NSDA Reference
To be added by NSDA

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Healthcare Sector Skill Council

C/o Confederation of Indian Industry, 23, Institutional Area Lodi Road New Delhi – 110 003

Name and contact details of individual dealing with the submission

Name: Mr. Ashish Jain

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List of documents submitted in support of the Qualifications File (attached in following order)

1. Qualification Pack- Annexure1
2. Occupational Mapping Report-Annexure 2
3. Functional Analysis Report-Annexure 3
4. RFP for development of occupational standards-Annexure 4
5. Validation group and industry consultations- Annexure 5
6. The Brief Report on the whole process of the development, validation and notification of these qualification packs along with list of companies and Industry associations involved -Annexure 6
7. Human Resource & Skills Requirement in Healthcare Sector accessible on below given link: http://healthcare-ssc.in/images/Human%20Resource%20&%20Skills%20Requirement%20in%20Healthcare%20sector.pdf
8. Quality Assurance Strategy of Assessment in HSSC-Annexure 7
9. Assessment criteria/framework-Annexure 8

QUALIFICATION FILE SUMMARY

Qualification Title	Histotechnician (HSS/ Q 0401)
Body/bodies which will assess candidates	Healthcare Sector Skill Council Accredited Assessing Bodies
Body/bodies which will award the certificate for the qualification.	Healthcare Sector Skill Council
Body which will accredit providers to offer the qualification.	Healthcare Sector Skill Council
Occupation(s) to which the qualification gives access	Histotechnician(HTL) : in the Healthcare Industry is also known as a Certified Histologic Technician, Histologic Aide and Histology Specialist in different setting like hospitals, independent laboratories, Academic and pharmaceutical research, dermatology practices, crime labs, forensics and histology sales. Brief Job Description: Histotechnician process and prepare tissue specimens from surgery and other patient service areas. The HTL prepares tissue blocks and slides with skill and accuracy for evaluation by Pathologists. Histotechnicians may also assist the pathologist in the preparation of frozen tissue sections which are used to provide rapid diagnosis while the patient is still undergoing surgery. The tissue may be obtained from an operating room, clinic, doctor's office, emergency room, or a postmortem examination. The Histotechnician must continually employ judgment gained from knowledge, practice, and experience to adjust technique for proficient execution of the manual skills of microtomy, embedding and staining. The HTL must demonstrate knowledge of tissue specimens, anatomy and dissection techniques. Most of these applications are performed on tissue specimens, both human and veterinary.
Proposed level of the qualification in the NSQF.	Level 5
Anticipated volume of training/learning required to complete the qualification.	1200 hrs.
Entry requirements / recommendations.	Class XII in Science Or Level 4 Medical lab technician with experience of minimum three years
Progression from the qualification.	Progression will be possible in both academic as well as professional area as: Level 6- Team Leader/ Supervisor – Histology Department or Level 6: Specialization in Immunohistochemistry, Cytotechnology Molecular Pathology, Forensic Histology, Veterinary Histology procedures through bridge course
Planned arrangements for RPL.	HSSC has developed RPL policy to conduct pre assessment of students for gap analysis as per NOS, sharing the gap & final assessments of students and certification. It is explained in section 1 under Assessment, Point 2

International comparability where known	While writing the NOSs the UK NOSs were also referred to and an effort was taken to maintain comparability in the technical part of the NOSs.

Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
HSS / N 0401 : Assist in carrying out grossing	Mandatory	Class Room and Skill Lab Training = 800 hours Clinical/Laboratory Training (OJT) = 400 hours	5
HSS / N 0402 : Fix the tissue specimen	Mandatory		5
HSS / N 0403 : Process the tissue specimen	Mandatory		5
HSS / N 0404 : Embed the tissue specimen	Mandatory		5
HSS / N 0405 : Section the issue specimen	Mandatory		5
HSS / N 0406 : Stain(Routine and Special) the tissue specimen	Mandatory		5
HSS / N 0407 : Maintain and operate the laboratory equipment like microtones, cryostat etc.	Mandatory		5
HSS / N 0408 : Follow chemical hygiene plan	Mandatory		5
HSS / N 0409 : Assist in Fine Needle Aspiration Cytology	Mandatory		5
HSS / N 0410 : Archive tissue samples and records	Mandatory		5
HSS / N 0411 : Prepare reagents	Mandatory		5
HSS/ N 9602: Ensure availability of medical and diagnostic supplies	Mandatory		5
HSS/ N 9603: Act within the limits of one's competence and authority	Mandatory		5
HSS/ N 9606: Maintain a safe, healthy, and secure working environment	Mandatory		5
HSS/ N 9609: Follow biomedical waste disposal protocols	Mandatory		5
HSS/ N 9610: Follow infection control policies and procedures	Mandatory		5
HSS/ N 9611: Monitor and assure quality	Mandatory		5

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.
Give details of the document here:
Qualification pack is attached as Annexure 1

SECTION 1

ASSESSMENT

Name of assessment body:
If there will be more than one assessment body for this qualification, give details.

Manipal City & Guilds
IRIS corporate solutions pvt ltd
Aspiring Mind
CII

Will the assessment body be responsible for RPL assessment?

Give details of how RPL assessment for the qualification will be carried out and quality assured.

HSSC conducts QP-NOS based direct three-way assessment for each and every candidate applied for recognition of prior learning (vis. Certifying the un-certified but skilled workforce who acquired skills through experience of years). Here, the candidates may undergo short-term training of gaps identified. The assessment is conducted via HSSC certified assessor. The assessment pattern is as follows:
REGISTRATION
The candidates need to submit registration form online along with uploading of scanned copies of some mandatory documents. Based on screening of the form, the candidates would be registered on conforming following eligibility criteria.

