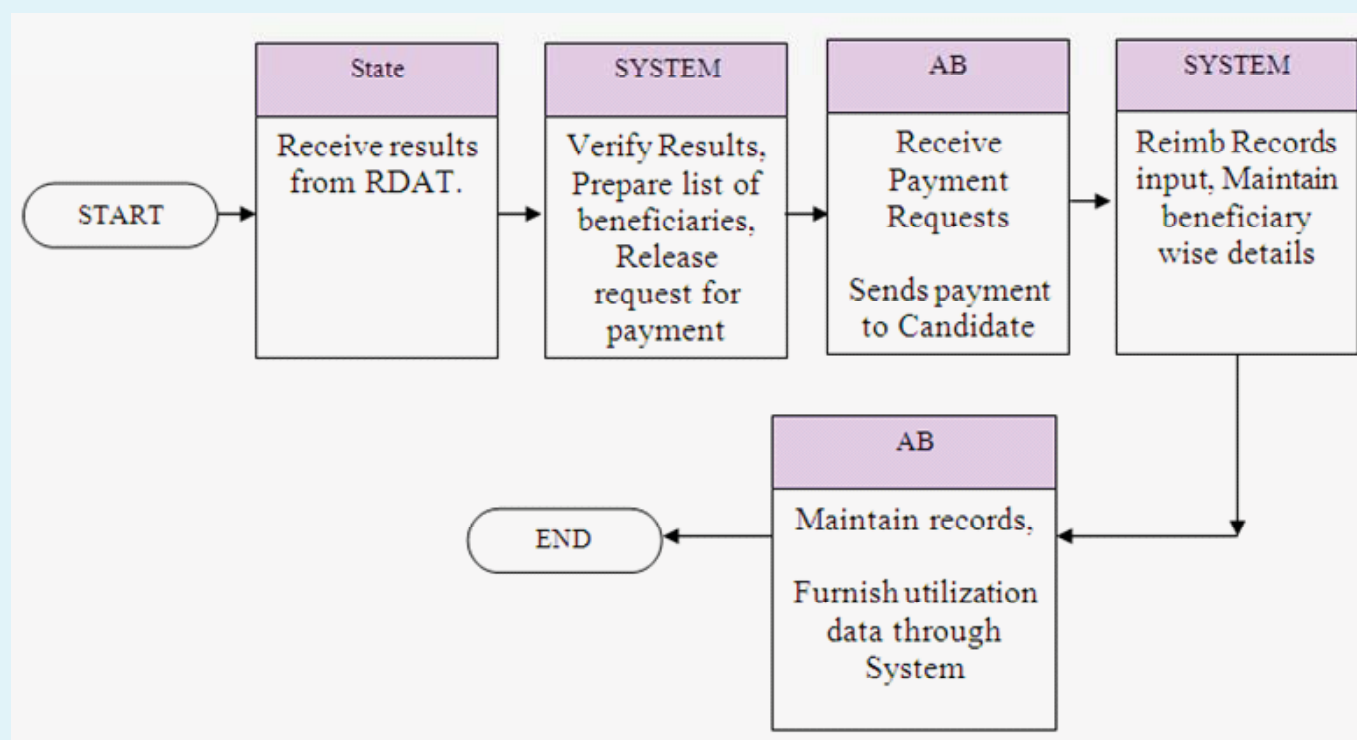
Within a week of commencement of training, VTP would send the details of the trainees engaged under MES to respective RDAT/State in specified Performa seeking the date of assessment and name of the Assessing Bodies allotted through electronic e-mail. RDAT shall allot the AB and fix the date of Assessment and Training Center through electronic e-mail. Once the Assessment schedule has been fixed, the VTP would provide the student details to the Assessing Body with a copy to the respective RDAT. After the assessment, the AB would prepare the results and send it to the respective RDAT within seven days. Based on the results, the RDAT would prepare the Certificates within a week and dispatch it to the ABs for sending the same to the trainees within two days. The State/UT will make payment to the respective VTPs. It would be the responsibility of the VTP to re-imburse the training fee to the students within a stipulated time period. The VTP will have to furnish a certificate to the State/UT within fifteen days from the date of receipt of cheque/s that they have reimbursed all the money to the successful students.

15.2 For students undergoing assessment directly

The student who wishes to undergo assessment only would approach the AB directly. The student would apply in the prescribed format and attach the supporting documents. The AB would verify the documents submitted by the student and note whether the student is eligible for reimbursement after passing the test. After the Assessment the AB would send the consolidated results to the RDAT.

The RDAT would prepare Certificates and will send the list of successful candidates to the State/UT and AB. AB will submit the Bill for re-imbursement of Assessment fee of the successful candidate to respective State/UT to make payment through ECS. RDAT will prepare certificates within seven days of receipt of result from assessing body and will send to ABs for onwards transmission to the trainees within two days.

Process Flow: Overview of Re-imbursement procedure to Assessing Body



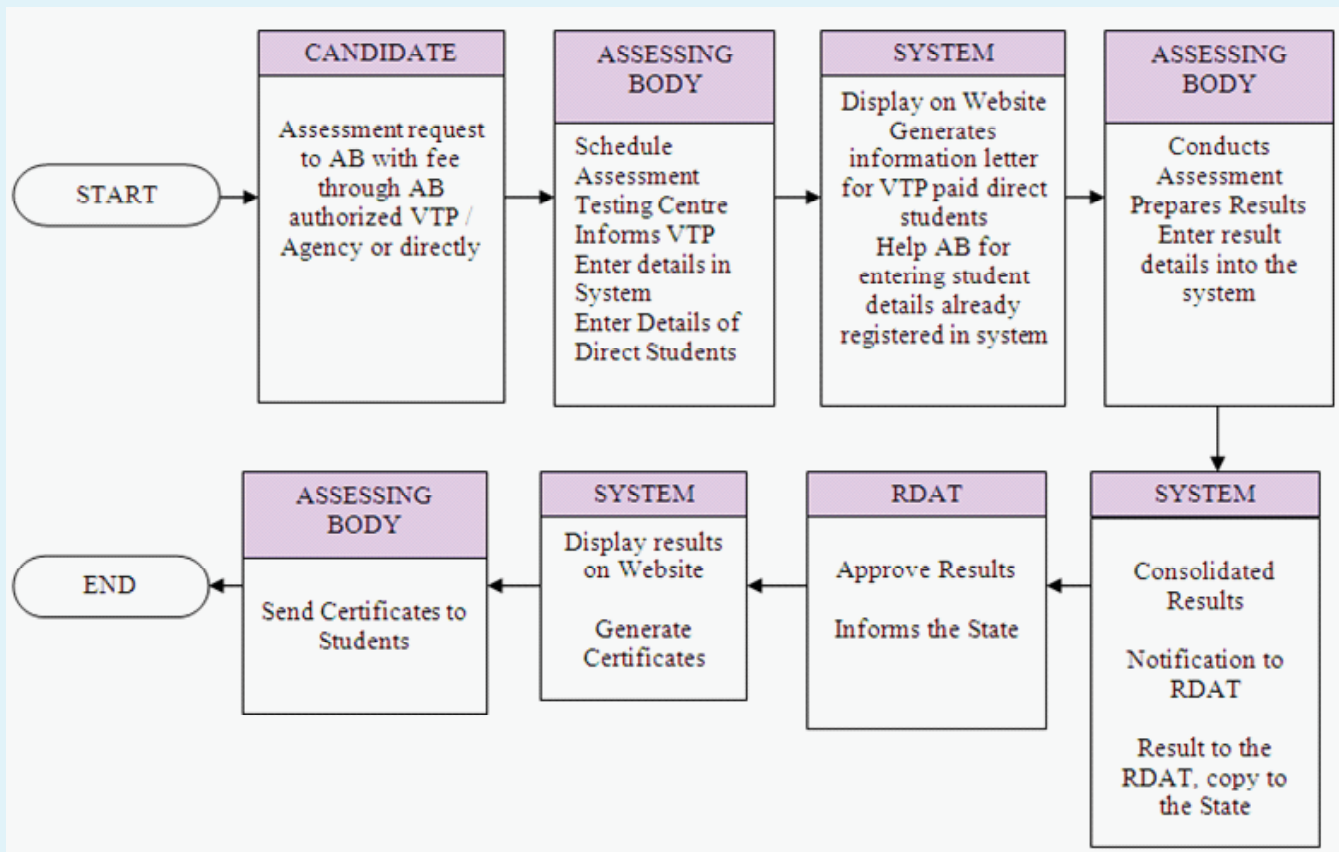
16.0 Certificate

Successful persons are awarded certificates issued by National Council for Vocational Training (NCVT).

