



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



**National Competency Standards Level-4 for Mobile App, Web & Game Development
“Theme Developer”**



**National Vocational and Technical Training Commission (NAVTTC),
Government of Pakistan**



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



ACKNOWLEDGEMENTS

National Vocational and Technical Training Commission (NAVTTC) extends its gratitude and appreciation to representatives of business, industry, academia, government agencies, provincial TEVTAs, sector skill councils and trade associations who spared time and extended their expertise for the development of National Vocational Qualification for the trade of **Mobile App, Web & Game Development**. This work would not have been possible without the technical support of the above personnel.

NAVTTC initiated development of CBT&A based qualifications for 200 traditional / hi-tech trades under the Prime **Minister’s Hunarmand Pakistan Program**, focusing on Development & Standardization of 200 Technical & Vocational Education & Training (TVET) Qualifications. NAVTTC efforts have received full support from the Ministry of Federal Education and Professional Training which highly facilitated progress under this initiative.

It may not be out of place to mention here that all the experts of Industry, Academia and TVET experts of TEVTAs, BTEs and PVTC work diligently for making this qualification worthy and error free for which all credit goes to them. However, NAVTTC accepts the responsibility of all the errors and omissions still prevailing in the Qualification document.

It is also noteworthy that development of Skill Standards is a dynamic and ongoing process, and the developed skill standards needs periodic review and updating owing to the constant technological advancements, development in scientific knowledge, and growing experience of implementation at the grass root level as well as the demand of industry. NAVTTC will ensure to keep the qualifications abreast with the changing demands of both national and international job markets.

Dr. Nasir Khan

Executive Director (NAVTTC)



Table of Contents

1. Introduction	5
2. Purpose of the Qualification	6
3. Date of Validation	7
4. Date of Review.....	7
5. Codes of Qualifications	7
6. Members of Qualification Development Committee	8
7. Qualification Validation Committee	9
8. Minutes of Meetings.....	10
9. Entry Requirements	11
10. Regulation of the qualification and schedule of units	11
11. Generic Modules with respective levels	12
12. Mapping of the Qualification	13
13. Summary of competencies.....	14
14. Qualification Levelling and Packaging	16
1. Database Administrator.....	17
0613-S&AD&A-1. Design Database	17
0613-S&AD&A-2. Manipulate database using SQL	20
0613-S&AD&A-3. Implement database in Firebase	22
0613-S&AD&A-4. Control and monitor Database.....	24
2. SEO Professional.....	26
0613-S&AD&A-5. Conduct Keyword Research and Analysis.....	26
0613-S&AD&A-6. Perform On-Page SEO	28
0613-S&AD&A-7. Perform Off-Page SEO.....	31
0613-S&AD&A-8. Perform Advanced Technical SEO.....	33
0613-S&AD&A-9. Perform Local SEO	35
0613-S&AD&A-10. Analyze Reports and Management.....	37
0613-S&AD&A-11. Integrate Google Search Console (GSC)	39
0613-S&AD&A-12. Analyze through Google Analytics	41
3. Theme Developer.....	43
0613-S&AD&A-13. Explore/Install different front end frameworks.....	43
0613-S&AD&A-14. Design web templates using frontend frameworks	45
0613-S&AD&A-15. Design web view layout for mobile using frontend frameworks	47