PRE-ASSESSMENT: The purpose of Pre-assessment is to shortlist candidates as per prescribed limit, and also to notify gaps NOS wise to each candidate for their own self-training or opting for short-term training module before final assessment. The pre-assessment also informs about the reliability of information provided by candidates that they have experience working in the given job role. The pre-assessment is Online, Objective type, NOS based, with Each NOS compulsory each carrying 100 marks, No negative marking for incorrect answers, Test venue is kept as may be home/cyber café/institution/HSSC assessment center if the system have google chrome (Version 41.0.2272.101) and a web camera. Timed test link which expires after 90 minutes from the time of starting / writing the test is used for the same. Result is presented with no. of questions allotted and answered correctly for each NOS along with marks scored for each NOS out of 100.

PORTFOLIO SCREENING

Each registered candidate has to prepare and submit the portfolio as per formats given by HSSC. The portfolio may be verified by HSSC/nominated assessor during pre-assessment and scoring card is given for each portfolio.

FINAL ASSESSMENT: The candidates conforming to RPL guidelines based on both pre-assessment and portfolio screening are finally selected for final assessment. Final assessment is conducted through HSSC accredited Assessing body as per HSSC defined assessment criteria and NOS used for assessment of fresh entrants as described above. Final Assessment is conducted at the training site or at working place in case number of enrolled candidate from the site is more than 15. If needed, Assessment centers is arranged for assessment of candidates in cluster

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

QA regarding accreditation of Assessing Body:

The HSSC Accreditation process is divided into two steps:

1) Pre-accreditation process:
   - Apply for Accreditation: Application form with desired documents in prescribed format to be sent.
   - Document Compliance Check: to be done for ensuring the compliance and adherence of applied assessing body according to criteria laid down by HSSC.
   - Presentation on Quality Assurance: to be given by Assessing body highlighting the quality assurance process laid down by AB at the process points
   - Once the assessing body clears the due diligence process, the accreditation is given along with terms and conditions.
2) Post-accreditation process: Post accreditation, the accredited assessing bodies needs to fulfill following minimum eligibility criteria or requisites for implementation:
   - All Empanelled Assessors would have to undergo **"Train the Assessor"** Program conducted by HSSC for each job role time to time.
   - Accredited Assessing Body would have to abide with requisite time-lines, policies and regulations declared by HSSC.
   - Accredited Assessing Body with times would have to contribute in expansion of the questionnaire.

QA Regarding Assessment Criteria & papers:

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. Accordingly, assessment criteria for each job role is set and made available in qualification pack.

The assessment papers for both theory and practical are developed by Subject Matter Experts (SME) hired by Healthcare Sector Skill Council or with the HSSC accredited Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome based parameters such as quality, time taken, precision, tools & equipment requirement etc.

The assessment sets as well as assessment criteria are then reviewed by panel of experts from Industry as well as HSSC official for consistency and suitability. The assessments are designed so as to assess maximum parts during the practical hands on work. The technical limitations at the training centres are taken care in theory and viva.

All HSSC accredited Assessment Agency follow the "HSSC process of Assessment Framework" and HSSC approved assessment papers. The assessment by assessment agency will be completely based on the assessment criteria as mentioned in the Qualification Pack developed by HSSC.

Each NOS in the Qualification Pack (QP) will be assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Performance Criteria in the NOS will be assigned marks for or practical based on relative importance, criticality of function and training infrastructure.

The following tools are proposed to be used for final assessment:

1 Practical Assessment: This will comprise of a creation of mock environment in the skill lab which is equipped with all equipment's required for the qualification pack.
Candidate's soft skills, communication, aptitude, safety consciousness, quality consciousness etc. will be ascertained by observation and will be marked in observation checklist. The end product will be measured against the specified dimensions and standards to gauge the level of his skill achievements.
2 Viva/Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand. It will also include questions on safety, quality, environment and equipment's etc.
3 Written Test: Under this test few key items which cannot be assessed practically will be assessed. The written assessment will comprise of

i. True / False Statements
ii Multiple Choice Questions
iii Matching Type Questions.
iv) Fill in the blanks

QA Regarding Assessors:

Assessors are selected as per the "eligibility criteria" laid down by HSSC for assessors for each job role. The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to HSSC Assessment Framework, competency based assessments, assessors guide etc. HSSC conducts "Training of Assessors" program time to time for each job role and sensitize assessors regarding assessment process and strategy which is outlined on following mandatory parameters:

1) Guidance regarding NSQF
2) Qualification Pack Structure
3) Guidance for the assessor to conduct theory, practical and viva assessments
4) Guidance for trainees to be given by assessor before the start of the assessments.
5) Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
6) Viva guidance for uniformity and consistency across the batch.
7) MOCK assessments
8) Sample question paper and practical demonstration

HSSC also conduct telephonic orientation of the assessors before each assessment for the given job role to assure quality, fairness and timely conduct of assessment.

The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments.

QA before, during and after Assessments:

HSSC ensures pre-requisites of Assessment needed by training institute regarding ARTICLES like Mannequins, Mock Ward Infrastructure, Transferring Equipment, Job role related equipment; INFRASTRUCTURE like Class rooms, Skill Lab, Aids like board/marker/logistics, Furniture like display tables, chairs; STAFF like Co-ordinator from training institute, Peon, Some additional members(for simulated situations, if required); DOCUMENTS like Admit Card, Govt. validated ID proof, Record Books like attendance, log book, internal evaluation sheets, Student Enrollment details; for CO-ORDINATION one full time co-ordination point for co-ordination with assessment coordinator before, during and after assessment.

HSSC ensures the three Phases of Assessment to be assured by assessing body and assessor for fair, consistent and quality assessment. The three phases of assessment is enlisted below:

PREPARATORY PHASE: **Documents ensured to be packed, sent and received:** Seal Pack of Sets of Papers, Invigilation Sheet/Covering letter, OMR/Answer sheet; Well **Co-ordination needs to be assured between** Assessment Co-ordinator of assessing body, HSSC official, Co-ordinator from skill center and assessor.