16.1 Procedure for handling certificates not disbursed

In event of VTP / Assessing Body unable to distribute the certificate to the student on account of returned post/ wrong address / etc, the VTP/Assessing Body should preserve the certificate for the period of six months and shall then return the certificate to RDAT. Any candidate desirous of getting certificate after the stipulated time shall contact RDAT through the VTP or Assessing Body.

Process Flow: Overview of Assessment Process and Issuance of certificate



17.0 Pre- Assessment

17.1 Pre-assessment instructions for RDATs/State/UT/Assessing Bodies:

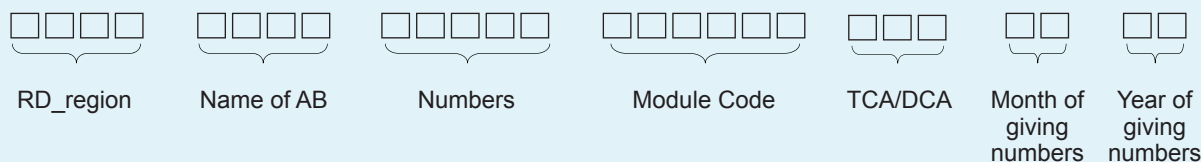
- i. RDAT will prepare a register listing the names of Assessing Bodies.
- ii. The names of assessing bodies shall be serialized on the basis of date of order issued by DGET relating to empanelment of Assessing Bodies.
- iii. In case the date of empanelment is same, then the Assessing Bodies shall be serialized alphabetically.
- iv. RDAT will communicate/ confirm unique "Assessment Batch Number (ABN)" on first come first serve basis immediately after receipt of information about date of starting and completion of training course from State Society under 'Training Candidate Assessment' (TCA) or Direct Candidate Assessment (DCA) and allotment of AB within a week to both VTP and AB.

Assessment Batch Number

First , second, third and fourth digits	RD_region
Fifth, sixth seventh & eighth digits	Name of Assessing Body
Ninth,tenth, eleventh, twelfth & thirteenth digits	Numbers

Fourteenth, fifteenth, sixteenth, seventeenth, eighteenth & nineteenth digits	Module Code
Twentieth, twenty first & twenty second digits	TCA/DCA
Twenty third & twenty fourth digits	Month of giving number
Twenty fifth & twenty sixth digits	Year of giving numbers

For example



Therefore 26 digits final ABN No. will be

RDMU ISTD 00001 LEA101 TCA 01 11

- v. RDAT will allot batches to the Assessing Bodies on rotational basis depending on the presence of assessing body in that region sector wise. AB shall collect assessment fee of the candidates trained through a bank draft from VTP.
- vi. ABs would confirm the suitability of the date of assessment in consultation with the VTP/ TC, which should preferably be one month before the completion of training and communicate the same to the office of State Director and RDAT. If for an unforeseen reason, the date of the assessment is changed, the Assessing Body should inform the RDAT, VTP, State Director/UT & candidates of the same & also about the rescheduled assessment date & time.
- vii. RDAT will inspect the Testing Centers in consultation with QCI.
- viii. Assessing Body shall form a panel of assessors of high repute & integrity and SDIS sector wise and location wise. Assessing Body would provide a list of trades / courses in which it will/ is ready to conduct the assessment to DGE&T & respective RDAT.
- ix. The Assessing Bodies will get the assessment conducted through Assessors authorized by DGE&T, New Delhi. The Assessing Body will not conduct the assessment from unauthorized Assessors.
- x. The assessment of the candidates would be done by the Assessing Body in designated Testing Centers (TC). The Assessing Body would select the TC based on the location, accessibility, number of students covered and the infrastructural facilities available with the TC for conducting the test. The State/ UT Governments, RDATs and the State Directors would provide the necessary support to the Assessing Body in selection of the TC. All the VTPs and Government ITIs affiliated to NCVT would be eligible to function as TC.
- xi. The Assessing Body would provide details of selected TCs along with skill areas in which assessment can be done at the respective TC, to the RDAT and the respective State Directors./UT Admn.
- xii. TCs will enter into a non-exclusive agreement with the Assessing Body for providing their premises and infrastructural facilities to the Assessing Body for conducting the test.

- xiii. The Assessing Bodies shall not conduct assessment in VTPs affiliated to NCVT during the time of regular courses under Craftsmen Training scheme (CTS) being conducted in the premises with the same infrastructure.
- xiv. The Assessing Body in consultation with the TC will make arrangement of conducting the assessment.
 - a. AB or its authorized TCs will collect Testing fee and register the candidates.
 - b. Assessing body will process the registration data and send Admit cards to candidates indicating: Name of the candidate, Address of the Candidate, Trade, Course Code, VTP, TC, Date, Time, Photograph and sample signature of the candidate.
 - c. AB will prepare test (QUESTION) papers based on the assessment criteria/ competency based standards (Question Bank) approved by NCVT & dispatch to the assessors identified by it.
 - d. Assessing Body will also communicate to the TC following:-
 - ◆ Details of the candidates to appear for assessment in various MES courses (Name of trade/ area)
 - ◆ Details of the assessors selected with their contact details.
 - ◆ Requirement of infrastructure, raw material etc.
 - ◆ Cost to be reimbursed by AB. A minimum of 10% of assessment fee has to be paid to TC by AB.
- xv. Assessing body will reimburse cost to TC and assessors.
- xvi. In case of direct assessment,
 - a. AB shall conduct assessment twice in a month regularly at the specified centers and give wide publicity for conducting the same through different media.
 - b. AB shall be responsible for registration of candidates for testing and collection of assessment fee. It may do so directly or through its authorized designated centers or VTPs.
 - c. AB shall send a list of candidates to be assessed to RDAT in the prescribed proforma, who in turn shall acknowledge the same by allotting a unique Assessment Batch Number (ABN).
 - d. RDAT shall make schedule of trade test, including date, time and list of candidates and the location of designated under intimation to ABs.
 - e. AB shall inform TC well in advance about the courses, candidates list, cost to be reimbursed, etc in respect of trade testing.
 - f. AB shall be responsible for preparation of test question papers based on the approved assessment criteria i.e. theory, practical and viva voce for particular competency as approved by NCVT. The AB shall also provide a copy of the question paper along with the claim bill to State/ UTs.
- xvii. Assessing Body shall not enter into any agreement with other organizations for similar work without obtaining prior consent of DGE&T.

18.0 Post Assessment

(A) The Assessing Body would do the following activities after the assessment:

- i. Assessing Body shall prepare results within 7 days after administering the assessment and up load the same on web based software for scrutiny, approval and declaration by the concerned RDAT within next 3 days.
- ii. AB shall consolidate the outcome of the assessment and enter all the results on to the web based software and also forward a hard copy to the concerned RDAT by the fastest mode indicating therein, the name of certified assessor along with unique Id number etc.
- iii. RDAT on behalf of DGE&T will approve outcome of the assessment and send it to the VTP along with the Certificates to the respective VTP who in turn will distribute the same to the concerned candidates within 7 days. It would be the responsibility of the RDAT to process the results and print and sign the certificates for successful candidates and send it to the respective VTP. In case of direct candidates, the Certificates would be sent to the Assessing Body.
- iv. AB shall reimburse assessment fee of the successful eligible candidates to the VTP for distribution to the candidates.
 - a. The Assessing Body would claim the reimbursement of assessment fee from respective State/ UT giving details of reimbursement made to successful eligible candidates. State/ UT shall reimburse the same to the AB.
 - b. In case of direct candidates, AB would claim the reimbursement of assessment fee in case of SC/ST/OBC/ Women, and person with disabilities and poorer section of the society from respective State/ UT giving details of reimbursement made to successful eligible candidates. State/ UT shall reimburse the same to the AB.
 - c. Assessing Body shall maintain full and complete record pertaining to candidates registered, tested, passed, fee charged, testing centres, assessors, assessment fee etc. and shall preserve all the records in the form of soft copy (CD/ DVD)for at least 5 years to make it available to the authorized representatives of DGE&T/ RDAT at any time.