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



0613-S&AD&A-16.	Design Game Screens using different frameworks	49
0613-S&AD&A-17.	Use frontend libraries in Theme Development	51
0613-S&AD&A-18.	Customize templates/themes	53
4.	<i>Soft Skills</i>	55
0613-S&AD&A-19.	Develop workplace policy and procedures for sustainability	55
0613-S&AD&A-20.	Manage meetings	58
0613-S&AD&A-21.	Manage recruitment selection and induction processes	60
0613-S&AD&A-22.	Manage personal work priorities and professional development	62
0613-S&AD&A-23.	Manage workforce planning.....	64
0613-S&AD&A-24.	Undertake project work	66
0613-S&AD&A-25.	Identify and communicate trends in career development.....	69
0613-S&AD&A-26.	Apply specialist interpersonal and counseling interview skills	71
0613-S&AD&A-27.	Work safely in an office environment.....	74
0613-S&AD&A-28.	Develop workplace documents	76
0613-S&AD&A-29.	Prepare and implement negotiation.....	79
0613-S&AD&A-30.	Maintain professionalism in the workplace	82
0613-S&AD&A-31.	Organize schedules	84
5.	<i>Freelancing</i>	86
0613-S&AD&A-32.	Create/Manage profile on Non-traditional Freelance Platform	86
0613-S&AD&A-33.	Create/Manage profile on a Traditional Freelance Platform.....	89
0613-S&AD&A-34.	Write professional proposals for freelance projects.....	92
0613-S&AD&A-35.	Develop your communication skills	94



1. Introduction

The importance of modern gadgets in our everyday life and activities is undeniably unending. This is so because there is ongoing tremendous transformation in which mobile phones, laptops and other devices are no longer the ordinary device they used to be. They have become the colossal point of attention for individuals and businesses alike, courtesy of the various incredible features and opportunities that they offer. The cumulative progress of technology, the availability and access to high speed internet and the remarkable communicative interface in these devices results into a whole level of new and innovative experience.

Web designing is the computer field which deals with the creation of websites and web application. The person who deals with the creation of websites and web application is known as a web designer or web developer. The best part of being a web developer is that they are employed by almost every organization and they can even work independently as a freelancer.

Mobile phones and devices have become such a ubiquitous part of our everyday lives that it's difficult to imagine going through an entire day without one. This shift to ubiquity has been driven largely in part by the increasing scope of mobile application development. Over just the past few years an explosion in not just the scope but also the depth of utility of these devices has occurred which rivals, if not exceeds that seen in any other discrete class of technology.

Game Development is the art of creating games and describes the design, development and release of a game. It may involve concept generation, design, build, test and release. While you create a game, it is important to think about the game mechanics, rewards, player engagement and level design.

Being conscious of the emerging trends in the market, National Vocational & Technical Training Commission (NAVTTC) has developed competency standards in consultation with the stakeholders including academia, researchers, industry, chambers and TEVTAs for '**Mobile App, Web & Game Development**' under National Vocational Qualifications Framework (NVQF). The competency standards document has been designed in a way that trainees can develop skill in the ability to explore and analyze writing in technical, scholarly and professional contexts. They can consolidate their knowledge and skills through advanced practice in writing, editing, designing and producing texts for professional and technical purposes, with concrete application on industry sourced documents and projects.



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



The National Competency Standards could be used as a referral document for the development of curriculum to be used by training institutions.

2. Purpose of the Qualification

The purpose of this qualification is to set the highly professional standards for the Mobile App, Web & Game Development in order to compete local and international job market. The specific objectives of developing these qualifications are as under:

- Empower the youth with globally required employable skills.
- Produce competitive Web, Mobile App and Game Developers.
- Produce a skilled youth for Mobile App, Web & Game Development Industry.
- Improve the quality and effectiveness of the training and assessment for Mobile App, Web & Game Development Industry.



3. Date of Validation

The level 5 of National DAE qualification for ‘Mobile App, Web & Game Development’ has been validated by the Qualifications Validation Committee (QVC) members on 4th -8th August, 2020 and will remain valid for ten years i.e. **8th August, 2030**

4. Date of Review

The level 5 of National DAE qualification for ‘Mobile App, Web & Game Development’ has been validated by the Qualifications Validation Committee (QVC) members on 4th -8th August, 2020 and will remain valid for ten years i.e. **9th August, 2023**

5. Codes of Qualifications

The International Standard Classification of Education (ISCED) is a framework for assembling, compiling and analyzing cross-nationally comparable statistics on education and training. ISCED codes for these qualifications are assigned as follows:

ISCED Classification	
Code	Description
0613-S&AD&A(1)	1 st Level National Certificate of level-5, in “ Mobile App, Web & Game Development Technology”
0613-S&AD&A(2)	2 nd Level National Certificate of level-5, in “Mobile App, Web & Game Development Technology”
0613-S&AD&A(3)	3 rd Level National Certificate of level-5, in “Mobile App, Web & Game Development Technology”
0613-S&AD&A(4)	4 th Level National Certificate of level-5, in “Mobile App, Web & Game Development Technology”
0613-S&AD&A(5)	5 th Level National Certificate of level-5, in “Mobile App, Web & Game Development Technology”



6. Members of Qualification Development Committee

The following members participated in the qualification development process at PITAC, Lahore.

Date: 6th to 10th July'2020

S#	Name	Designation	Organization
1.	Mr. Atif Bashir	Faculty member CS/Visiting Faculty	NCBA&E Lahore/UCP Lahore
2.	Mr. Muzammil Hassan	Assistant Manager Research (Software Systems)	KICS UET Lahore
3.	Mr. Fahad Sabah	System/Business Analyst	Techno Dessert Lahore
4.	Mr. Tariq Aziz	System/Business Analyst	Soft Villa Solutions
5.	Mr. Ahmad Hassan	Sr. Web Developer	Black Urban Tech
6.	Mr. Goher Iqbal Punn	Faculty Member CS	KICS UET Lahore
7.	Mr. Muhammad Adrees	Assistant Professor CS	The University of Lahore
8.	Mr. Muhammad Imran Shafi	Assistant Professor CS	The University of Lahore
9.	Mr. Rehan Ahmad	Assistant Professor CS	The University of Lahore
10.	Ms. Syeda Farah Rehman	Sr. Instructor IT	P-TEVTA
11.	Ms. Fatima Iqbal	Representative of PBTE	PBTE
12.	Mr. Hafeez Abbasi	Director	S-TEVTA
13.	Mr. Aijaz Ahmed Zia	DACUM Facilitator/D&A Engr.	INTECH/UET Lahore
14.	Mr. Sikandar Masood	Director SS&C	NAVTTTC



7. Qualification Validation Committee

The following members participated in the qualification development process at PITAC, Lahore.

Date: 4th to 8th August'2020

S#	Name	Status in Committee	Organization
1.	Ms. Amanullah Chaudhry	Representative of PBTE	PBTE
2.	Mr. Liaquat Ali Jamhro	Representative of S-TEVTA	Sindh-TEVTA
3.	Mr. Shadab Ali Shah	Representative of KP-TEVTA	KP-TEVTA
4.	Mr. Mushtaq Ahmed	Representative of P-TEVTA	Punjab-TEVTA
5.	Engr. Waqas Aziz	Representative of AJK-TEVTA	AJK-TEVTA
6.	Ms. Tehmina Amanat	Representative of PVTC	PVTC
7.	Mr. Muhammad Imran Shafi	Assistant Professor CS/Expert	The University of Lahore
8.	Mr. Rehan Ahmad	Assistant Professor CS/Expert	The University of Lahore
9.	Ms. Syeda Farah Rehman	Sr. Instructor IT/Expert	P-TEVTA
10.	Mr. Arsalan Chaudhry	Project Manager/ Industry	Tower Technologies
11.	Mr. Mohammad Noman	Web Developer/Industry	Corvit Systems Lahore
12.	Mr. Muzammil Hassan	Assistant Manager Research (Software Systems)/Industry	Sumico Technologies/KICS UET
13.	Mr. Aijaz Ahmed Zia	DACUM Facilitator/D&A Engr.	INTECH/UET Lahore
14.	Mr. Sikandar Masood	Director SS&C	NAVTTC



8. Minutes of Meetings



Report Regarding Validation of Competency Standards for National Vocational Qualifications Level 5 for Mobile App, Web and Game Development



Minutes of Meeting

A meeting of Qualification Review and Validation Committee for the trade of "Mobile App, Web and Game Development" was held at Pakistan Industrial Technical Assistance Center, Lahore from 4th – 8th August, 2020. The following activities took place during meeting:

1. Introduction of OP & CS file to the new participants
2. Detailed discussion regarding validation process
3. Consultation was made with the relevant industry experts to confirm the accuracy of the competency standards
4. Levels of competency standards were defined according to NVQF Level Descriptor
5. Prepared the mapping and packaging of CS as per expert's guidelines.
6. Assigned the credit hours for CS as per PBTE & NVQF guidelines.
7. Revision of competency standards as per Industry/TEVTAs /BTEs requirements.
8. Tools and equipment lists were revised as per industry requirements.
9. Time allocation for contact hours was discussed with the industry and academia representatives and adjusted accordingly.
10. Competency standards were packed in National Occupational Standards in 4 certifications of Levels 2, 3, 4 and 5 according to NVQF guidelines

The following experts has participated in the CS Review and Validation Committee meeting and showed their consent to validated competency standards as found them according to the requirements of the industry:

S#	Name	Status in Committee	Signatures
1)	Syeda Farah Rehman	Senior Instructor (IT), PTEVTA /Expert	Farah
2)	Mr. Rehan Ahmad	CEO, ShopVilla.com /Expert	Rehan
3)	Muhammad Imran Shafi	Asstt. Prof.(CS Deptt) UOL/Expert	Imran
4)	Mr. Amanullah Ch.	Representative of PBTE	Amanullah
5)	Mr. Liaqat Jhamro	Representative of Sindh TEVTA	Liaqat
6)	Mr. Shadab Ali Shah	Representative KP TEVTA	Shadab
7)	Mr. Mushtaq Ahmad	Representative of Punjab TEVTA	Mushtaq
8)	Engg. Waqas Aziz	Representative of AJK TEVTA	Waqas
9)	Ms. Tehmina Amanat	Representative of PVTC	Tehmina
10)	Mr. Arsalan Ch.	Project Manager, Web Development Punjab Group of Colleges /Freelancer	Arsalan
11)	Mr. Muhammad Noman	Web Developer / Industry	Noman
12)	Mr. Muzzamil Hassan	Sumico Technologies / Industry	Muzzamil
13)	Mr. Aijaz Ahmed Zia	DACUM Facilitator	Aijaz
14)	Mr. Sikandar Masood	Coordinator	Sikandar



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



9. Entry Requirements

The entry for D.A. E National Certificate level 4, in ‘**Mobile App, Web & Game Development**’ are:

1. A person having **National Vocational Certificate level 3, in Mobile App, Web & Game Development**’
2. A person having **Matric certificate with Science/Arts subjects**