PHASE OF CONDUCT:

1) **Written Examination:**

- Assessor should reach the VTP 30 minutes before the assessment and ensure that all the arrangements are as per the HSSC rules and regulation
- He should make seating arrangement to students leaving minimum 3 feet space between candidates.
- He should make the students sit in the order of seating arrangements.
- The enrolment numbers are to be written on the desks before the arrival of students.
- The details to be filled like assessor name , date and Qualification name should be written on the board
- Learners should keep all their belongings outside the classroom. All mobiles should be switched off and kept on the desk in front of the invigilator

- The seal of the assessment materials is opened in front of the students.
- OMR sheets to be distributed to all learners
- Assessors should instruct the learners on the rules and regulation of the assessment
  - No. of questions
  - Duration of paper
  - Disciplinary rules
  - Administrative rules

2) **Attendance:**

- The assessor/assessment co-ordinator needs to get signature of all candidates while theory as well as practical examination on invigilation sheet. The sheets are signed and stamped by the In-charge /Head of the Training Centre.
- The assessor/assessment co-ordinator needs to verify the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.
- The assessor/assessment co-ordinator needs to punch the trainee's roll number on all the test pieces.
- The assessor/assessment co-ordinator needs to take a photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.
- The assessor/assessment co-ordinator needs to carry a camera to click photograph of the trainees working on the job and giving theory exam as evidence.
- The assessor/assessment co-ordinator also needs to carry a photo ID card.
- The assessor/assessment co-ordinator also needs to take the photographs as evidence from appropriate angels/sides of the final work piece/job submitted by the trainee. This evidence is signed by the trainee at the time of submission of the job piece.
- The assessor/assessment co-ordinator needs to measure the dimensions and finish of the submitted job piece as per the tolerance or standards mentioned in the assessment guide.

3) **Segregate learners into batches:**

- Assign combination of one critical and one elementary NOS along with the soft skill NOS
- Allocate time to learner
- Ask learners to be present 5 minutes earlier than the time allotted at the lab

4) **Conduct Practical Assessments:**

- Assign practical task to the learners
- Ask the learner to collect articles and be ready for assessments
- Observe learner conducting the assigned task
- Evaluate and Record observations and marks and in the recording sheets
- You may ask learners question on the task being done

5) **Conduct Viva:**

- Ask questions from the learners on the assigned task
- Ask questions prescribed in the assessment guide on non-prescribed tasks to ensure that the learners have complete knowledge on the assessment

6) **Collate Results:**

- Check written answer scripts
- Sum up the practical NOS marks
- Sum up the viva marks
- Remember to sign off on all sheets where scores are mentioned
- Submit the collated result to assessment body representative/project manager

7) **Surprise Visits/Surveillance check** is kept to ensure the quality and fair assessments.

POST-ASSESSMENT PHASE

1) **Verify Result**

- Check for accuracy of names and date of birth
- Check for accuracy of marks against each learner
- Ensure that the pass percentage is correctly applied to the result
- Ensure that the learner has cleared all sections of the assessments in line with the HSSC assessment strategy
- Check if the excel sheet for each learner is accurately filled and is available for cross referencing with the covering result sheet
- Each and every result has to get cross-verified by HSSC official

2) **Upload/Sharing of Results**

- Once the results are ready it is uploaded on the SDMS website/portal and verified on the same
- Or the results are shared to Training institute only by HSSC.
- In case of any query or issue raised for assessment, the assessments are subjected to re-evaluation as per protocol laid down by HSSC.

3) **Documentation**

- Question papers are kept in secure cupboard with limited and controlled access.
- Used OMR sheets are to be stored for the next ten years
- QP should be always current version

Assessment process and guidelines are attached as Annexure 7

Please attach any documents giving further information about assessment and/or RPL.
Give details of the document(s) here:

1. **Quality Assurance Strategy of Assessment in HSSC attached as Annexure 7**
2. **Assessment Criteria attached as Annexure 8**

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as per the assessment criteria. Insert the required number of rows.

Job Role	Histotechnician
Qualification Pack Code	HSS/Q0401
Sector Skill Council	Healthcare Sector Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score as per assessment grid.
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Skills Practical and Viva (80% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	**400**
Grand Total-2 (Soft Skills and Communication)	**100**
Grand Total-(Skills Practical and Viva)	**500**
Passing Marks (80% of Max. Marks)	**400**
Theory (20% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	**80**
Grand Total-2 (Soft Skills and Communication)	**20**
Grand Total-(Theory)	**100**
Passing Marks (50% of Max. Marks)	**50**
Grand Total-(Skills Practical and Viva + Theory)	**600**
Overall Result	**Criteria is to pass in both theory and practical individually. If fail in any one of them, then candidate is fail**
Detailed Break Up of Marks	**Skills Practical & Viva**
Subject Domain	**Pick any 2 NOS each of 200 marks totaling 400**

Assessable Outcomes	**Assessment Criteria for the Assessable Outcomes**	**Total Marks (400)**	**Out Of**	**Marks Allocation**	
				Viva	**Skills Practical**
1. HSS / N 0401: Assist in carrying out grossing	PC1. Specimen identification	**200**	20	5	15
	PC2. Mention the batch date and name		20	5	15
	PC3. Place the specimen in formalin as quickly as possible		60	10	50
	PC4. Place the specimen in an appropriate size container so that formalin surrounds the tissue on all sides		60	10	50
	PC5. Ensure that the surgical number on the requisition matches that on the specimen container, worksheet and cassettes		40	10	30