(B) The Assessing Body while submitting the outcome of the Assessment to RDAT shall submit following:-

1. Attendance Sheet indicating, date of Assessment, name of candidate, Father/Mother Name, House Address, roll no allotted by VTP, name of the VTP/Registration no. , signature of the candidate, signature and name of Assessor along with qualification , Name of the assessing Body Name of the Testing Centre.
 - a. Each paper of the outcome shall be signed by assessor(s) who has/ have conducted assessment. No facsimile signature of assessor(s) is allowed.
 - b. Name(s) of the assessor(s) , qualification and experience shall be sent along with the outcome statement.

- c. Assessor(s) registration number if he/she is trained by QCI.
 - d. ABs must officially send the outcome statement with a forwarding letter duly endorsed by their official/coordinator whose name is already registered with RDATs/DGET
 - e. Name of the Testing Centre & Assessment Batch Number(ABN) shall be mentioned on the outcome statement.
 - f. Attendance Sheet indicating, date of Assessment, name of candidate, Father/Mother Name, House Address, roll no allotted by VTP, name of the VTP/Registration no. , signature of the candidate, signature and name of Assessor along with qualification/ Assesor's ID No.(to be issued by DGET in near future).
 - (g) Certificate of proof in respect of SC/ST/OBC/PWD/Women (for Direct Testing).
2. Documents relating to House address, qualification and age of candidates.
 3. Photocopy of register showing details of collection of Assessment fee, along with DD/ IPO nos. duly attested by gazetted Officer.
 4. Certificate of proof of SC/ST/OBC/PWD/Women (Direct Testing).
 5. Assessment Batch No.
 6. Question papers for theory and practical.
 7. Few answer sheets and few practical samples.
- (C)** Funds will be transferred to the State Society which, in turn, shall make payments towards reimbursements. The payments towards all reimbursement claims shall be settled within 30 days from the date of receipt of bills. If there are any discrepancies in the bills submitted by the VTPs and ABs, the society shall return the said bills within 10 days from the receipt of bills. In case, if the disbursement against the authentic bills is not made within the stipulated period, the Society will pay interest @12% per year for the delay at their end and this extra interest burden will have to be met by the respective State Govts. From its own resources.
- (D)** Assessing Body while submitting the Bills to state /UT Society for reimbursement shall submit the following:-
1. Photocopy of the results sheets duly approved by the respective RDATs. And Attendance Sheet indicating, date of Assessment, name of candidate, Father/Mother Name, House Address, roll no allotted by VTP, name of the VTP/Registration no. , signature of the candidate, signature and name of Assessor alongwith qualification, Name of the assessing Body Name of the Testing Centre.
 2. Documents relating to House address, qualification and age of candidates.
 3. Photocopy of register showing details of collection of Assessment fee, alongwith DD/ IPO nos. duly attested by gazetted Officer.
 4. Certificate of proof of SC/ST/OBC/PWD/Women (Direct Testing).
 5. Assessment Batch No.
- (E) General**
- Assessing Body shall be responsible for any claim or dispute arising out due to assessment done by it. DGE&T will not be a party to any such dispute. DGE&T reserves the right to cancel / alter / modify these terms & conditions at any point of time without giving any notice. DGE&T reserves the right to cancel the empanelment in case the stipulated terms & conditions are not adhered to by Assessing Body and no claims / damages etc., whatsoever, will be made to Assessing Body on account of this cancellation. In case of any dispute, decision of Ministry of Labour and Employment will be final and binding on Assessing Body.

**APPLICATION FORM FOR CANDIDATES FOR ASSESSMENT UNDER
SKILL DEVELOPMENT INITIATIVE SCHEME (SDIS)**

APPLICATION FOR: Candidate Registration for Training / Testing

Reg. No..... (For official use only)

Date.....

I. PERSONAL DETAILS

Candidate's Name

Father's Name

Mother's Name

Religion Hindu Sikh Muslim Christian Others

Sex Male Female

Date of Birth

Category General SC ST OBC Person with disability Yes No

Languages Known Monthly Income (In rupees).....

II. EDUCATIONAL DETAILS

General Qualification 5th 8th 10th 12th

Professional Qualification NTC NAC Diploma Degree

Post Graduation Non Professional

III. CONTACT DETAILS

Telephone/ Mobile

E-mail (optional)

Present Address

Permanent Address

City

City

District

District

Postal Code

Postal Code

State

State

Country

Country

IV. MES COURSE IN WHICH TRAINED (NOT APPLICABEL FOR DIRECT TESTING)

Sector

Course / Module

V. DETAILS OF VTP IN WHICH TRAINED

Name of Vocational Training Provider

Address

VI. PAYMENT DETAILS FOR TESTING DEPOSIT/ FEE

Cash / Cheque / DD/ IPO No.....DatedAmount (In Words.....
.....) Drawn on

DECLARATION

I declare that the entries made by me in this form are true to my knowledge and I understand that I am liable for action under the law for any false information or document produced by me.

I also understand that the VTP shall be free to investigate on its own into the correctness of information furnished by me in this application and/or call for any further information in this regard from me.

During such investigation or at any subsequent stage, DGE&T may refuse to issue the Certificate or if already issued may cancel the same and I shall stand debarred from appearing in the Training under the SDIS.

Signature of candidate :

Name :

Place :

Instructions to fill the form:

1. Candidates are advised to read carefully the details of this Scheme before applying for admission.
2. Duly filled in and signed application form with requisite application fee and supporting documents should be submitted by the candidate applying for Training to the Assessing Bodies/Vocational Training Provider.
3. The Application Form should be submitted either in person or through speed post/registered post so as to reach on or before the last date of receipt of application as mentioned by the Assessing Bodies.
4. The Form should be neatly filled up in Capital letters.
5. In case needed, the candidate should be present, in person, with all the original documents at the time of submission of application / counselling.
6. Incomplete documents will not be accepted. Application must be complete in all respects. No alteration will be allowed to be made in the application form after it has been submitted to the Assessing

Bodies.

7. The candidates are required to provide correct information in their application form. In case of misrepresentation of facts/ documents/ tampering / producing false certificate, admission will be cancelled immediately and legal action may be taken
8. Two (2) clear attested photocopies of all supporting documents should be submitted.
9. Applicant is required to affix one recent front view photograph duly attested by a Gazetted Officer on the application form and also attach two (2) passport size photographs.
10. Reservation policy as applicable for admission to Government ITIs in the concerned States/UTs .
11. Two (2) clear attested photocopies of original Caste Certificate (in case of reserved category candidates) and a copy of English Version in case Caste Certificate is in regional language, should be submitted.

**Acknowledgement receipt to Candidates to be registered under
Skill Development Initiative Scheme (SDIS)**

ACKNOWLEDGEMENT- RECEIPT

(Acknowledgment receipt to be filled by the VTP/ Assessing Body while acceptance of Application for training) Student Identification No. (for office use only) _____ Date (To be filled in by the VTP/ Assessing Body) _____ Received application form of _____ dated _____ with amount _____ (Cash/Cheque/DD/IPO No.) dated _____ as training and as Assessment fee.

Format for Assessment Attendance Sheet

Course	Subject
Faculty	School
Session	Date of exam
Total students for exam	

Candidate ID	Name	Admit card (✓/✗)	Attend Exam (✓/✗)	Additional Comments/ Special Circumstances (e.g. Other form of ID if Admit Card was not produced, Left room due to illness, suspected of infringing rules, Suspected Impersonation, Late entry, Left early)	Theory Mark	Practical/ Viva-voce Mark

Note to assessors: Allow all candidates who appear at an examination hall to take the examination. Under no circumstances should a candidate be debarred from taking an examination. If the name of the candidate does not appear on the list, then it should be added at the end of the list.

