CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

Andhra Pradesh MedTech Zone (AMTZ)
Telephone: +91 8885092122
E-mail: info@amtz.in

Name and address of submitting body:

Andhra Pradesh Med Tech Zone
Near Pragati Maidan
VM Steel Project S.O.
Visakhapatnam 530031

Name and contact details of individual dealing with the submission

Name: Dr. Jitendar Sharma
Ph: 8885092122/33

Position in the organisation: Managing Director & Chief Executive Officer

Address if different from above: Same as above

Tel number(s): Same as above

E-mail address: ceo@amtz.in

List of documents submitted in support of the Qualifications File

1. Annexure – I: Affiliation Norms
2. Annexure – II: IBSC Concept Note
3. Annexure – III: Model Curriculum
4. Annexure – IV: Letter from Industry to support the proposal
5. Annexure – V: Occupational Mapping & Skill Gap Study
6. Annexure – VI: Occupational Mapping Report
7. Annexure – VII: List of IBSC Partner Institutions

SUMMARY

1	**Qualification Title:**	Certificate in Biomedical Manufacturing
2	**Qualification Code, if any**	IBSC / BME / 03
3	**NCO code and occupation**	Bio-Medical Engineer – 2143.0200
4	**Nature and purpose of the qualification (Please specify the duration of the certificate validity)**	**Nature:** It is a Certificate course in Biomedical Manufacturing **Purpose:** The Certificate in Biomedical Manufacturing is a short duration skill-based training program, with an objective to develop a pool of trained workforce which can employed by manufacturing industry / healthcare service providers. This program focuses on the acquisition of skills necessary to develop manufacturing processes and support production activities. IBSC Skill Certification would certify bio-medical engineers & technicians, this course is a short-term training and valid for lifetime.
5	**Body/bodies which will award the qualification**	Indian Bio Medical Skill Consortium (IBSC)
6	**Body which will accredit providers to offer courses leading to the qualification**	Quality Council of India (QCI)
7	**Whether accreditation/affiliation norms are already in place or not, if applicable (if yes, attach a copy)**	Norms are in place for regulating the training centers and the assessment process. Affiliation norms are attached. Annexure - I
8	**Occupation(s) to which the qualification gives access**	Production Manager
9	**Job description of the occupation**	The objective of the training program is to develop a pool of workforce which can be employed by focuses on the acquisition of skills necessary to develop manufacturing processes and support production activities. As per the training modules at the end of the training, the candidate would be certified to

		perform following activities - a) Develops manufacturing processes by studying product requirements; researching, designing, modifying, and testing manufacturing methods and equipment; conferring with equipment vendors. b) Document all manufacturing criteria, calculations performed, and decisions made. c) Implement process innovation, process development and improvement in terms of cost reduction and increase efficiencies on the production line. d) Provide leadership through effective communication of vision, train, supervise, and manage production line workers by educating employees on proper methods in which to operate and engage with machinery. e) Responsible for quality assurance of production, train, supervise and manage production line staff. Educate employees on proper methods in which to operate and engage with machinery. The detail progression is given in the item no 30 of this document.
10	**Licensing requirements**	NOT applicable
11	**Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)**	NOT applicable
12	**Level of the qualification in the NSQF**	Level – 6
13	**Anticipated volume of training/learning required to complete the qualification**	i) 500 hours
14	**Indicative list of training tools required to deliver this qualification**	Syllabus, e-study materials, Sample question banks, Hands-on-workshops etc. **General Items:**