	Total		200	40	160
2.HSS / N 0402: Fix the tissue specimen	PC1. Anatomically correct dissection	**200**	40	10	30
	PC2. Perform specimen photography (where appropriate)		40	10	30
	PC3. Take appropriate blocks for microscopic exam		40	10	30
	PC4. Properly examine the tissue margins (where appropriate)		40	10	30
	PC5. Handle common specimens (e.g. culture, EM, cytogenetics, bone marrows)		40	10	30
	Total		200	50	150
3.HSS / N 0403: Process the tissue specimen	PC1. Select appropriate process and reagents for processing	**200**	30	10	20
	PC2. Monitor processor regularly during processing sequence to ensure that dehydration, clearing and infiltration process are complete		30	10	20
	PC3. Process tissue specimen into a form in which it can be made into thin microscopic-sections		30	10	20
	PC4. Perform dehydration and clearing		30	10	20
	PC5. Ensure the tissue is infiltrated with the embedding agent		20	5	15
	PC6. Be able to provide additional fixation depending on the tissue condition		20	5	15
	PC7. Maintain reagent quality		20	5	15
	PC8. Be able to minimise tissue distortion from diffusion currents		20	5	15
	Total		200	60	140
4.HSS / N 0404: Embed the tissue specimen	PC1. Select program and reagents for processing	**200**	25	10	15
	PC2. Check that temperature of wax is suitable for embedding process		25	10	15
	PC3. Check that volume of wax is sufficient for uninterrupted embedding of processor load		25	10	15
	PC4. Embed tissue in correct orientation		25	10	15
	PC5. Allow block to solidify evenly according to wax requirements		25	10	15
	PC6. Orientate specimens carefully		25	10	15
	PC7. Choose an appropriate mold		25	10	15
	PC8. Handle specimens gently		25	10	15
	Total		200	80	120

5.HSS/ N 0405: Section the tissue specimen	PC1. How to place and secure block and knife in microtome strictly in accordance with safety directions	**200**	30	10	20
	PC2. How to label required number of microscope slides in accordance with enterprise traceability requirements		30	10	20
	PC3. How to cut ribbons of representative sections at the required thickness observing prescribed safety measures		30	10	20
	PC4. How to float sections onto water bath to flatten tissues		30	10	20
	PC5. How to pick up sections onto microscope slides ensuring identification on slides matches that on block		30	10	20
	PC6. How to apply procedures to prevent cross-contamination between samples		25	5	20
	PC7. How to inspect sections and reject items that do not meet specifications		25	5	20
	Total		200	60	140
6.HSS / N 0406: Stain(Routine and Special) the tissue specimen	PC1. Select reagents specified in the method	**200**	40	10	30
	PC2. Stain sections according to the method		40	10	30
	PC3. Examine sections microscopically to ensure expected staining outcomes have been achieved		40	10	30
	PC4. Mount sections to ensure long term preservation		40	10	30
	PC5. Mark and place permanent labels giving specimen details according to organisation's traceability requirements		40	10	30
	Total		200	50	150
7.HSS/ N 0407: Maintain and operate the laboratory equipment like microtones, cryostat etc	PC1. How to arrange the equipment	**200**	30	10	20
	PC2. How to read equipment signs		30	10	20
	PC3. How to place the tissue sample and adjust the position according to equipment		30	10	20
	PC4. How to use and maintain various equipment:				
	Paraffin microtome with knives and holders		2	0	2
	Water bath		2	0	2
	Autoclave		2	0	2
	Desktop computer		2	0	2
	Micro-centrifuge		2	0	2

	Microwave oven		2	0	2
	liquid nitrogen freezer		2	0	2
	Chest freezer -80°C		2	0	2
	Automated immunostaining system		2	0	2
	Cryostat		2	0	2
	Knives and Accessories		2	0	2
	Bone Cutting		2	0	2
	Chisels		2	0	2
	Cleaning and disinfecting agents.		2	0	2
	Instrument Cases		2	0	2
	Dissection Forceps		2	0	2
	Dissection Aids		2	0	2
	Medical Bags		2	0	2
	Instrument Care & Cleaning		2	0	2
	Measurement		2	0	2
	Needles		2	0	2
	Dissecting Scissors Roto-Dry		2	0	2
	Staining Dishes		2	0	2
	Slide Storage boxes		2	0	2
	Dyes		2	0	2
	Microtome Tray		2	0	2
	Lab Refrigerators and Freezers		2	0	2
	Chill Tray		2	0	2
	PC5. How to clean the equipment and if not able to then contact the concerned person		30	10	20
	PC6. About the functioning of lab equipment's and protocols for their cleaning and calibration		24	4	20
	Total		200	44	156
8. HSS/ N 0408: Follow chemical hygiene plan	PC1. Precautions for handling all laboratory chemicals	**200**	15	5	10
	PC2. Exposure can occur by way of inhalation, skin absorption or ingestion		10	5	5
	PC3. Chemicals should not be smelled or tasted		10	5	5
	PC4. How to inspect gloves before use		15	5	10
	PC5. How to use exhaust hoods when heating solutions		15	5	10
	PC6. How to minimize exposures by preventing their escape into the working atmosphere by the use of hoods and other ventilation devices		10	5	5
	PC7. The chemical hygiene program is designed to minimize exposures and is required by law		10	5	5