10.Regulation of the qualification and schedule of units

Not Applicable



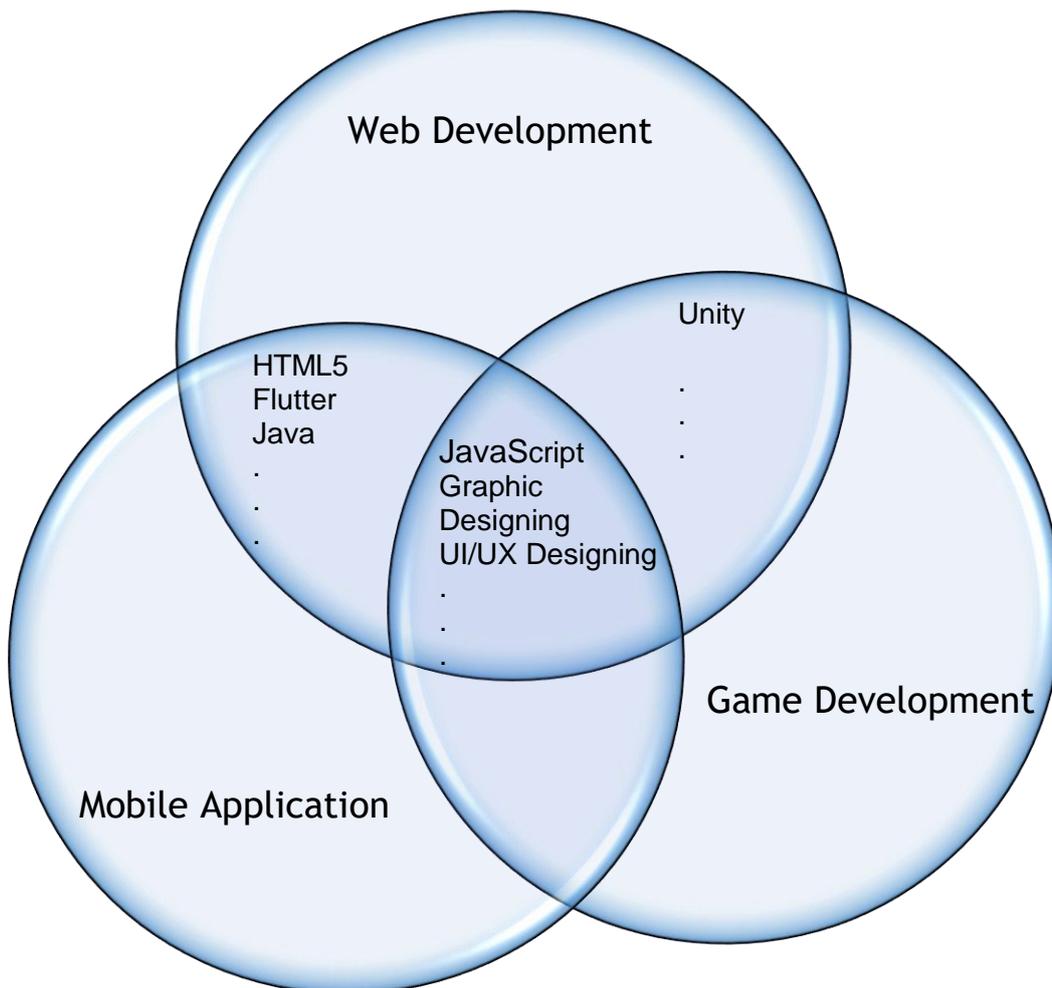
11. Generic Modules with respective levels

- | | |
|-----------------------------|---------|
| ▪ Health and Safety | LEVEL 2 |
| ▪ Digital Skills | LEVEL 3 |
| ▪ Soft Skills & Freelancing | LEVEL 4 |
| ▪ Entrepreneurship | LEVEL 5 |



12. Mapping of the Qualification

Mapping of the Qualifications





13. Summary of competencies

Sr No	Competency Standards	Occupation	NVQF Level	Category	Estimated Contact Hours			Cr Hr
					Th	Pr	Total	
Level 4								
1	Design Database	Database Administrator	4	Technical	12	48	60	6
2	Manipulate database using SQL		4	Technical	10	39	49	4.9
3	Implement database in firebase		4	Technical	6	24	30	3
4	Control and monitor database		4	Technical	3	12	15	1.5
5	Conduct Keyword Research and Analysis	SEO Professional	4	Technical	5	21	26	2.6
6	Perform On-Page SEO		4	Technical	4	18	22	2.2
7	Perform Off-Page SEO		4	Technical	8	33	41	4.1
8	Perform Advance Technical SEO		4	Technical	10	42	52	5.2
9	Perform Local SEO		4	Technical	5	21	26	2.6
10	Analyze Reports and Management		4	Technical	5	21	26	2.6
11	Integrate Google Search Console		4	Technical	6	24	30	3
12	Analyze through Google Analytics		4	Technical	6	24	30	3
13	Explore/Install different front end frameworks	Theme Developer	4	Technical	6	18	24	2.4
14	Design web templates using front end frameworks		4	Technical	8	42	50	5
15	Design mobile app layouts using front end frameworks		4	Technical	12	48	60	6
16	Design Game Screens using different frameworks		4	Technical	12	48	60	6
17	Use frontend libraries in Theme development		4	Technical	8	30	38	3.8
18	Customize templates/themes		4	Technical	6	24	30	3
19	Develop workplace policy and procedures for sustainability	Soft Skills	4	Generic	6	24	30	3
20	Manage meetings		4	Generic	4	21	25	2.5
21	Manage recruitment selection and induction processes		4	Generic	4	21	25	2.5
22	Manage personal work priorities and professional development		4	Generic	4	21	25	2.5
23	Manage workforce planning		4	Generic	4	21	25	2.5
24	Undertake project work		4	Generic	4	21	25	2.5