		Laptop, white board, projector List of tools and laboratories used to deliver this training program: 1. Injection moulding machine 2. Compression moulding machine 3. Melting Point Apparatus 4. MFI Tester (MFI Indexer) 5. Muffle Furnace 6. Chemical Testing Apparatus a) PH Meter b) Centrifuse c) Chemicals & Glass works like burate, pippet, Pnecometer etc. 7. Density Gradient column 8. Universal Testing Machine
15	**Entry requirements and/or recommendations and minimum age**	**Minimum criteria:** **i) For Diploma candidates:** Diploma in biomedical / medical electronics / electrical / any other related filed. With 3 years of experience in biomedical field. **ii) For Engineers:** B. E / B. Tech in Biomedical Engineering, Biomedical Instrumentation Engineering / Medical Electronics / any other related field, with 2 years of experience in biomedical field. Candidates who qualified related IBSC modules and approved by IBSC are exempted to take the training on modules. Upon the registration to the training program the certificate will be issued to such candidates.
16	**Progression from the qualification (Please show Professional and academic progression)**	**Professional Progression** After the due certification on qualifying all the desired skills, it is expected that the candidate will attain employment as

		Production Engineering. After gaining certain experience, the candidate will be promoted to higher levels such as Design Engineer, Research & Development Engineer. The candidates can also work in Administration and contribute in Healthcare Industry. **Academic Progression** For diploma candidates they can entry directly to second year of engineering program in Bio-medical. Also, they can purse degree in distance mode. For engineering candidates, they can pursue M. Tech Biomedical or MBA in Hospital Administration. Also, they can pursue PG programme in distance mode.
17	**Arrangements for the Recognition of Prior learning (RPL)**	When the individual has relevant experience, he is assessed through a Recognition of Prior Learning (RPL) programme. The candidate is assessed through a combination of theory test, practical knowledge and verbal questioning or VIVA. The test is designed by SME or Subject Matter Expert who prepares the test material with total integrity and objectivity. The candidate is administered a written test of 45 minutes and a practical test of 1.5 to 2 hours duration. Upon successful completion of the test the candidate is declared competent for yet to be competent, depending upon which the training is advised. The assessment is conducted by trained

		and qualified assessors appointed by IBSC. The tests are administered under strict confidentiality and absolute lack of bias or prejudice.
18	**International comparability (research evidence to be provided)**	Association for the Advancement of Medical Instrumentation, USA (AAMI) & American College of Clinical Engineering (ACCE), USA. ACCE is a global leader in Medical Technology Certification (applicable world-wide). IBSC has signed MoU with ACCE for bilateral acceptance of practice. International documentation reviewed for the same included that following – IBSC forges global partnership with AAMI to certify biomedical engineering professionals http://www.pharmabiz.com/NewsDetails.aspx?aid=110870&sid=1 IBSC inks pact with AAMI https://www.biospectrumindia.com/news/74/11546/ibsc-inks-pact-with-aami.html
19	**Date of planned review of the qualification.**	It is proposed that the qualification to be reviewed every three years. *from the date of clearance of the Qualification
20	**Formal structure of the qualification** **Mandatory components** **Production Manager** **70 % of the teaching hours will be practical / videos & presentation, demonstrations and 30% will be theory.**	

(i)	**Title of component and identification code/NOSs/Learning outcomes**		**Estimated size (learning hours)**	**Level**
	Course Code	Name of the Module		
	MF01	Operations Management Functions and Strategies	100	6

	MF02	Product Development, Testing, Evaluation, & Modification	150	6
	MF03	Manufacture & Assembly (Design and process)	150	6
	MF04	Materials Handling and Inventory Management	50	6
	MF05	Service Delivery Management	50	6
		Sub Total	**500**	**6**

SECTION 1
ASSESSMENT

21	**Body/Bodies which will carry out assessment:** M/s MeritTrac Testing Services, Bangalore has been selected through bidding and shall conduct the online assessment test across India. Indian Bio-Medical Skill Consortium, AMTZ Campus, Visakhapatnam shall develop the content of assessment.
22	**How will RPL assessment be managed and who will carry it out?** IBSC 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 years of experience.). Here, the candidates may undergo short-term training of gaps identified. **1) Registration:** The candidates need to submit registration form online along with uploading of scanned copies of some mandatory documents (work experiences if any). The applications will be screened on the basis of the eligibility criteria and approved candidates will be dully informed. **2) Pre-Assessment:** The candidates who has relevant experience, he is assessed through a Recognition of Prior Learning (RPL) programme. The candidate is assessed through a combination of theory test, practical knowledge and verbal