	PC8. That chemical hygiene plan should be a regular, continuing effort, not merely a standby or short-term activity		10	5	5
	PC9. The importance of training and should attend additional training annually		10	5	5
	PC10. Observe the PELs and TLVs		15	5	10
	PC11. Monitor procurement, use, and disposal of chemicals used in the lab		15	5	10
	PC12. The current legal requirements concerning regulated substances		10	5	5
	PC13. Seek ways to improve the chemical hygiene program.		10	5	5
	PC14. And check that protective equipment is available and in working order		10	5	5
	PC15. The current legal requirements concerning regulated substances		10	5	5
	PC16. The required levels of protective equipment		10	5	5
	PC17. How to follow good personal chemical hygiene habits		15	5	10
	Total		200	85	115
9. HSS/ N 0409 (Assist in fine needle aspiration cytology)	PC1. Swab the skin with an antiseptic solution	**200**	50	10	40
	PC2. Prepare the needle of very fine diameter for the process		50	10	40
	PC3. Take and record the vitals (pulse, blood pressure, temperature, etc.) before the procedure is started		50	10	40
	PC4. Prepare the equipment and slides for examining the sample		50	10	40
	Total		200	40	160
10. HSS/ N 0410: Archive tissue samples and records	PC1. Identify specimen	**200**	15	0	15
	PC2. Mention the batch date		15	0	15
	PC3. Check if the specimen is properly labelled with the name, age, Hospital, Registration No. and the nature of tissue to be examined		20	5	15
	PC4. Check that the requisition form is duly filled		20	5	15
	PC5. Check that Slides should be released for recording after consultation with the pathologist		20	5	15
	PC6. Keep the specimens in their marked container and discarded after checking with pathologist		20	5	15
	PC7. Store the block at their proper number		15	5	10

	PC8. Note that the blocks have to be kept preserved for 15 years		15	5	10
	PC9. Store the slides properly after checking that they are properly dried		15	5	10
	PC10. Note that request forms are to be filed permanently		15	5	10
	PC11. Note that after grossing specimens to be stored for 3 months		15	5	10
	PC12. Discard the stored specimens in the prescribed manner		15	5	10
	Total		200	50	150
11. HSS/ N 0411: Prepare reagents	PC1. Know how to prepare the reagents	**200**	40	20	20
	PC2. Prepare standard volumetric solutions or reagents to be combined with samples		40	10	30
	PC3. Follow standardized formulas or experimental procedures		40	10	30
	PC4. How to test solutions, processes, or finished products to determine quality or quantity of materials or characteristics of a substance		40	10	30
	PC5. Know the composition for different types of reagents		40	20	20
	Total		200	70	130
12. HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**200**	5	0	5
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		5	0	5
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		5	5	0
	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		20	10	10
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		5	0	5
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		5	0	5
	PC7. Follow procedures for risk control and risk containment for specific risks		10	0	10

	PC8. Follow protocols for care following exposure to blood or other body fluids as required		10	0	10
	PC9. Place appropriate signs when and where appropriate		20	10	10
	PC10. Remove spills in accordance with the policies and procedures of the organization		5	0	5
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		5	0	5
	PC12. Follow hand washing procedures		5	0	5
	PC13. Implement hand care procedures		5	0	5
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		5	5	0
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		5	0	5
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		5	0	5
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		20	10	10
	PC18. Confine records, materials and medicaments to a well-designated clean zone				
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone				
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		5	0	5
	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		5	0	5
	PC22. Store clinical or related waste in an area that is accessible only to authorised persons		5	5	0
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce		5	0	5

	the risk to the environment from accidental release				
	PC24. Dispose of waste safely in accordance with policies and procedures of the organisation and legislative requirements		5	5	0
	PC25. Wear personal protective clothing and equipment during cleaning procedures		5	0	5
	PC26. Remove all dust, dirt and physical debris from work surfaces		5	0	5
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		5	0	5
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		5	0	5
	PC29. Dry all work surfaces before and after use		5	0	5
	PC30. Replace surface covers where applicable		5	0	5
	PC31. Maintain and store cleaning equipment		5	5	0
	Total		200	55	145
Grand Total-1 (Subject Domain)		**400**			
Soft Skills and Communication		**Pick one field from both parts each carrying 50 marks totaling 100**			
Assessable Outcomes	**Assessment Criteria for the Assessable Outcomes**	**Total Marks (100)**	**Out Of**	**Marks Allocation**	
				Viva	**Observation/ Role Play**
Part 1 (Pick one field randomly carrying 50 marks)					
1. Attitude					
HSS/ N 9603 (Act within the limits of one's competence and authority)	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice	**50**	4	0	4
	PC2. Work within organisational systems and requirements as appropriate to one's role		4	0	4
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and		14	6	8

	authority				
	PC4. Maintain competence within one's role and field of practice		4	0	4
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		6	2	4
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		6	2	4
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		6	2	4
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		6	2	4
			50	14	36
Attitude Total		**50**	50	14	36
2. Work Management					
HSS/ N 9602 (Ensure availability of medical and diagnostic supplies)	PC1. Maintain adequate supplies of medical and diagnostic supplies	**50**	10	10	0
	PC2. Arrive at actual demand as accurately as possible		10	6	4
	PC3. Anticipate future demand based on internal, external and other contributing factors as accurately as possible		20	10	10
	PC4. Handle situations of stock-outs or unavailability of stocks without compromising health needs of patients/ individuals		10	10	0
			50	36	14
Work Management Total		**50**	50	36	14
Part 2 (Pick one field randomly carrying 50 marks)					
1. Safety management					
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	**50**	6	2	4
	PC2. Comply with health, safety and security procedures for the workplace		4	0	4
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		4	3	1
	PC4. Identify potential hazards and breaches of safe work practices		6	4	2

	PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority		6	4	2
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		6	4	2
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		6	2	4
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		6	4	2
	PC9. Complete any health and safety records legibly and accurately		6	2	4
			50	25	25
2. Waste Management					
HSS/ N 9609 (Follow biomedical waste disposal protocols)	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	**50**	6	2	4
	PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste		8	4	4
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		4	0	4
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		8	4	4
	PC5. Check the accuracy of the labelling that identifies the type and content of waste		4	2	2
	PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal		4	4	0
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		4	4	0

