Model Curriculum
Aircraft Instrument Technician

SECTOR: AEROSPACE AND AVIATION

SUB-SECTOR: MAINTENANCE REPAIR & OVERHAULING

OCCUPATION: BASE MAINTENANCE

REF ID: AAS/Q2002

NSQF LEVEL: 4

Aerospace & Aviation
Sector Skill Council

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Certificate

CURRICULUM COMPLIANCE TO
QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS
is hereby issued by the

AEROSPACE & AVIATION SECTOR SKILL COUNCIL (AASSC)
for the

MODEL CURRICULUM

Complying to the National Occupational Standards of
Job Role/Qualification Pack : "**Aircraft Instrument Technician**" QP No. **AAS/Q2002** NSQF level 4

Date of issuance   : 12 July 2017
Valid up to   : 11 July 2018
* Valid up to the next review date of the Qualification Pack

(Authorised signatory)
Aerospace & Aviation Sector Skill Council (AASSC)

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Aircraft Instrument Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Aircraft Instrument Technician", in the "Aerospace & Aviation" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	Aircraft Instrument Technician		
Qualification Pack Name & Reference ID.	AAS/Q2002		
Version No.	1.0	Version Update Date	15 – 03 - 2017
Pre-requisites to Training	Class XII pass		
Training Outcomes	After completing this programme, participants will be able to; • Responsibly for carrying out rigging/ calibration • Carry out functional checks of aircraft/helicopter systems • Test and certify rotables/LRUs • Assist other groups in completing final assembly of aircraft/ helicopter • Carry out ground run and flight testing. • Identify and use basic tools, equipment & materials; Understanding of carrying out tool box, machinery equipment for its operation. • Basic communication skills and good inter-personal skills. • Stand and walk for long periods of time consistent kneeling, squatting and reaching above the head with caution to avoid accidents. • Work under pressure and to deadlines. • Take clear-cut decisions, have good mathematical ability, and will be able to work well in a team.		

This course encompasses 3 out of 3 National Occupational Standards (NOS) of "Aircraft Instrument Technician" Qualification Pack issued by "Aerospace & Aviation Sector Skill Council (AASSC)".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Follow safety and security procedures** **Theory Duration (hh:mm)** **25:00** **Practical Duration (hh:mm)** **23:00** **Corresponding NOS Code** **AAS/N0502**	Candidates will be able to; • comprehend the organisation's safety and security policies and procedures • comprehend the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference • report any identified breaches of safety, and security policies and procedures to the designated person • coordinate with other resources at the workplace (within and outside the organization) to achieve safe and secure environment • identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if it falls within the limits of individual's authority • report any hazards outside the individual's authority to the relevant person in line with organisational procedures and regulatory guidelines • follow organisation's emergency procedures for accidents, fires or acts of unlawful interference • identify and recommend opportunities for improving health, safety, and security to the designated person • complete all health and safety records are updates and procedures well defined	White/Black board, Markers, computer and projector, trainer's guide, student handbook, Charts regarding health & hygiene, fire-fighting, first aid, chart of prohibited items,
2	**Repair and Overhaul of avionics systems of aircraft/ helicopter/rotables/ LRUs** **Theory Duration (hh:mm)** **122:00** **Practical Duration (hh:mm)** **182:00** **Corresponding NOS Code** **AAS/N2005**	Candidates will be able to; • perform pre-survey of Aircraft/ Helicopter/pre-testing of inducted rotables/LRUs • perform disassembly of Aircraft/Helicopter and associated major systems • perform fault diagnosing, snag rectification, trouble shooting and carry out the repairs identified • perform re- assembly of tested /Replaced components/Systems • carry out rigging/calibration • carry out functional checks of Aircraft/Helicopter systems and testing and certification of rotable/LRUs • assist other groups in completing final assembly of Aircraft/Helicopter, ground run and flight testing	White/Black board, Markers, computer and projector, trainer's guide, student handbook, Charts regarding avionics & instrumentation systems, video/2D or 3D software based packages in LRU repair

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| 3 | **Maintain 5S at the work premises**
Theory Duration (hh:mm)
09:00
Practical Duration (hh:mm)
23:00
Corresponding NOS Code
ASC/N0021 | Candidates will be able to;
• follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un- necessary items are not cluttering the workbenches or work surfaces.
• ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions
• follow the technique of waste disposal and waste storage in the proper bins as per SOP
• segregate the items which are labeled as red tag items for the process area and keep them in the correct places
• sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions
• ensure that areas of material storage areas are not overflowing
• properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required
• return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area
• follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards
• follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists
• check that the items in the respective areas have been identified as broken or damaged
• follow the given instructions and check for labeling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.
• make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions
• check whether safety glasses are clean and in good condition
• keep all outside surfaces of recycling containers are clean
• ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor | White/Black board, Markers, computer and projector, trainer's guide, student handbook, |

| | | which indicate potential safety hazards
• check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up
• ensure workbenches and work surfaces are clean and in good condition
• follow the cleaning schedule for the lighting system to ensure proper illumination
• store the cleaning material and equipment in the correct location and in good condition
• ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene
• follow the daily cleaning standards and schedules to create a clean working environment
• attend all training programs for employees on 5S
• support the team during the audit of 5 S
• participate actively in employee work groups on 5S and encourage team members for active participation
• follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions | |
| | **Total Duration**
Theory Duration (hh:mm)
156:00
Practical Duration (hh:mm)
228:00 | Unique equipment used;
• Personal Protective Equipment (PPE) (consisting of safety jacket, safety goggles, ear plugs, gloves & safety shoes)
• fire extinguisher
• LRU working models of typical aircraft instrumentation systems
• Advanced soldering workstation
• Demo/Mock-up of aircraft instrumentation panel
• Software based fault analysis workstation | |