	questioning or VIVA. The test is designed by SME or Subject Matter Expert who prepares the test material with total integrity and objectivity. The candidate is administered a written test of 45 minutes and a practical test of 1.5 to 2 hours duration. Upon successful completion of the test the candidate is declared competent for yet to be competent, depending upon which the training is advised. The assessment is conducted by trained and qualified assessors appointed by IBSC. The tests are administered under strict confidentiality and absolute lack of bias or prejudice. Those who score more that 80% they can directly appear for final assessment. Those who score less than 80% they should undergo skill training program. **3) Final Assessment:** The shortlisted candidates from pre-assessment are finally selected for final assessment. The assessment is conducted by Indian Biomedical Skill Consortium (IBSC).
23	**Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.** The process of assessment followed ensures that the assessment is strictly in accordance to the qualification pack, the NOS and PCs mentioned. Validity depends upon how well the assessment actually measures the learning outcome. The test is prepared against the assessment criteria set by the IBSC, which has in turn identified the core skills and the supplementary skills in terms of NOS and PC. That the test is designed according to the assessment criteria and is prepared by subject matter experts who are established in their fields ensures the validity of the test. Consistency of the test is dependent on the fact that the assessment generates consistent results inspite of change in evaluators, location etc. The MCQ pattern followed for the theory rules out any element of prejudice or subjectivity on the part of the evaluator. The practical is designed in such a manner that the core skills and supplementary skills are tested and evaluated. The trained assessors who are experts in the field ensure that the test is consistent. Fairness is ensured as the students are given equal opportunity irrespective of their religion, social back ground or gender. The roll numbers assigned to the candidates conceal their identity and making the evaluation impartial. **Assessment Guidelines:** 1. The criteria for assessment is based on module/s for which the

candidate has enrolled out of the total course modules.
2. The individual modules are mapped with specialized skill in the area of Healthcare Technology.
3. Individual module carries equal weightage and marks.
4. The outcome of the learning process is based on best practices adopted in Healthcare Technology.

The Assessment Parameters adopted during assessment:

1) Knowledge of equipment, limitation of use of tools and equipment, and methods & procedure.
2) Understanding of functioning of equipment & tool, criteria to be used in selecting tools for given
3) job, and the process of measurement.
4) Skill in finishing to required measurement, handling measurement & calculations, handling tools
5) and equipment with ease, finishing neatly.
6) Abilities to take corrective steps, use correct work habits, take measurements, complete the job
7) within stipulated time, and adopt safe practices.
8) Attitude towards the work, accurate & precise work and co-workers and supervisor.

Theory Test / Internal Assessment:

1) The questions shall be normally of objective type involving selection of correct response rather than writing sentences.
2) The question paper shall contain sketches/ diagrams/ photographs/ drawing to overcome the problems of reading comprehension.
3) The test shall be of short duration.

Practical Test / Viva-voice:

It shall be able to test:

1) Manipulative skills to handle tools and equipment.
2) Speed in doing work.
3) Accuracy maintained
4) Quality in workmanship.
5) Sequence of performance.
6) Economical use of material.
7) All the competencies prescribed in the course curriculum.

Testing & Certification Process:

Application Process:

1. The candidate enrols for the modules for assessment.
2. IBSC would declare a specific period for registration for assessment.

3. Applicant will fill the details along with supporting documents.
4. The uploaded documents will be verified & approved by IBSC.
5. Applicant can book the online examination centre as per the requirement.
6. After the online examination, IBSC will prepare the certification based on online test marks.
7. The verification & approval section will be recommended for the final certification.
8. The applicant will be communicated by Email & SMS about award of certificate.

Assessment Process:

1. Candidate should reach the venue 45 minutes before the start of the test.
2. Candidates should carry valid training ID card or else an ID card approved by the Government of India (PAN Card, Aadhar Card, DL, etc).
3. Candidates without any identification are not allowed to take the test.