	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		4	4	0
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		4	4	0
	PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols		4	4	0
			50	32	18
3. Quality Assurance					
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**50**	6	2	4
	PC2. Evaluate potential solutions thoroughly		8	4	4
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		4	0	4
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		8	4	4
	PC5. Report any identified breaches in health, safety, and security procedures to the designated person		4	2	2
	PC6. Identify and correct any hazards that he/she can deal with safely, competently and within the limits of his/her authority		4	4	0
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		4	4	0
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		4	4	0
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		4	4	0
	PC10. Complete any health and safety records legibly and accurately		4	4	0
			50	32	18
Grand Total-2 (Soft Skills and Communication)		**100**			
Detailed Break Up of Marks		**Theory**			

Subject Domain		Pick each NOS Compulsorily totaling 80	
Assessable Outcomes	**Assessment Criteria for the Assessable Outcomes**	**Total Marks (80)**	**Marks Allocation**
			Theory
1. HSS / N 0401: Assist in carrying out grossing	PC1. Specimen identification	**6**	6
	PC2. Mention the batch date and name		
	PC3. Place the specimen in formalin as quickly as possible		
	PC4. Place the specimen in an appropriate size container so that formalin surrounds the tissue on all sides		
	PC5. Ensure that the surgical number on the requisition matches that on the specimen container, worksheet and cassettes		
	Total		6
2.HSS / N 0402: Fix the tissue specimen	PC1. Anatomically correct dissection	**6**	6
	PC2. Perform specimen photography (where appropriate)		
	PC3. Take appropriate blocks for microscopic exam		
	PC4. Properly examine the tissue margins (where appropriate)		
	PC5. Handle common specimens (e.g. culture, EM, cytogenetics, bone marrows)		
	Total		6
3.HSS / N 0403: Process the tissue specimen	PC1. Select appropriate process and reagents for processing	**6**	6
	PC2. Monitor processor regularly during processing sequence to ensure that dehydration, clearing and infiltration process are complete		
	PC3. Process tissue specimen into a form in which it can be made into thin microscopic-sections		
	PC4. Perform dehydration and clearing		
	PC5. Ensure the tissue is infiltrated with the embedding agent		
	PC6. Be able to provide additional fixation depending on the tissue condition		
	PC7. Maintain reagent quality		
	PC8. Be able to minimise tissue distortion from diffusion currents		
	Total		6

4.HSS / N 0404: Embed the tissue specimen	PC1. Select program and reagents for processing	**6**	6
	PC2. Check that temperature of wax is suitable for embedding process		
	PC3. Check that volume of wax is sufficient for uninterrupted embedding of processor load		
	PC4. Embed tissue in correct orientation		
	PC5. Allow block to solidify evenly according to wax requirements		
	PC6. Orientate specimens carefully		
	PC7. Choose an appropriate mold		
	PC8. Handle specimens gently		
	Total		6
5.HSS/ N 0405: Section the tissue specimen	PC1. How to place and secure block and knife in microtome strictly in accordance with safety directions	**6**	6
	PC2. How to label required number of microscope slides in accordance with enterprise traceability requirements		
	PC3. How to cut ribbons of representative sections at the required thickness observing prescribed safety measures		
	PC4. How to float sections onto water bath to flatten tissues		
	PC5. How to pick up sections onto microscope slides ensuring identification on slides matches that on block		
	PC6. How to apply procedures to prevent cross-contamination between samples		
	PC7. How to inspect sections and reject items that do not meet specifications		
	Total		6
6.HSS / N 0406: Stain(Routine and Special) the tissue specimen	PC1. Select reagents specified in the method	**6**	6
	PC2. Stain sections according to the method		
	PC3. Examine sections microscopically to ensure expected staining outcomes have been achieved		
	PC4. Mount sections to ensure long term preservation		
	PC5. Mark and place permanent labels giving specimen details according to organisation's traceability requirements		

	Total		6
7.HSS/ N 0407: Maintain and operate the laboratory equipment like microtones, cryostat etc	PC1. How to arrange the equipment	**8**	8
	PC2. How to read equipment signs		
	PC3. How to place the tissue sample and adjust the position according to equipment		
	PC4. How to use and maintain various equipment:		
	Paraffin microtome with knives and holders		
	Water bath		
	Autoclave		
	Desktop computer		
	Micro-centrifuge		
	Microwave oven		
	liquid nitrogen freezer		
	Chest freezer -80°C		
	Automated immunostaining system		
	Cryostat		
	Knives and Accessories		
	Bone Cutting		
	Chisels		
	Cleaning and disinfecting agents.		
	Instrument Cases		
	Dissection Forceps		
	Dissection Aids		
	Medical Bags		
	Instrument Care & Cleaning		
	Measurement		
	Needles		
	Dissecting Scissors Roto-Dry		
	Staining Dishes		
	Slide Storage boxes		
	Dyes		
	Microtome Tray		
	Lab Refrigerators and Freezers		
	Chill Tray		
	PC5. How to clean the equipment and if not able to then contact the concerned person		
	PC6. About the functioning of lab equipment's and protocols for their cleaning and calibration		
	Total		8
8. HSS/ N 0408: Follow chemical	PC1. Precautions for handling all laboratory chemicals	**8**	8