Assessor 1

Name.....Signature.....Date.....

Assessor 2

Name.....Signature.....Date.....

Representative from the Testing Centre

Name.....Signature.....Date.....

Representative from the Vocational Training Provider

Name.....Signature.....Date.....

Format for Undertaking

UNDERTAKING

(Note: This Undertaking will require stamp duty as applicable in the State, where it is executed and shall be signed by the official whose signature and authority shall be verified. It is to be submitted after registration)

I/We, _____ (Name of the Head of the Organization/ Authorised Person) of _____ (Name of the Applicant Organization) hereby undertake to comply with the following in connection with my/our application for registration as Assessing Body under Skill Development Initiative Scheme:

1. We are not a Vocational Training Provider under the SDIS.
2. We shall conduct the assessment in a fair and impartial manner.
3. We shall conduct the assessment of the students who are being trained under the VTP registered for the SDIS.
4. We shall conduct the assessment of the direct students who approach us and take the responsibility of dispatching their Pass Certificates and Testing Fee reimbursements, after proper scrutiny of the documents, implementing the Reservation Policy as applicable.
5. We shall maintain proper accounts and reimburse the assessment fee received from respective Regional Directorate of Apprenticeship Training to the candidates assessed by us, who has/have cleared the test. The accounts related to SDI Scheme shall be open for inspection by DGE&T or any body or person authorized by it.
6. We shall submit reports and utilization certificate as per schedule prescribed by DGE&T.
7. We shall Assessment fee as prescribed by DGE&T. No additional fee shall be charged from the students/guardians of students in any form.
8. By virtue of the approval given by DGE&T, we shall not automatically become claimant to take on the similar role or any grant-in-aid from the Central or State Government etc.
9. It shall be mandatory on us to use the web-based system being developed by DGE&T for the purpose of implementation and monitoring of the scheme as and when the system is implemented. We will provide at our cost all such infrastructure and manpower to operate the system as per instructions issued by DGE&T from time to time in this regard.
10. If we fail to disclose the information or suppress and/or misrepresent the information, appropriate action could be initiated on us including suspension/ cancellation of registration.
11. We shall not make RDAT / DGE&T / State Governments a party in any disputes arising at any point of time, which are not related to the SDIS
12. We shall abide by all the instructions prescribed in the Implementation Manual and those issued by DGE&T from time to time.
13. We shall strictly follow further conditions as may be specified by DGE&T from time to time.

We have read terms and conditions and shall abide by the same. In case, of violation of any terms, the registration may cancelled by DGE&T. In case of any dispute, the decision of DGE&T shall be final and acceptable to us.

Signature of the Authorized Representative

Name: _____

Seal of the Institution: _____

Date: _____

Application Form for Empanelment of Assessing Body

Instructions to fill the form:

1. Applicants are advised to read carefully the details of this Scheme and any advertisement notice issued by the DGE&T, before applying as Assessing Body.
2. This Form would be filled in by the organization applying for Assessing Body under SDIS.
3. Provide two (2) copies of the application along with the application fee in the form of Demand Draft to DGE&T- HQ.
4. Provide the Power of Attorney of Authorized Signatory.
5. The application form, undertaking and any other supporting documents should be signed by the Head of the organization or Authorized Signatory.
6. Copies of qualification documents as prescribed are acceptable, but must be completely legible and certified true copies, preferably by a Gazetted Officer. Copies will be retained for record purposes. All original qualification documents (and only original documents) will be returned by registered post.
7. The committee reserves the right to request original documents for verification. If falsified documents are submitted by applicant, the application will be summarily rejected and the applicant will not be eligible to apply again for registration as Assessing Body.

Application Letter

From

Date: _____

Sir,

Subject: Application for Empanelment of Assessing Body under the Skill Development Initiative Scheme

We, the undersigned, hereby apply for Empanelment of Assessing Body under the Skill Development Initiative Scheme. We would like to state that the information provided by us is true to the best of our knowledge and belief and we understand that we are liable for action under the law for any false information or document produced by us.

We also understand that DGE&T/ RDAT or Any other representative of DGE&T shall be free to investigate on its own into the correctness of information furnished by us in this application and/or call for any further information in this regard from us.

During such investigation or at any subsequent stage, DGE&T may refuse to issue the letter of registration or if already issued may cancel the same and we shall stand debarred for applying as Assessing Body under the SDIS.

Signature of Authorised Person

Name & Designation:

Phone No.:

E-mail:

1. Contact Details		
Name of the Organization		
Contact Details	Address:	
	City:	
	District:	
	State:	
	Pin Code:	
	Telephone:	
	Mobile:	
	Fax:	
	Email:	
Website:		
Name of the Head of the Organization		
Name of the Authorized Contact Person		
Contact Details of the Authorized Contact Person		
Contact Details of the Authorised Contact Person	Address:	
	City:	
	District:	
	State:	
	Pin Code:	
	Telephone:	
	Mobile:	
	Fax:	
	Email:	
Website:		
2. Preliminary Data		
a.	Whether applying for Registration for the	First Time <input type="radio"/> Second Time <input type="radio"/> Third Time <input type="radio"/>
b.	If re-applying, please specify the last date/s of application and reasons of not being selected	
c.	Date of Registration / Incorporation (dd/mm/yyyy)	

d.	Whether applicant is Industry/Employers' Association or any organization having expertise in assessment of competencies? <i>Please specify</i>	
e.	Whether applicant has experts of repute and integrity in different industrial trades and technology? <i>Please specify</i>	
f.	Whether applicant is an income tax assessee? <i>Please provide Permanent Income Tax Account Number and Attach copy of the PAN Card and Latest Income Tax Return Certificate</i>	

**3. Financial Performance Summary For Last Five Years
(To be filled in by those organizations which are maintaining the audited accounts of statements)**

In Indian Rupees	FY – 1	FY - 2	FY – 3	FY – 4	FY - 5
Turnover					
Profit after Tax					
Net Worth					

4. Technical Proposal for Assessment under SDIS:

- Objectives of the Organisation
- Type of Organization, Background of the organization with reference to its experience and expertise in the field of training of workforce, testing & certification of; its legal standing with respect to its registration; details of its promoters including their background
- Total no. of employees / members
- Number of branches/offices and locations
- Nature of major activities performed during last 3 years
- Methodology of Assessment
- Policy with regards to recruitment, retention and development of Assessors
- Industry tie-ups / Collaboration with Employer Organizations/ Industry for post-assessment support in the form of generating employment (wage employment/ self employment / any other)
- Any other relevant information

Please attach a write-up covering all the above mentioned points. The Information provided herein should be adequately supported by relevant documents.

5. Details of application fee		
Demand Draft Number		
In favour of	'Pay and Accounts Officer, DGE&T'	
Date		
Payable at	New Delhi	
Bank		
Amount	₹ One Thousand Only (₹ 1,000.00)	
6. Details of the MES Sectors/Courses for which Assessing Body proposes to conduct the Assessment		
Name of the Sector	MES Course Code	Name of the Courses
For Official Use (To be filled in by the authorise officer of DGE&T)		
Decision of the Apex Committee		
Approved <input type="radio"/> Not Approved <input type="radio"/>		
Date of Approval (If approved): _____		
Registration No. : _____		
Details of the MES Sectors/Courses for which approval granted for doing Assessment		
Name of the Sector	MES Course Code	Name of the Courses
Any other comments : _____		

Signature of Authorised Officer		
Name & Designation :		
Official Stamp:		
Phone No.:		
e-mail:		

ATTENDANCE SHEET

Name & address of the Assessing Body				Name & address of the Testing centre			
Module/Sector				Date of Assessment			
Sl. No.	Admit card no.	Name of the candidate	Father's/ Mother name	Address	Roll No. allotted by VTP	VTP name	Signature of the candidate

Date
Place

Signature of assessor
Name of assessor

RESULT SHEET

Name of VTP :	Name of Assessing Body :
VTP Registration no. :	ABN No. :
Sector/Code :	Name of Assessor :
Course Code :	Date of Assessment :
Duration of Course :	
Period of Training -From to	