Candidates should follow these guidelines:

a) No usage of electronic devices (mobiles and calculators) during the test
b) No malpractice during the test hours
c) Talking is not allowed during the test
d) There are 30 (Varies for different QPs) multiple choice questions
e) Each question has only one correct answer
f) There is no negative marking
g) Candidates need to attempt all questions to complete the test.
h) Pencil, eraser, and white paper will be provided to all the candidates.

Examination Procedure:

1) Mode of Application: Online
2) Examination Pattern: Objective
3) Total number of Modules: 5
4) Number of questions in each module: 30
5) Time duration for examination of one module: 90 minutes

Qualifying Criteria:

1) Minimum 60% in each module is required to qualify the exam.
2) If any candidate has not qualified any module/s s/he can take re-exam in that module/s.

	Post-assessment activities 1) The testing partner shall share the consolidated report (attendance sheet, results sheet) to the IBSC immediately after the completion of assessment. 2) IBSC will verify each application and approve the test scores. 3) Uploading outcome of the assessment and photos in portal by IBSC. 4) IBSC upload the results within one week of the assessment date. 5) IBSC shall maintain assessment records. 6) Publishing of results and Certificate issue 7) Certificates which will be issued carry QR code, qualified modules, technology competency score. 8) The certificate is issues under the aegis of NSDC and partner affiliations. **Direct Assessment:** 1) Candidates desire to get the skills certified have to apply online. 2) IBSC would declare a specific period for registration for assessment. 3) Applicant will fill the details along with supporting documents. 4) The uploaded documents will be verified & approved by IBSC. 5) Applicant can book the online examination centre as per the requirement. 6) After the online examination, IBSC will prepare the certification based on online test marks. 7) The verification & approval section will be recommended for the final certification. The applicant will be communicated by Email & SMS about award of certificate.

24. Assessment evidences

Title of Component: Certificate in Biomedical Manufacturing

	Compulsory NOS			**Marks Allocated**	
Outcomes to be assessed/NOSs to be assessed	**Assessment criteria for the outcome**	**Total**	**Out of**	**Viva - Voice**	**Practical**

IBSC / BME / MF01 Operations Management Functions and Strategies	PC1. Describe the manufacturing processes by studying product requirements; researching, designing, modifying, and testing manufacturing methods and equipment; conferring with equipment vendors.	15	5	2	3
	PC2. Demonstrate the skill in production management that includes planning, organizing and supervising processes and make necessary improvements for higher profitability.		5	2	3
	PC3. Demonstrate skills in everyday operations to support the company's strategic goals, so they are preceded by deep analysis and measurement of the current processes.		5	2	3
		Total	**15**	**6**	**9**
IBSC / BME / MF02 Product Development, Testing, Evaluation, & Modification	PC1. Describe production activities for new products to ensure they meet or exceed requirements and can be manufactured with high quality.	15	5	2	3
	PC2. Ability to implement process innovation, process development and improvement in terms of cost reduction and increase efficiency on the production line.		5	2	3
	PC3. Demonstrate quality assurance of specifications and technical drawings required by the supply chain for manufacture of new devices.		5	2	3
		Total	**15**	**6**	**9**

IBSC / BME / MF03 Manufacture & Assembly (Design and process)	PC1. Describe what is production engineering.	25	5	2	3
	PC2. Describe advanced manufacturing methods, assembling process, quality assurance and plant management.		5	2	3
	PC3. Demonstrate skills in integration of different manufacturing processes into an effective system for producing goods that can compete in the global market.		5	2	3
	PC4. Demonstrate manufacturing standards to improve production process, reducing the variation of component parts, enhancing supplier quality, improving testing methods and technologies.		5	2	3
	PC5. Demonstrate knowledge to evaluate and implement best practices of assembling process at various levels in the industry.		5	2	3
		Total	**25**	**10**	**15**
IBSC / BME / MF04 Materials Handling and Inventory Management	PC1. Describe what is cross-functional and integrated process.	30	5	2	3
	PC2. Demonstrate skills in inventory of raw materials for the production of equipment.		5	2	3
	PC3. Ability to understand the methodologies that are similar to managing any large project, utilize some of the project management processes to plan, execute, and control their products.		5	2	3