hygiene plan	PC2. Exposure can occur by way of inhalation, skin absorption or ingestion		
	PC3. Chemicals should not be smelled or tasted		
	PC4. How to inspect gloves before use		
	PC5. How to use exhaust hoods when heating solutions		
	PC6. How to minimize exposures by preventing their escape into the working atmosphere by the use of hoods and other ventilation devices		
	PC7. The chemical hygiene program is designed to minimize exposures and is required by law		
	PC8. That chemical hygiene plan should be a regular, continuing effort, not merely a standby or short-term activity		
	PC9. The importance of training and should attend additional training annually		
	PC10. Observe the PELs and TLVs		
	PC11. Monitor procurement, use, and disposal of chemicals used in the lab		
	PC12. The current legal requirements concerning regulated substances		
	PC13. Seek ways to improve the chemical hygiene program.		
	PC14. And check that protective equipment is available and in working order		
	PC15. The current legal requirements concerning regulated substances		
	PC16. The required levels of protective equipment		
	PC17. How to follow good personal chemical hygiene habits		
	Total		8
9. HSS/ N 0409 (Assist in fine needle aspiration cytology)	PC1. Swab the skin with an antiseptic solution	**6**	6
	PC2. Prepare the needle of very fine diameter for the process		
	PC3. Take and record the vitals (pulse, blood pressure, temperature, etc.) before the procedure is started		
	PC4. Prepare the equipment and slides for examining the sample		
	Total		6
10. HSS/ N 0410: Archive tissue	PC1. Identify specimen	**8**	8
	PC2. Mention the batch date		

samples and records	PC3. Check if the specimen is properly labelled with the name, age, Hospital, Registration No. and the nature of tissue to be examined		
	PC4. Check that the requisition form is duly filled		
	PC5. Check that Slides should be released for recording after consultation with the pathologist		
	PC6. Keep the specimens in their marked container and discarded after checking with pathologist		
	PC7. Store the block at their proper number		
	PC8. Note that the blocks have to be kept preserved for 15 years		
	PC9. Store the slides properly after checking that they are properly dried		
	PC10. Note that request forms are to be filed permanently		
	PC11. Note that after grossing specimens to be stored for 3 months		
	PC12. Discard the stored specimens in the prescribed manner		
	Total		8
11. HSS/ N 0411: Prepare reagents	PC1. Know how to prepare the reagents	**8**	8
	PC2. Prepare standard volumetric solutions or reagents to be combined with samples		
	PC3. Follow standardized formulas or experimental procedures		
	PC4. How to test solutions, processes, or finished products to determine quality or quantity of materials or characteristics of a substance		
	PC5. Know the composition for different types of reagents		
	Total		8
12. HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**6**	6
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		

	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		
	PC7. Follow procedures for risk control and risk containment for specific risks		
	PC8. Follow protocols for care following exposure to blood or other body fluids as required		
	PC9. Place appropriate signs when and where appropriate		
	PC10. Remove spills in accordance with the policies and procedures of the organization		
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		
	PC12. Follow hand washing procedures		
	PC13. Implement hand care procedures		
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		
	PC18. Confine records, materials and medicaments to a well-designated clean zone		
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone		
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		

	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		
	PC22. Store clinical or related waste in an area that is accessible only to authorised persons		
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce the risk to the environment from accidental release		
	PC24. Dispose of waste safely in accordance with policies and procedures of the organisation and legislative requirements		
	PC25. Wear personal protective clothing and equipment during cleaning procedures		
	PC26. Remove all dust, dirt and physical debris from work surfaces		
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		
	PC29. Dry all work surfaces before and after use		
	PC30. Replace surface covers where applicable		
	PC31. Maintain and store cleaning equipment		
	Total		6
Grand Total-1 (Subject Domain)		**80**	
Soft Skills and Communication		**Select each NOS each carrying 4 marks totaling 20**	
Assessable Outcomes	**Assessment Criteria for the Assessable Outcomes**	**Total Marks (20)**	**Marks Allocation**
			Theory
1. Attitude			
HSS/ N 9603 (Act within the limits of	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and	**4**	4

one's competence and authority)	field of practice		
	PC2. Work within organisational systems and requirements as appropriate to one's role		
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		
	PC4. Maintain competence within one's role and field of practice		
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		
			4
2. Work Management			
HSS/ N 9602 (Ensure availability of medical and diagnostic supplies)	PC1. Maintain adequate supplies of medical and diagnostic supplies	**4**	4
	PC2. Arrive at actual demand as accurately as possible		
	PC3. Anticipate future demand based on internal, external and other contributing factors as accurately as possible		
	PC4. Handle situations of stock-outs or unavailability of stocks without compromising health needs of patients/ individuals		
			4
3. Safety management			
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	**4**	4
	PC2. Comply with health, safety and security procedures for the workplace		
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		
	PC4. Identify potential hazards and breaches of safe work practices		

	PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority		
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		
	PC9. Complete any health and safety records legibly and accurately		
			4
4. Waste Management			
HSS/ N 9609 (Follow biomedical waste disposal protocols)	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	**4**	4
	PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste		
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		
	PC5. Check the accuracy of the labelling that identifies the type and content of waste		
	PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal		
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		
	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		

	PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols		
			4
5. Quality Assurance			
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**4**	4
	PC2. Evaluate potential solutions thoroughly		
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		
	PC5. Report any identified breaches in health, safety, and security procedures to the designated person		
	PC6. Identify and correct any hazards that he/she can deal with safely, competently and within the limits of his/her authority		
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		
	PC10. Complete any health and safety records legibly and accurately		
			4
Grand Total-2 (Soft Skills and Communication)		**20**	

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

While collecting data from the companies for the occupational map & functional analysis, we also took feedback from industry, which was collected with respect to roles for which qualification packs development, was to be prioritized. This was largely based on volume of people required, quantitative and qualitative

shortfall which the Industry feels they face. Governing council of HSSC gave final approval and endorsement for the same.
What is the estimated uptake of this qualification and what is the basis of this estimate? The workforce in allied healthcare sector need expected to around 74 lac by 2022 double the workforce employed in 2013 as envisaged in Skills Gap analysis Reports for industry demand and secondary research data, though these do not lend to accurate demand projection. The link to NSDC Human Resource & Skills Requirement in Healthcare Sector is http://healthcare-ssc.in/images/Human%20Resource%20&%20Skills%20Requirement%20in%20Healthcare%20sector.pdf • Feedback from industry for demand though again sample size may not lend to accurate figures • Training duration, and current and potential training capacity envisaged • An LMIS development initiative is being put in place to be more precise regarding the demand and supply
What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF? • NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work • NSDC QRC team also confirmed the same
What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? • Agencies/personnel would be appointed by the HSSC to interact with training providers, employers, assessors to gather feedback in implementation. • Monitoring of results of assessments, training delivery • Employer feedback will be sought post-placement • A formal review is scheduled in two year time