Sl. No.	Name of Candidate	Father's/ Mother's Name	Date of Birth	Gender (M/F)	Category (SC/ST/OBC/PH)	Educational Qualification	Mailing/ Permanent Address	Result Pass/ Fail
1	2	3	4	5	6	7	8	9

List and contact details of Regional Cells in RDATs responsible for implementation of SDI/ MES scheme in various States/ UTs is given below:

Regional Cell, RDAT	States/ UTs	Telephone	Fax	e-mail address
Director. RDAT 3 rd Floor, A-Wing, New CGO Building NH-IV Faridabad	Delhi, Haryana, Punjab, HP, J&K, Chandigarh, Rajasthan	0129-2413890	0129-2421973	rdatfdb@hub.nic.in
Director. RDAT Udyag Nagar Kanpur	UP, MP, Uttrakhand	0512-2296088, 22225072	0512-2296273	rdappt@yahoo.com chatterjee_l@yahoo.com
Director. RDAT V N Purav Marg, Sion Trombay Road Mumbai	Maharashtra, Goa, Gujarat, Daman & Diu, Dadra & Nagar Haveli	022-24057519, 24051602 24055748	24057519	rdatmum@nic.in rdatmum@gmail.com rdatmum@yahoo.in
Director. RDAT ATI-EPI-Campus, Ramanthapur Hyderabad	AP, Karnataka, Orissa	040-27038264 27034656 27031783 27038982	040-27038264	rdat_hyd@yahoo.co.in
Director. RDAT, CTI Campus Southern Region, Guindy Chennai	TN, Kerala, Andaman & Nicobar Islands, Pondicherry, Lakshadweep	044-22500091 22501460 22500092	044-22500989	regappms@vsnl.net rdatchen@nic.in
Director. RDAT MSO Building, E-Wing, 1 st Floor, D F Block, Sector-1 Kolkata	W. Bengal, Chattisgarh, Bihar, Jharkhand, NE states and Sikkim	033-23210331 23340364	033-23211404	rdatkol@nic.in

For any query regarding the scheme, please contact the concerned Director of the Regional Directorate of Apprenticeship Training (RDAT). If the query is not resolved by the Regional Cell, please contact at following address:

**Deputy Director General (Apprenticeship Training),
Directorate General of Employment & Training,
Ministry of Labour & Employment,
Shram Shakti Bhawan, Rafi Marg, New Delhi - 110001 (India)
Phone: +91 11 23710485, 23001232
e-mail: mes-dget@nic.in**

EXAMPLE (Ex.-I)

COMPETENCE TEST ON ARMATURE WINDING

Test & Prepare an AC/DC Armature for Rewinding



Ex.1-.0 Facilities at Testing Centres

1. A notice should be prominently placed at the entrance to the Assessment centre to help the candidates reach the venue of test without any problems.
2. Facilities for disabled persons to reach the venue should be available.
3. The test area should be well lighted, ventilated and should have enough movement space. The safety signs should be prominently displayed.
4. Separate toilets for male and female candidates should be available nearby.
5. Arrangements for keeping personal belongings may be made.
6. A wall clock should be prominently placed.
7. First aid kit should also be readily available.

For the competence test on armature winding, the following will be required.

Equipment

1. A work bench
2. Burnt armature of a domestic appliance
3. A hand operated armature winding machine
4. A Growler
5. A digital multimeter
6. An Electronic weighing machine (0-5 Kg)
7. A Megger
8. A Bench vice

Tools

1. A set of insulated screw drivers (as per IS)
2. Insulated pliers (Nose plier, combination plier)
3. Wire stripper
4. Wire gauge (SWG)
5. Teflon hammer
6. Measuring tape (3 meters)
7. Scissors
8. Punch
9. Ball pane hammer (250 gms)
10. Box spanner set
11. Marker pen
12. A nylon brush (3")
13. Knife
14. A plastic tub
15. A dryer
16. Soldering Iron (230 V, 40 W)
17. Digital multimeter

18. Neon Tester

Raw Materials

1. Winding wire (annealed) different SWG
2. Varnish
3. Soldering wire with Flux
4. Petrol
5. Insulating paper sheets (Lethrize, PVC)
6. Sleeves (assorted size), glass, cotton, PVC
7. Cotton waste
8. Emery paper
9. Connection wires
10. Insulating tapes
11. A bundle of thread

INSTRUCTIONS TO CANDIDATES

This is a test of competence.

The time allotted to complete the tasks is 8 hours.

Conditions

1. You are given an AC/DC armature which is not working.
2. All equipment, tools and instruments will be made available to you.
3. The raw materials required for rewinding the armature will be made available to you.
4. Ask for equipment, tools and materials needed by you.
5. Use of calculators is permitted.

Tasks

1. Test the armature and record the defects identified by you.
2. Prepare the armature for rewinding.
3. Wind the armature as per the original specifications.
4. Impregnate the armature with the varnish.
5. Test the armature for proper functioning. (Record the Test Results)
6. Use a blank paper provided to you to record the data. The examiner will see this sheet.

Your performance will be judged on:

1. Selection and proper use for equipment, tools and instruments with safety.
2. Correct identification of the faults in the armature.
3. Proper preparation of the armature before rewinding.
4. Rewinding done systematically following standard winding procedures.
5. Impregnation process carried out correctly, systematically and safely.
6. Test results should be satisfactory.
7. Systematic working, cleanliness of the work place and minimum wastage.
8. All safety procedures are observed.

Instruction to Assessors

- i. Reach the Assessment Centre well before the test time.
- ii. Ensure that the preparations for the conduct of the test are satisfactory.
- iii. The tools and equipment should be in good working condition.
- iv. Ensure that safety regulations have been followed in the test area.
- v. Speak to the candidates. The purpose of this brief task is to encourage and motivate them and make them psychologically comfortable.
- vi. Ensure that the examinees have understood all instructions.
- vii. Answer the queries made by the candidates clearly and politely. This is to lessen the test anxiety and remove any apprehensions, they might have about the test.
- viii. In order to have an objective assessment of the competence of the candidates, ensure that a check list has been prepared.
 - a. Fill in the checklist as the candidates are performing.
 - b. Observe the planning ability, processes carried out and attitudes of the candidates, as they are working.
 - c. Use your professional judgments, wherever required.
- ix. The quality of product should be judged on the explicit criteria which should be known to the candidates.

A list of different activities related to criteria of successful performance is provided. Use your professional judgment and make use of the list for evaluating the candidate.

		Satisfactory	Unsatisfactory
1.	Visually examine the armature and observe cleanliness and any problems in the coils.	<input type="checkbox"/>	<input type="checkbox"/>
2.	Take appropriate actions, if required	<input type="checkbox"/>	<input type="checkbox"/>
3.	Test the coils with a growler and identify defective coils	<input type="checkbox"/>	<input type="checkbox"/>
4.	De-solder the coils from the commutator	<input type="checkbox"/>	<input type="checkbox"/>
5.	Remove the coils from the slots and note down the relevant data.	<input type="checkbox"/>	<input type="checkbox"/>
6.	Measure & note the coil length	<input type="checkbox"/>	<input type="checkbox"/>
7.	Measure & note the gauge of the wire	<input type="checkbox"/>	<input type="checkbox"/>
8.	Weigh all the coils on weighing machine & take wire accordingly	<input type="checkbox"/>	<input type="checkbox"/>
9.	Measure the thickness & size of insulating paper used.	<input type="checkbox"/>	<input type="checkbox"/>
10.	Prepare the armature for winding by cleaning	<input type="checkbox"/>	<input type="checkbox"/>
11.	Prepare all the coils (as per data) on Hand winding machine	<input type="checkbox"/>	<input type="checkbox"/>
12.	Mark the start and end terminals of each coil	<input type="checkbox"/>	<input type="checkbox"/>
13.	Cut the insulating paper to size and insert in slots	<input type="checkbox"/>	<input type="checkbox"/>
14.	Insert the coils as per the data	<input type="checkbox"/>	<input type="checkbox"/>
15.	Shape the coil using Teflon hammer	<input type="checkbox"/>	<input type="checkbox"/>
16.	Ensure that the coils are locked (using insulating paper)	<input type="checkbox"/>	<input type="checkbox"/>
17.	Rotate the armature to ensure proper fixing of insulation material	<input type="checkbox"/>	<input type="checkbox"/>
18.	Wrap the end of coils with cotton tape.	<input type="checkbox"/>	<input type="checkbox"/>
19.	Remove the insulation of each coil and solder them to commutator segments as per data	<input type="checkbox"/>	<input type="checkbox"/>
20.	Check the short circuit conditions, if any, by visual inspection and Multimeter	<input type="checkbox"/>	<input type="checkbox"/>
21.	Take suitable action, if needed	<input type="checkbox"/>	<input type="checkbox"/>
22.	Test the insulation using the Megger	<input type="checkbox"/>	<input type="checkbox"/>
23.	Prepare the varnish for impregnation	<input type="checkbox"/>	<input type="checkbox"/>
24.	Pour the varnish into the coils properly	<input type="checkbox"/>	<input type="checkbox"/>
25.	Allow the excess varnish to drain off	<input type="checkbox"/>	<input type="checkbox"/>
26.	After suitable interval, dry the armature using available heating devices	<input type="checkbox"/>	<input type="checkbox"/>
27.	Test the armature with a growler	<input type="checkbox"/>	<input type="checkbox"/>
28.	Based on the test results, take appropriate action, if needed	<input type="checkbox"/>	<input type="checkbox"/>