	PC4. Describe the process of continuous supply of materials, spares and finished goods.		5	2	3
	PC5. Demonstrate the production process to fulfil the customers demand.		5	2	3
	PC6. Demonstrate the inventory process and maintain data for short-term and long-term planning and control of inventory.		5	2	3
		Total	**30**	**12**	**18**
IBSC / BME / MF05 Service Delivery Management .	PC1. Describe the processes of efficient and cost-effective.	30	5	2	3
	PC2. Describe how to reduce costs without affecting the overall customer experience.		5	2	3
	PC3. Demonstrate how to educate employees on proper methods in which to operate and engage with machinery.		5	2	3
	PC4. Demonstrate skills to training, supervise and mange production line staff.		5	2	3
	PC5. Ability to proactively identify changes in healthcare, delivery systems, and competitive pressures to develop and modify strategies and tactics accordingly.		5	2	3
	PC6. Demonstrate skills to work well as part of a team, to take tasks and guide subordinates for better productivity and efficiency.		5	2	3

	PC7. Demonstrate interpersonal skills, which enables them to communicate with teams, give clear instructions for better outcomes.		5	2	3
	PC8. Demonstrate computer skills to analyse data and create reports.		5	2	3
		Total	**40**	**16**	**24**
		Grand Total	**125**	**50**	**75**

Practical & Skill Test (pre-assessment)
After the completion of sufficient training hours, the candidates should maintain 75% of attendance. The candidates should qualify the pre-assessment test consists of both theory & skill test. Those who qualified in pre-assessment test with 75% they will be shortlisted for final assessment. Those who not qualified in pre-assessment they should reappear in the pre-assessment test.

Theory Assessment (final)
In the final assessment it consists of 30 questions in each module to evaluate the competency of the candidate.

Pass/Fail:
The minimum criteria for passing in final assessment is 60% in each module.

SECTION 2

25. EVIDENCE OF LEVEL

Title/Name of qualification/component: Production Manger			**Level:** 6
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relates to the NSQF level descriptors**	**NSQF Level**
Process	The job holder will work in supervisor level and need to perform daily routine duties such as developing manufacturing processes by studying product requirements, researching, designing, modifying and testing manufacturing methods and equipment conferring with equipment vendors. This is an activity which requires multiple range that includes design and manufacture of world-class products, including product design, materials selection, manufacturing processes and systems design and product validation. The job requires to work in a team and in close collaboration with subordinates which would enable communicating with teams, giving clear instructions for better productivity and efficiency. This also includes having knowledge on computer skills to analyse data and create reports.	The knowledge & expertise level in biomedical production are screened. The candidate will perform support production activities for new products to ensure they meet the requirements and can be manufactured with high quality. Hence it is mapped with level-6.	6
Professional knowledge	The job requires individuals to work in a team, they should have strong leadership skills in order to motivate and lead the team effectively and to ensure that junior employees have the knowledge they need to do their jobs well.	The Applicants are screened as per their professional knowledge in Production engineering in Biomedical Field. This includes selection, design, processes etc. of medical devices.	6