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



				ric				
25	Identify and communicate trends in career development		4	Gene ric	4	24	28	2.8
26	Apply specialist interpersonal and counseling interview skills		4	Gene ric	4	24	28	2.8
27	Work safely in an office environment		4	Gene ric	4	21	25	2.5
28	Develop workplace documents		4	Gene ric	4	18	22	2.2
29	Implement negotiation		4	Gene ric	4	21	25	2.5
30	Maintain professionalism in the workplace		4	Gene ric	6	21	27	2.7
31	Organize schedules		4	Gene ric	6	21	27	2.7
32	Create/Manage profile on Non-traditional Freelance Platforms	Freelancer	4	Gene ric	7	33	40	4
33	Create/Manage profile on traditional Freelance Platforms		4	Gene ric	7	33	40	4
34	Write professional proposals for freelance projects		4	Gene ric	7	33	40	4
35	Develop communication skills		4	Gene ric	4	30	34	3.4
	Total				215	945	1160	116
	Percentage				18.53	81.46		
					4482	5517		
					76	2		

OCCUPATIONS AND LEVELS DESCRIPTOR-MOBILE APP, WEB & GAME DEVELOPMENT

Level 2	Level 3	Level 4	Level 5

S #	Occupations	No of Modules/CS	Level	Occupation Credit Hours	Training duration
1.	Database Administrator	4	4	15	3 Months
2.	SEO Professional	8	4	25	6 Months
3.	Theme Developer	6	4	26	6 Months
4.	Freelancer	4	4	15	3 Months



14. Qualification Levelling and Packaging

Level 4

(Database Administrator, SEO Professional, Theme Developer, Soft Skills, Freelancer)

Database Administrator

1. Design Database
2. Manipulate database using SQL
3. Implement database in firebase
4. Control and monitor database

SEO Professional

1. Conduct Keyword Research and Analysis
2. Perform On-Page SEO
3. Perform Off-Page SEO
4. Perform Advance Technical SEO
5. Perform Local SEO
6. Analyze Reports and Management
7. Integrate Google Search Console
8. Analyze through Google Analytics

Theme Developer

1. Explore/Install different front end frameworks"
2. Design web templates using front end frameworks
3. Design mobile app layouts using front end frameworks
4. Design Game Screens using different frameworks
5. Use frontend libraries in Theme development
6. Customize templates/themes

Soft Skills

1. Develop workplace policy and procedures for sustainability
2. Manage meetings
3. Manage recruitment selection and induction processes
4. Manage personal work priorities and professional development
5. Manage workforce planning
6. Undertake project work
7. Identify and communicate trends in career development
8. Apply specialist interpersonal and counseling interview skills
9. Work safely in an office environment
10. Develop workplace documents



11. Implement negotiation
12. Maintain professionalism in the workplace
13. Organize schedules

Freelancer

1. Create/Manage profile on Non-traditional Freelance Platforms
2. Create/Manage profile on traditional Freelance Platforms
3. Write professional proposals for freelance projects
4. Develop communication skills

15. Detail of Qualifications and its Competency Standards

A. Technical Competencies

1. *Database Administrator*

0613-S&AD&A-1. Design Database

Overview: After this competency standard candidate will be able to design database