EXAMPLE (Ex.-II)

BASIC AUTOMOBILE SERVICING OF 2 WHEELER

Carry out Minor repairs and Servicing of 2 wheelers



Resources at the Assessment Centre

Equipment

1. Work benches with bench wires.
2. Electrical pedestal grinder
3. Latest 2 wheelers (Moped, scooters, Motor cycles) with manuals and special maintenance tools.
4. Battery charger 6 V - 18 V
5. Spark plug cleaner and tester
6. Water pump / washer complete set with pipe & pressure gun
7. Fire extinguisher
8. Tyre pressure gauge
9. Air compressure
10. Grease gun
11. Oil can
12. Cleaning Tray
13. Inspection lamp with guard
14. Portable electrical drill; Drilling machine bench
15. Wheel truing machine
16. Tachometer
17. Battery 12 V
18. Air gun
19. Soldering iron

Tools

1. Hammer ball pen.
2. Screw drivers, different blade sizes, complete sets
3. Steel rule 30 cm.
4. Spanner DE set of 12 pieces (6 mm to 32 mm)
5. Combination pliers
6. Hand file 20 cm, second cut
7. Chiesel cold flat 20 mm
8. Ring spanner set (6 to 32 mms)
9. Feeler gauge
10. Allen key set (12 pieces)
11. Hacksaw frame (adjustable)
12. Taps and dies complete set
13. Twist drills (assorted)

14. Hand vice 37 mm
15. Spanner, ring offset set of 6
16. Spanner adjustable 20 cm
17. Spanner for spark plug
18. Spanner sockets of 8 with handle, T bar and ratchet
19. Vice grip pliers
20. Circlip pliers, expanding and contracting type
21. Hollow punch set
22. Spanner offset double ended set
23. Centre punch 10 mm dia x 10 mm
24. Vernier calipers
25. Torque wrench
26. Carburetors

Materials

1. Cotton waste
2. Washing oil
3. Car washing shampoo
4. Lubrication oil
5. Petrol
6. Kerosene oil
7. Battery solution
8. Brush

INSTRUCTIONS TO CANDIDATES

This is a test of competence.

The time allotted to complete the tasks is 4 hours.

Conditions

1. You are given a 2/3 wheeler along with the corresponding manual.
2. All equipment, tools, instruments and materials required will be made available to you.

Tasks

1. Carry out the servicing of the Two wheeler according to the procedures laid down in the service manual.
2. Identify faults and carryout minor repairs of the vehicle. (The minor repairs cover change of cables, adjustment/replacement of brakes, cleaning of silencers, repair of light circuits, change of lamps, Adjustment of consumption, change of coils/ condensers, Mechanical problems in locks, springs, mirrors, stand, levers, accessories & starting troubles).

Your performance will be judged on:

1. Proper handling of tools and equipment.
2. Correct and systematic sequence of operations followed.
3. Environmental cleanliness, safety observations, Minimum wastage.
4. All activities carried out as per laid down standards.
5. Quick and correct identification of the problem.
6. Suitable steps taken to rectify the problem.
7. Ability to react to unusual sounds, smells and take action.
8. Satisfactory working of the vehicle after servicing.

Guidelines to Assessors

A list of different activities related to criteria of successful performance is provided. Use your professional judgment and make use of the list for evaluating the candidate.

		Satisfactory	Unsatisfactory
1.	Enquire about the problems as perceived by the customer, with courtesy.	<input type="checkbox"/>	<input type="checkbox"/>
2.	Test drive the vehicle and not the problems	<input type="checkbox"/>	<input type="checkbox"/>
3.	Open panel, fan cover, head cover and shifter cover in right sequence and place them properly.	<input type="checkbox"/>	<input type="checkbox"/>
4.	Tilt the vehicle with care and precautions	<input type="checkbox"/>	<input type="checkbox"/>
5.	Remove both wheels properly and keep the nuts and washers in a tray	<input type="checkbox"/>	<input type="checkbox"/>
6.	Wash the vehicle with water pressure gun	<input type="checkbox"/>	<input type="checkbox"/>
7.	Rub parts with washing oil to clean	<input type="checkbox"/>	<input type="checkbox"/>
8.	Again wash with water pressure	<input type="checkbox"/>	<input type="checkbox"/>
9.	Use brush with oil for further cleaning	<input type="checkbox"/>	<input type="checkbox"/>
10.	Wash with water pressure	<input type="checkbox"/>	<input type="checkbox"/>
11.	Refit wheels	<input type="checkbox"/>	<input type="checkbox"/>
12.	Keep the vehicle on stand	<input type="checkbox"/>	<input type="checkbox"/>
13.	Wash the vehicle with water pressure in right sequence, & use shampoo ensuring cleanliness, oil wash	<input type="checkbox"/>	<input type="checkbox"/>
14.	Dry with air gun	<input type="checkbox"/>	<input type="checkbox"/>
15.	Clean carburettor with air pressure and petrol	<input type="checkbox"/>	<input type="checkbox"/>
16.	Clean and adjust spark plug gap	<input type="checkbox"/>	<input type="checkbox"/>
17.	Check brakes	<input type="checkbox"/>	<input type="checkbox"/>
18.	Replace brake shoe and brake wire if necessary	<input type="checkbox"/>	<input type="checkbox"/>
19.	Check intensity of current	<input type="checkbox"/>	<input type="checkbox"/>
20.	Connect with spark plug and check starting of the vehicle	<input type="checkbox"/>	<input type="checkbox"/>
21.	Check and replace clutch wire, if necessary	<input type="checkbox"/>	<input type="checkbox"/>
22.	Check and replace gear wire, if necessary	<input type="checkbox"/>	<input type="checkbox"/>
23.	React to unusual sounds/smells and take appropriate actions	<input type="checkbox"/>	<input type="checkbox"/>
24.	Drain oil and fill in the oil upto the correct level	<input type="checkbox"/>	<input type="checkbox"/>
25.	Lubricate parts with oil gun and grease	<input type="checkbox"/>	<input type="checkbox"/>
26.	Check continuity of electric circuit and change lamps / horn/ switches if necessary	<input type="checkbox"/>	<input type="checkbox"/>
27.	Check air pressure in wheels	<input type="checkbox"/>	<input type="checkbox"/>
28.	Adjust mirrors	<input type="checkbox"/>	<input type="checkbox"/>
29.	Check all nuts and bolts	<input type="checkbox"/>	<input type="checkbox"/>
30.	Test drive the vehicle and take appropriate action	<input type="checkbox"/>	<input type="checkbox"/>

EXAMPLE (Ex.-III)

**CUSTOMER SERVICE
(HOSPITALITY AND SERVICE SECTOR TRADES)**

A Sample Assessment

Common Performance Measures in Hospitality & Service Sector Trades

To deliver good customer service, the performance measures to be assessed in the candidates are:

- A thorough knowledge of the products
- A thorough knowledge of services the candidate supplies
- The needs of external customers(who come to your organization for some services or products) and matching customers with products or services that will satisfy their needs.
- A thorough knowledge of the systems and procedures of the candidate's organisation and the network of internal customers with whom the candidate works. The customers want to work with a single, harmonious company and the candidate will be responsible for helping them get results from it or for finding the right people to help them.
- Communication Skills - the candidate will need to learn what customers need by listening to them, and the candidate will need to make sure that customers understand everything the candidate says so that they don't have any uncomfortable surprises later.
- A Positive Attitude - dedication to getting it right first time, and commitment to helping colleagues to help their customers.
- Ability to pay attention to detail
- The candidate's willingness to take responsibility
- The candidate's ability to stay calm under pressure

Sample Questions:

1. Questions on the objectives:

- Who is a customer?
- Identify your customer- Internal and External?
- What quality characteristics are important for Customer service?
- How to create positive memorable experiences for all customers?