Title/Name of qualification/component: Production Manger			**Level:** 6
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relates to the NSQF level descriptors**	**NSQF Level**
	They should be able to proactively identify changes in healthcare, designing of new product delivery systems, and competitive pressures to develop and modify strategies and tactics accordingly. They should be able to implement process innovation, process development and improvement in terms of cost reduction and increase efficiencies on the production line.	Provide leadership through effective communication of vision, new design of products, budget control, compensation programs and incentive planning. Hence it is mapped with level – 6.	
Professional skill	The candidates should be able to work in highly cross-functional teams, in this process should understand the methodologies that are similar to managing any large project, utilize project management processes to plan, execute and control production. The candidates should acquire fundamental knowledge and understanding of production engineering and capabilities in the areas of advanced manufacturing methods, assembling process, quality assurance and plant management.	The Applicants are certified based on acquired professional skills like efficiency in root cause analysis. They should acquire fundamental knowledge and understanding of production and capable of carrying out wide range of activities. Hence it is mapped with level - 6.	6
Core skill	The job holder requires excellent skills in operations management that involves planning, organizing, and supervising processes and make necessary improvements for higher profitability. The adjustments in the everyday operations have to support the company's strategic goals,	The Applicants are certified based on core skills like being resourceful & adopting the best practices in manufacturing of medical devices. Hence it is mapped with level – 6.	6

Title/Name of qualification/component: Production Manger			**Level:** 6
NSQF Domain	**Outcomes of the Qualification/Component**	**How the outcomes relates to the NSQF level descriptors**	**NSQF Level**
	so they are preceded by deep analysis and measurement of the current processes. They should be able to integrate different manufacturing processes into an effective system for producing goods that can compete in the global market. In day to day operations, they need to provide technical support to the junior employees in order to motivate the team effectively.		
Responsibility	The job holder is responsible for quality assurance of specifications and technical drawings required for the new devices. They should understand and implement manufacturing standards to improve production process, reducing the variation of component parts, enhancing supplier quality, improving testing methods and technologies. The other responsibilities include maintaining investments in inventories at the optimum level as required by the management and maintaining data for short term and long-term planning and control of inventory. Also, maintaining operating protocols and reports.	Applicants are rated on the basis of their ability, approach, aptitude towards the task. They should ensure that manufacturing processes are efficient and cost-effective. They are capable to evaluate and select engineering materials and assemble parts for the production. It is mapped with Level - 6	6

SECTION 3
EVIDENCE OF NEED

26 **Is this certification made mandatory by any statutory body?**

Basis	Description	Evidence
Need of the qualification	The IBSC would undertake market study and would enclose demand forecast for the proposed job role both on short-term and long-term basis to substantiate the requirement of the job role.	The Global medical device industry is poised to reach USD 543.9 Billion by 2020 driven by the increase in the lifespan of aging individuals as well as the increasing costs of healthcare globally. The Indian medical device market is currently established at USD 5.5 Billion and is growing yearly at a steady rate of 15% CARG. A rise in the number of hospitals and the increased requirement for healthcare facilities creates a need for sophisticated devices and equipment, which can provide accurate treatment to individuals. It is expected that the Medical Equipment industry will need at least 1.0 lakh trained professionals every year and this number is likely to increase in the near future. Skill Gap Analysis reports for industry demand and