Competency Unit	Performance Criteria
CU1. Install database application	<p>P1. Search for different available database management systems (DBMS)</p> <p>P2. Download suitable DBMS</p> <p>P3. Install DBMS</p> <p>P4. Explore their tools and features</p>
CU2. Create Database	<p>P1. Identify the purpose of database</p> <p>P2. Find and organize the information required.</p> <p>P3. Create database with suitable name</p>
CU3. Manage Tables	<p>P1. Divide information to manage in tables</p> <p>P2. Create tables for identified information</p> <p>P3. Specify primary keys if needed</p> <p>P4. Setup table relationships</p> <p>P5. Apply normalization rules</p> <p>P6. Alter tables if needed through alter table query</p> <p>P7. Delete Table if needed using Drop table query</p>



CU4. Manage Views	P1. Identify the views needed to create P2. Identify tables for views P3. Identify attributes for views P4. Create view using "Create View" Query P5. Replace view if needed using REPLACE View Query P6. Delete view if needed using DROP View Query
CU5. Create Functions	P1. Specify name of the function P2. Specify name and datatype of each parameter P3. Specify Return keyword and datatype of the return value P4. Specify the function body P5. Specify the End keyword
CU6. Create Store Procedures	P1. Create Store procedure using "Create Procedure" key word P2. Specify parameters using comma separated list

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Understanding of database schema
- Differentiate between database and database management system
- Describe Normalization
- Differentiate between Tables and views
- Define Keys and different available keys in database
- Define Referential Integrity
- Differentiate between Function and store procedure in SQL

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	SQL Server
3.	mySQL



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Design a database for a particular system like POS, Attendance system etc.
- Normalize a given unnormalized complex data structure upto 3-NF



0613-S&AD&A-2. Manipulate database using SQL

Overview: After this competency standard candidate will be able to manipulate data in database like insertion, deletion, modify and view etc.

Competency Unit	Performance Criteria
CU1. Insert data in table	<p>P1. Identify Table in which wants to insert/add data</p> <p>P2. Use INSERT INTO clause with Table name</p> <p>P3. Write comma separated list of columns in the table surrounded by parenthesis</p> <p>P4. Write comma separated values surrounded by parenthesis in the VALUES clause</p>
CU2. Modify data in table	<p>P1. Identify the record or data to update in table</p> <p>P2. Use UPDATE clause with Table name</p> <p>P3. Use SET clause with column name and value of particular column name/s to update the existing value/s</p> <p>P4. Use WHERE clause with condition to select a target row</p>
CU3. Delete data from table	<p>P1. Identify the record to delete from table</p> <p>P2. Use DELETE FROM clause to remove record from table</p> <p>P3. Identify operators and functions used in WHERE clause</p> <p>P4. Use Where clause with condition to select a target row to delete</p>
CU4. View data from table/s	<p>P1. Identify table/tables to view data</p> <p>P2. Identify attributes from tables to view data</p> <p>P3. Use SELECT clause with column names</p> <p>P4. Use FROM clause with table/s name/s to mention table/s name/s</p> <p>P5. Use WHERE clause with condition to select target data</p> <p>P6. Explore and use AND, OR, NOT in where clause</p> <p>P7. Use appropriate operators to form a condition</p> <p>P8. Explore available joins used in WHERE clause</p> <p>P9. Explore and use wildcard characters</p> <p>P10. Learn syntax of joins</p> <p>P11. Use suitable join to view data</p> <p>P12. Explore and use Alias</p>
CU5. Use aggregate functions etc	<p>P1. Explore the aggregate functions in DBMS</p> <p>P2. Explore working of aggregate functions</p> <p>P3. Use suitable aggregate functions</p>



CU6. Use DBMS keywords e.g. group by, order by, distinct ,limit etc.

- P1.** Explore available keywords in DBMS
- P2.** Explore the functionality of keywords
- P3.** Use suitable keywords for better representation of

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Understanding of Database Manipulate Language (DML)
- Describe the functionalities of different joins

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	DBMS (SQL/mysql etc.)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Extract/Display particular record from multiple tables using appropriate joins for a given scenario
- Update particular record in a table



0613-S&AD&A-3. Implement database in Firebase

Overview: After this competency standard candidate will be able to use firebase database in Android application.