2. Questions on the outcomes:

- Identify different kinds of customer contact.
- Demonstrate and use Caring Responses.
- Create and use a series of Caring Responses.

3. Question on building customer relationship:

- i. Do you answer the phone quickly and courteously?
- ii. Do you help in maintaining your premises clean and comfortable?
- iii. How do you act in providing good after-sales service?
- iv. How do you facilitate in swift processing of orders?
- v. Could you do more to eliminate ordering errors?
- vi. How do you handle/ resolve customer complaints, you receive?
- vii. Do you devise new ways of keeping customers informed of special offers? If 'Yes' please brief.
- viii. What could you do more to retain customers?

4. Questionnaire to test your customer caring abilities. Choose any one of the options:

1. Never(N) 2. Occasionally(O) 3. Frequently(F) 4. Always(A)

i. I monitor the number of customer complaints that we receive.

(N) (O) (F) (A)

ii. I find reasons to keep in touch with customers.

(N) (O) (F) (A)

iii. I keep a record of key customer contacts.

(N) (O) (F) (A)

iv. I take the complaints of customers very seriously.

(N) (O) (F) (A)

v. I try to turn rare customers into regular ones.

(N) (O) (F) (A)

vi. I take the complaints of customers very seriously.

(N) (O) (F) (A)

vii. I try to find out why we have lost a customer.

(N) (O) (F) (A)

viii. I listen to what customer say.

(N) (O) (F) (A)

ix. I seek customer comment and feedback.

(N) (O) (F) (A)

x. I pay attention to the little details that make all the difference.

(N) (O) (F) (A)

5. What do customers really buy?

Examine the six scenes below and determine.

- What the customer wanted out of the transaction
- Whether the customer was satisfied or dissatisfied (S or D) as a result of the transaction as it took place.

Scene	Situation	What the customer wanted	S	D
i.	A businessman arrives at a hotel late one evening to be informed by Reception that there is no trace of the reservation confirmation, the businessman is sure was sent. As a result, as the businessman had not arrived by 7.00 p.m., the Receptionist left the room saying. 'I'm very sorry' looking rather bored as if she had said those words twenty times that evening, already. 'There's another hotel just around the corner. Why don't you try there?'	What should have been done by you?		
ii.	Last week John bought a track suit from a department store. It was just the right size and looked good on him. After wearing it to the gym he washed it as per the manufacturer's label. To his horror, when he tries it once again, it has shrunk dramatically. He returns it to the store and explains the problem to a young sales assistant. 'Oh yes', he says, 'this is a common problem. You have to reshape them while they're still wet. Didn't you know? You've ruined it now. Moreover, we don't guarantee goods once sold.'	What should have been done by you?		
iii.	An elderly lady, about to visit her son who now lives in another country, has just boarded an aeroplane. It is the first time she has ever flown and she looks a bit lost. One of the cabin crew sees her and quickly goes over. He takes her gently by the arm, confirms that she has never flown before and escorts her to her seat. He stows away her hand luggage, shows her how to use the seat belt, seat recliner, call button etc. all work. He says that he'll be back shortly after they take off to see how she is, but in the meantime, if she wants anything, to just push the call button. His manner throughout is pleasant and reassuring.	What should have been done by you?		
iv.	A man walks in to an office building and goes up to the counter marked 'Reception'. Behind the counter there are two women. One is at the word processor, the other is standing next to her. They are talking in hushed tones. The one standing spots the visitor but quickly averts her eyes and continues the conversation for a full thirty seconds before going to the counter and saying 'Yes'? What do you want?'	What should have been done by you?		
v.	Suresh rings up Unique Paging Service to pass on a message to his boss, Mr. Khan. The Paging Officer responds by saying, "Unique Paging - Pager no. please," in a dull voice. Suresh gives the message. "Please contact at 6994980, to confirm order, immediately". The paging officer types in the no. as 6994900 and ends the call in the same tone. A disturbed Mr. Khan calls up the Paging Bureau in the evening and says that he has lost an order of 1.5 lacs due to wrong tel. no. The Paging Officer checks his pager account and responds, "Sir, we have sent the same tel. as given by the caller. We will transfer your call to Customer Relations Executive, please speak to them" and transfers the call to CRE.	What should have been done by you?		

vi.	<p>A subscriber calls up the (CRE) Customer Care Deptt. of ABC Paging in the night and complains to the CRE on call, "I lost major business, because I did not receive an important message today." The CRE replies after checking his account, "Sir, the message has been sent from our side. But, paging is only 95% accurate, as mentioned in the agreement form, too. Hence we cannot be held responsible." The subscriber responds angrily by saying, "It was never told to me earlier, that means I cannot depend on your paging service". CRE responds, saying, "Sir, we are sorry that the sales personnel did not inform you, but you too signed the agreement form. However, we'll ask one engineer to get back to you. And ends the call.</p>	<p>What should have been done by you?</p>		
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EXAMPLE (Ex.-IV)

FABRICATION
(Basic welding, TIG welding & MIG/MAG welding)

A Sample Assessment

Assessment Criteria for practical tests in Basic Welding (Gas): FAB 101

Basic Welding (Gas): FAB 101

Tests and requirements:

- Candidate has to identify DA and oxygen cylinders and must know their contents and the pressure.
- Candidate must fit the correct regulators to DA and oxygen cylinders, open the cylinders and set correct pressures for oxygen and DA for gas welding.
- Candidate should be able to connect blowpipe and fit proper size of nozzle for welding from 3 nozzle offered for thickness of M.S. Sheet 3 to 5mm.
- Candidate must purge the torch as per safe welding procedure.
- Candidate should light the welding torch and demonstrate neutral, oxidising and carburising flame.
- Candidate should be able to prepare butt weld joint with 3.15 mm thick X 2n X 6n M.S. sheets in Flat and Vertical positions.

Criteria for Assessment and Marking:

- Ability of candidate to fit regulators, set pressure and fit correct tip.etc.
- Ability to prepare welded test pieces based on following observation:
 - ✧ Whether smooth and uniform spacing of the bead ripples has been achieved without excessive convexity.
 - ✧ Presence of any blowholes.
 - ✧ Whether overlap and undercut is present on the finished weld.
 - ✧ Whether uniform penetration has been achieved at the back side.
 - ✧ Whether any burn through is present.
 - ✧ Whether excessive metal sag is observed in vertical up butt joint.
- Safe working practice.
- Cleanliness of work.
- Positive attitude.

Assessment Criteria for practical tests & marking in Basic Welding (Gas): FAB 102

Basic Welding (Gas): FAB 102

Tests and requirements:

- Candidate should be able to identify a welding transformer and a welding generator set.
- Candidate should be able to identify the two poles on the welding generator set.
- Candidate should be able to connect the electrode holders and earth clamps.
- Candidate should be able to set current for E6013,3,15 mm electrode for vertical and overhead welding.
- Candidate should be able to prepare a fillet weld Tee joint on 10mm X 2n X 8n M.S. plate in vertical up position, subsequently prepare an overhead fillet on the 2nd side.
- Candidate should be able to name P.P.Es (Personal Protection Equipments) used in Arc welding.
- Candidate should know the safety precautions to be used during grinding of the plate.