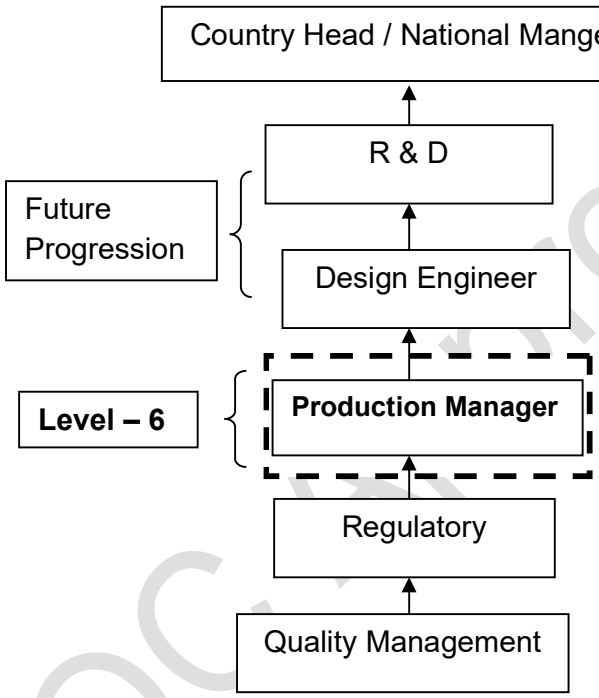
			secondary research data, though these do no lend to accurate demand projection. Occupation map is attached ANNEXURE – V & VI
	Industry Relevance	The IBSC would undertake validation of the job roles with actual end-user industry where such employment are going to be generated and absorbed instead of generic validation of industry. The IBSC would submit the endorsements from users/ intended users of the qualification clearly supporting or otherwise the need for trained people against specific job role. The industry validation report is attached. ANNEXURE - IV	As per the detailed survey done by Ministry of Health & Family welfare, it is found that in India there are only 3.32 biomedical engineers per 1,00,000 population. Ministry has already urged the industry bodies and government to share the road map for biomedical engineering to take control of healthcare industry. The medical device manufacturers required the skilled and trained manpower. Hence rigorous training along with strong knowledge has to be imparted to these professionals. This certification paves the way for having a system in place for recognising the skills of biomedical engineers & apply their skills in their profession backed by a certificate. Feedback from industry for demand though sample size may not lend to accurate figures. Training duration, and current and potential training capacity envisaged. The Qualification Pack has been validated by the industry along with endorsements and also received validation from Association of Indian Medical Device Industry (AiMeD)

Usage of the qualification	The IBSC would submit details of the employment generated (wherever applicable) and realised by virtue of training in the Qualifications of the sector earlier submitted for NSQF alignment.	The Medical Equipment industry is the fastest growing sector of the Indian economy and the need for trained manpower is growing. The trained candidates will be employed in medical device manufacturing industry and other related service sectors.
Estimated uptake	The IBSC would submit the estimated uptake of the qualification and What steps were carried out to test the likely uptake of the qualification. The basis of this estimate should include data about the number of jobs or places in courses of learning which will be available to the candidates.	As per the Healthcare sector report, workforce requirements for the Healthcare sector is expected to grow to 74 lakhs in 2022 which is more than double its existing workforce to meet the market demand. Additionally, the major percentage of the requirement is of allied and healthcare professionals (A&HP) apart from nursing and medical doctors. It is essential to also realign the existing workforce with the required course, so that their skills can be tested and adequate knowledge and skills can be rendered for them to be called as a qualified Biomedical Engineer. Report: Human resource and skill requirement in Health sector is available at https://www.ugc.ac.in/skill/SectorReport/Healthcare.pdf

27	**Recommendation from the concerned Line Ministry of the Government/Regulatory Body. To be supported by documentary evidences** Department of Health & Family Welfare
28	**What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification** Sufficient research has been done to establish that the certificate course is not available for the skill development of the candidates in Biomedical Sector under the existing Sector Skill Council. The Certification has been mapped with the National Qualification Register, maintained by NSDA to ensure that the qualification does not duplicate. The Certification program is originally designed by core groups including Technical committee, certification committee & strategic committee. These committees are comprising of senior biomedical engineers, industrial experts and experienced academicians.
29	**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? Specify the review process here** i. IBSC office monitors the screened candidates periodically as per the module. ii. The review report generated on the basis of previous response by the candidates & benefits candidate on the professional front. iii. The technical committee will be informed to revise the syllabus & question bank for continuous improvements. iv. Qualification is reviewed after every three years for updating according to latest technologies & practices.

SECTION 4
EVIDENCE OF PROGRESSION

30	**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?** ***Show the career map here to reflect the clear progression***

	The Certification program designed for "Certificate in Biomedical Manufacturing" in each level is shown below. This certification programme screens potential candidates based on basic knowledge, skill and ability in different domains of Healthcare Technology for achieving the higher level. Also, scope is further extended to adopt the progress & advancements in the syllabus of the module/s. This will help employer to source Industry-ready professionals (depending on the specialization needs of the job). **Certificate in Biomedical Manufacturing – Career Graph** 

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