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

1. **Occupational Mapping Report-Annexure 2**
2. **Functional Analysis Report-Annexure 3**
3. **RFP for development of occupational standards-Annexure 4**
4. **Validation group and industry consultations- Annexure 5**
5. **The Brief Report on the whole process of the development, validation and notification of these qualification packs along with list of companies and Industry associations involved -Annexure 6**
6. **Human Resource & Skills Requirement in Healthcare Sector accessible on below given link:**

http://healthcare-ssc.in/images/Human%20Resource%20&%20Skills%20Requirement%20in%20Healthcare%20sector.pdf

SECTION 3

SUMMARY OF DIRECT EVIDENCE OF LEVEL

Justify the NSQF level allocated to the QP. Relate information about the job role and build upon the five descriptors for the level to justify.

Generic NOS is/are linked to the overall authority attached to the job role.

Qualification Title and Classification Code Histotechnician (HSS/Q 0401)					
Process required	**Professional knowledge**	**Professional skill**	**Core skill**	**Responsibility**	**Level**
Histotechnician process and prepare tissue specimens from surgery and other patient service areas. The HTL prepares tissue blocks and slides with skill and accuracy for evaluation by Pathologists. Histotechnicians may also assist the pathologist in the preparation of frozen tissue sections which are used to provide rapid diagnosis while the patient is still undergoing surgery. The tissue may be obtained from an operating room, clinic, doctor's office, emergency room, or a postmortem examination. The Histotechnician must continually employ judgment gained from knowledge, practice, and experience to adjust technique for proficient execution of the manual skills of microtomy, embedding and staining. The HTL must	Histotechnician work in a team and be comfortable in making decisions pertaining to their area of work. Individuals should have understanding of histology as well as a practical understanding of histologic techniques: Histologic procedures, Tissue fixation and processing, Histology clinical practicum, Chemistry of staining, Tissue identification,Instrumentation, Accessioning , Embedding, Microtomy, Routine and special nuclear and cytoplasmic stains, Health and safety awareness, Laboratory math, Frozen sectioning (cryotomy), Decalcification of bone, Immunohistochemistry The Histotechnician must continually employ judgment gained from knowledge, practice, and experience to adjust technique for proficient execution of the manual skills of microtomy, embedding and staining. The HTL must demonstrate knowledge of tissue specimens, anatomy and dissection techniques. This indicates that a Histotechnician must have knowledge of facts, principles, processes and general concepts, in order to perform activities correctly.	Histotechnician is expected to Assist in carrying out grossing, Fix the tissue specimen, Process the tissue specimen, Embed the tissue specimen, Section the issue specimen, Stain(Routine and Special) the tissue specimen, Maintain and operate the laboratory equipment like microtones, cryostat etc., Follow chemical hygiene plan, Assist in Fine Needle Aspiration Cytology, Archive tissue samples and records, Prepare reagents. They should be able to exhibit fine motor skills, Analytical skills, Detail oriented,	Histotechnician should have the ability to understand and follow complex technical instructions, ability to pay close attention to detail, ability to effectively use computer applications such as spreadsheets, word processing, ability to read, write, speak, understand, and communicate in English sufficiently to perform the essential duties of the position, familiarity with the techniques of maintaining a filing system, accuracy, good dexterity, dependability, initiative, good judgment, physical condition commensurate with the demands of the position. Keep abreast of the latest knowledge by reading internal communications and legal	Histotechnicians are responsible for all aspects of tissue preparation and work closely with pathologists to help them diagnose disease processes. Because each specimen is unique and usually un-reproducible, great care and skill is demanded of all histotechs. Histotechnicians may also assist the pathologist in the preparation of frozen tissue sections which are used to provide rapid diagnosis while the patient is still undergoing surgery. Individuals must always perform their duties in a calm, reassuring and efficient manner. This is critical as it indicates that the person is responsible to carry out the job not only in familiar	5

demonstrate knowledge of tissue specimens, anatomy and dissection techniques. Therefore, they require well developed skill, with clear choice of procedures in familiar context		Integrity, Interpersonal skills, Technical skills, Computer Skills. All these are activities that require him/her to demonstrate a range of cognitive and practical skill, required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.	framework changes related to roles and responsibilities. This requires desired mathematical skill, understanding of social, political and natural environment; collecting and organising information and communication.	situations, but also where problems may arise. It also confirms that Histotechnician will be able to make choices about the best procedures to adopt to address problems. He/she is responsible for the completion of his/her own work and expected to learn and improve his/her performance on the job. The Histotechnician shall have well developed practical and cognitive skills to complete the assigned work. Histotechnician may also have some responsibility for Medical Laboratory Technician work and learning in field of histopathology. These individuals can be described as "fully skilled workers" or "supervisors".	
Level: 5	Level: 5	Level: 5	Level: 5	Level:5	5

OTHER EVIDENCE OF LEVEL [This need only be filled in where evidence other than primary outcomes was used to allocate a level] (**Optional)**

- Validated by Industry through various training provider & stake holders

Summary of other evidence (if used): NA

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Horizontal and vertical mobility options have been articulated.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

1. **Occupational Mapping Report-Annexure 2**
2. **Functional Analysis Report-Annexure 3**
3. **Validation group and industry consultations- Annexure 5**
4. **The Brief Report on the whole process of the development, validation and notification of these qualification packs along with list of companies and Industry associations involved -Annexure 6**