Criteria for Assessment and Marking:

- Ability of candidate to set up welding machine fit holder & earth clamp etc.
- Ability of weld vertical-up and overhead fillet based on following observations
- Whether correct current is set for the position.
- Whether plates are correctly joined by tacking at both ends.
- Should check whether the weld face is free from porosity, blowholes, unfilled crater and overlap.
- Weld should have equal leg lengths with slight convexity (using weld gauge).
- Weld should have uniform bead ripple and correct reinforcement.
- Weld should be free from undercuts.
- Weld to be sectioned and root fusion observed.
- Weld should not sag in vertical up position.
- Safe working practice and identification of PPEs.
- Cleanliness of work.
- Positive attitude.

Assessment Criteria for practical tests & marking in Basic Welding (Gas): FAB 103

Basic Welding (Gas): FAB 103

Tests and requirements:

- Candidate has to identify DA and oxygen cylinders and must know their contents and the pressure.
- Candidate must fit the correct regulators to DA and oxygen cylinders, open the cylinders and set correct pressures for oxygen and DA for gas cutting.
- Candidate should be able to connect blowpipe and nozzle for cutting and should be able to demonstrate two operations i.e., preheating of the job and flame cutting of the job.
- Candidate should be able to do straight line cutting of a 25mm plate 12n length using proper nozzle size and selecting correct gas pressure of oxygen and acetylene in the downhand position.
- Candidate should be able to make a 6n dia circular cut on 10 mm thick M.S. plate in horizontal position.

Criteria for Assessment and Marking:

- Ability of candidate to fit regulators, set pressure and fit correct tip.etc.
- Ability to do straight line cutting based on following observations.
- Whether cut is in straight line over 12n and kerf is uniform.
- Whether excessive top edge melt is present.
- Whether flute marking depth is excessive.
- Whether cut is clean, excessive slag should not stick to bottom of cut.
- Ability to cut circle in horizontal position based on following observations.
- Whether correct circular profile is maintained.
- Whether cut is clean and free from slag.
- Safe working practice.
- Cleanliness of work.
- Positive attitude.

Assessment Criteria for practical tests & marking in Tig Welding: FAB 204

Tig Welding: FAB 204

Tests and requirements:

- Candidate should be able to fit up the regulators/flowmeters to the argon cylinders and set correct gas pressure and flow.
- Candidate should be able to select correct polarity of welding machine and fit torch cable and earth.
- Candidate should be able to select correct size of Tungsten electrode and grind as per correct procedure.
- Candidate should be able to fit tungsten electrode to torch, adjust length and fit correct gas nozzle.
- Candidate should be able to select proper voltage and current and prepare
 - ✧ Butt weld joint on 3.15 mm X 3n X 6n M.S. sheet in downhand position
 - ✧ Corner joint on 6 mm X 2n X 6n plates in vertical up position (root run only)

Criteria for Assessment and Marking:

- Ability of candidate to fit regulator, set pressure and flow, grind and, fit tungsten electrode and gas nozzle, fit torch with correct polarity.
- Ability to weld down-hand butt joint based on following observation.
- Whether proper welding current and voltage is set.
- Whether plates are correctly joined by tacking.
- Whether correct angle of torch has been maintained.
- Whether smooth and uniform spacing of the bead ripples has been achieved without excessive convexity.
- Should check whether the weld face is free from porosity, blowholes, unfilled crater and tungsten contamination from touching of electrode.
- Whether overlap and undercut is present on the finished weld.
- Whether uniform penetration has been achieved at the back side.
- Whether any burn-through is present.
- Ability to weld vertical up, corner joint, based on following observations
- Whether proper welding current and voltage is set.
- Safe working practice and identification of PPEs.
- Cleanliness of work.
- Positive attitude.

Assessment Criteria for practical tests & marking in MAG/CO₂ Welding: FAB 205

MAG/CO₂ Welding: FAB 205

Tests and requirements:

- Candidate should be able to fit up the regulators and heater to the CO₂ cylinders and set correct gas pressure.
- Candidate should be able to set the flow meters and adjust correct gas flow.
- Candidate should be able to install the wire spool onto the spool spindle, adjust correct roll pressure and feed wire through composite cable and torch.
- Candidate should be able to fit correct up and gas nozzle matching the welding wire size and process.
- Candidate should be able to set correct polarity on the welding machine and adjust wire feed and voltage.
- Candidate should be able to set correct voltage and wire feed and demonstrate short arc (dip) and open arc (globular/spray) processes.
- Candidate should be able to prepare fillet weld Tee joint on 10 mm thick X 2n X 8n M.S. plate in H-V position.
- Candidate should be able to prepare corner weld joint on 10 mm thick X 2n X 8n M.S. plate in vertical upward position.

Criteria for Assessment and Marking:

- Ability of candidate to fit regulator & heater, set pressure and flow, install wire spool and set up equipment correct tip and nozzle.
- Ability to weld H-V fillet joint based on following observation.
- Whether proper welding current and voltage is set.
- Whether plates are correctly joined by tacking.
- Whether correct angle of torch has been maintained.
- Whether smooth and uniform spacing of the bead ripples has been achieved without excessive convexity.
- Whether the weld face is free from porosity, blowholes, unfilled crater.
- Whether overlap and undercut is present on the finished weld.
- Ability to weld vertical up, corner joint, based on following observations.
- Whether proper welding current and voltage is set.
- Should check whether the weld face is free from porosity, blowholes, unfilled crater.
- Whether uniform penetration has been achieved at the back side.
- Whether any burn-through is present.
- Safe working practice and identification of PPEs.
- Cleanliness of work.
- Positive attitude

Assessment Criteria for practical tests & marking in Tig & Arc Welding: FAB 205

Tig & Arc Welding: FAB 205

Tests and requirements:

- Candidate should be able to identify the geometry of the pipe i.e. Outer Diameter (O.D). Inner Diameter (I.D.) and thickness.
- Candidate should be able to file pipe ends M.S. pipe- 168 mm O.D. x 10mm wall thickness X 6m length to be at right angles to the pipe axis.
- Candidate should be able to grind the edges to 30 to 35 bevel maintaining 1.5 to 1.75mm root face.
- Candidate should be able to check the perpendicularity of the work piece using try square.
- Candidate by using a fixture or V-profile of an angle iron to align pipes in required position.
- Candidate should be able to select proper size of filler wire and tungsten electrode and provide adequate number of tacking.
- Candidate should be able to provide 2mm root gap between pipes using spacers.
- Candidate should be able to complete the root run with TIG process in 5G position and show whether it is satisfactory i.e. there is complete penetration at the root joint.
- Candidate should be able to complete second and third run using 2.5mm & E7018 electrode.
- Candidate should be able to explain the uphill technique.

Criteria for Assessment and Marking:

- Ability of candidate to fit regulator, set pressure and flow, grind and, fit tungsten electrode and gas nozzle, fit torch with correct polarity.
- Ability to grind pipe edges to 30 to 35 bevel maintaining 1.5mm to 1.75mm root face.
- Ability to weld butt joint in pipe in 5G based on following observation.
- Whether pipe is properly tacked and aligned with 2mm root gap.
- Whether proper welding current and voltage is set for root run by TIG.
- Should check whether the weld face is free from porosity, blowholes, unfilled crater and tungsten contamination from touching of electrode.
- Whether overlap and undercut is present on the finished weld.
- Whether uniform penetration has been achieved at the back side.
- Whether any burn-through is present.
- Whether proper current is set for root pass and capping runs by Arc welding.
- Whether proper technique is used for vertical up welding.
- Whether proper slag cleaning and inter-pass grinding procedures are followed.

- Should check whether the weld face is free from porosity, blowholes, unfilled crater.
- After final run is complete check whether reinforcement is within 2mm, face width is 3.75 X pipe thickness and there is no suck-back.
- 4 bend test specimens shall be cut from the finished pipe weld from 3,6,9 & 12 o' clock positions as per IS: 3600-1973.
- specimens from 6 & 9 o' clock shall be subject to root bend and specimens from 3 & 12 o'clock to face bend test as per IS: 7310
- The bend tests must pass to qualify.
- Safe working practice and identification of PPEs.
- Cleanliness of work.
- Positive attitude