*Grand Total Course Duration: **384 Hours, 0 Minutes***

*(This syllabus/ curriculum has been approved by **Aerospace & Aviation Sector Skill Council**)*

Trainer Prerequisites for Job role: "Aircraft Instrument Technician" mapped to Qualification Pack: "AAS/Q2002"

Sl. No.	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "AAS/Q2002".
2	Personal Attributes	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well- organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	Minimum Educational Qualifications	Diploma
4a	Domain Certification	Statutory Certificate from Aerospace & Aviation Sector Skill Council (AASSC) for Job Role: "Aircraft Instrument Technician" mapped to QP: "AAS/Q2002". Minimum accepted score for domain certification will be 80%.
4b	Platform Certification	Recommended that the Trainer is certified for the job role "Trainer" mapped to the Qualification Pack : "MEP/Q 0102". Minimum accepted percentage as per respective SSC guidelines is 80%.
5	Experience	2-3 years of experience

Annexure: Assessment Criteria

Assessment Criteria	
Job Role	Aircraft Instrument Technician
Qualification Pack	AAS/Q2002
Sector Skill Council	Aerospace & Aviation

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 a minimum of 70% in aggregate

6.   The marks are allocated PC wise, however, every NOS will carry a weightage in the total marks allocated to the specific QP

Marks Allocation				
Assessment outcomes	**Assessment Criteria for outcomes**	**Total Marks**	**Out of**	**Theory**	**Skills Practical**
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1. AAS/N0502 (Maintain awareness of safety and security procedures)	PC 1. comply with the organisation's safety and security policies and procedures		10	5	5
	PC 2. comply with the regulatory guidelines on safe conduct of operations and maintenance of conditions to thwart any acts of unlawful interference		10	5	5
	PC 3. report any identification breaches of safety, and security policies and procedures to the designated person		10	5	5
	PC 4. coordinate with other resource at the workplace (within and outside the organisation) to achieve safe and secure environment		20	10	10
	PC 5. identify and mitigate any safety and security hazards like illness, accidents, fires or acts of unlawful interference if ti falls within the limit of individual's authority	**100**	10	5	5
	PC 6. report any hazards outside the individual's authority to the relevant person in line with organisational procedures and regulatory guidelines		20	10	10
	PC 7. follow organisation's emergency procedures for accidents, fires or acts of unlawful interference		5	2	3
	PC 8. identify and recommend opportunities for improving health, safety, and security to the designated person		10	8	2
	PC 9. complete all health and safety records are updates and procedures well defined		5	2	3
	Total	**100**	**52**	**48**	
2. AAS/N2005 (Repair and Overhauling of avionics system of Aircraft/ Helicopter/ Rotables/ LRUs)	PC1. pre-survey of Aircraft/ Helicopter/Pre testing of inducted Rotables/LRUs		15	6	9
	PC2. disassembly of Aircraft/Helicopter and associated major systems		15	6	9
	PC3. fault diagnosing, snag rectification, trouble shooting and carry out the repairs identified	**100**	15	6	9
	PC4. re- assembly of tested /Replaced components/Systems		15	6	9
	PC5. carrying of rigging/calibration		15	6	9
	PC6. carry out Functional checks of Aircraft/Helicopter systems and testing and certification of Rotable/LRUs		15	6	9

Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out of	Theory	Skills Practical
	PC7. assist other groups in completing final assembly of Aircraft/ Helicopter, ground run and flight testing		10	4	6
		Total	**100**	**40**	**60**
3. ASC/N0021 (Maintain 5s t the work premises)	PC1. follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces	**170**	30	10	20
	PC2. ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions				
	PC3. follow the technique of waste disposal and waste storage in the proper bins as per SOP				
	PC4. segregate the items which are labeled as red tag items for the process area and keep them in the correct places				
	PC5. sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions				
	PC6. ensure that areas of material storage areas are not overflowing		30	10	20
	PC7. properly stack the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required				
	PC8. return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area				
	PC9. follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards				
	PC10. follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists		30	10	20
	PC11. check that the items in the respective areas have been identified as broken or damaged				

Assessment outcomes	Assessment Criteria for outcomes	Marks Allocation			
		Total Marks	Out of	Theory	Skills Practical
	PC12. follow the given instructions and check for labeling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.				
	PC13. make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions				
	PC14. check whether safety glasses are clean and in good condition				
	PC15. keep all outside surfaces of recycling containers are clean				
	PC16. ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards				
	PC17. check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up	50	10	40	
	PC18. ensure workbenches and work surfaces are clean and in good condition				
	PC19. follow the cleaning schedule for the lighting system to ensure proper illumination				
	PC20. store the cleaning material and equipment in the correct location and in good condition				
	PC21. ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene				
	PC22. follow the daily cleaning standards and schedules to create a clean working environment				
	PC23. attend all training programs for employees on 5 S				
	PC24. support the team during the audit of 5S	30	10	20	
	PC25. participate actively in employee work groups on 5S and encourage team members for active participation				
	PC26. follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions				
	Total	**170**	**50**	**120**	