Competency Unit	Performance Criteria
CU1. Complete Prerequisites	P1. Install latest version of Android Studio P2. Meet Firebase usage requirements
CU2. Add Firebase using Firebase Console	P1. Create a Firebase project P2. Register your app with Firebase P3. Add a Firebase configuration file P4. Add Firebase SDK to your application
CU3. Prepare to Launch your Application	P1. Setup budget alerts for your project P2. Monitor usage and billing dashboard in Firebase console P3. Verify the firebase launch checklist
CU4. Add Firebase Services to your Firebase Project	P1. Setup Google Analytics to gain user behavior insight P2. Setup a user authentication flow P3. Store data of users in Cloud Firestore or Realtime Database P4. Store files, images and videos into cloud storage
CU5. Add backend procedures	P1. Write backend code that runs in secure environment (using cloud functions) P2. Configure notifications (cloud messaging)
CU6. Setup Crashlytics	P1. Record what information can an application forward to server when it crashes P2. Configure which information will be sent to server when an application crashes
CU7. Test Application	P1. Write down unit tests for application P2. Verify that application passes all unit tests

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Understand Android Programming
- Understand database operations
- Knowledge of using Android Virtual Device



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- Understand the usage and purpose of Google Analytics
- Understand Cloud Messaging
- How to configure Crashlytics?

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Android Studio
3.	Internet Connection
4.	Android Virtual Device
5.	Firebase SDK
6.	Firebase Console
7.	Crashlytics
8.	Google Analytics
9.	Cloud Messaging

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Setup Firebase environment for an application development
- Create a database in firebase for a particular system



0613-S&AD&A-4. Control and monitor Database

Overview: After this competency standard candidate will be able to maintain, control, monitor and secure database.

Competency Unit	Performance Criteria
CU1. Manage Users in database	<p>P1. Access DBMS using root user and password</p> <p>P2. Create user account using CREATE command</p> <p>P3. Set Password</p> <p>P4. Explore and use wildcard characters</p> <p>P5. Delete user account using DROP command if needed</p>
CU2. Manage Permissions	<p>P1. Explore permission attributes</p> <p>P2. Grant Permissions to users using GRANT PRIVILEGES clause</p> <p>P3. Grant ALL or multiple permissions</p> <p>P4. View user privileges using SHOW GRANTS clause</p> <p>P5. Revoke user privileges using REVOKE clause</p>
CU3. Monitor Database	<p>P1. Monitor availability and connections using UPTIME, Thread_connected, Max_used_connections, Aborted_connects commands</p> <p>P2. Identify Typical Errors/failure points</p> <p>P3. Monitor queries using slow_queries, select_full_join, create_tmp_disk_tables etc.</p> <p>P4. Explore commands to monitor cache and use it</p> <p>P5. Explore commands to monitor buffer and use it</p> <p>P6. Explore commands to monitor locks and use it</p> <p>P7. Monitor performance using SHOW, EXPLAIN etc.</p>
CU4. Secure database	<p>P1. Update the password plugin</p> <p>P2. Set a password for root account</p> <p>P3. Remove root account that are accessible from outside the local host</p> <p>P4. Remove anonymous user accounts</p> <p>P5. Remove the test database and privileges that permits anyone to access database with names that are start with test</p>

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- Understanding of Database Control Language (DCL)
- Describe the role of privileges in managing permissions in database

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	DBMS (SQL/mysql etc.)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Set permissions for a user to select operation only
- Set permissions for all rights for a user
- Perform all required operations to secure a database



2. SEO Professional

0613-S&AD&A-5. Conduct Keyword Research and Analysis

Overview: This competency standard covers the skills and knowledge required to Conduct Keyword research and analysis. The trainee will be expected to Conduct Keyword research and analysis via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Develop Business Analysis	P1. Analyze target audience P2. Choose business scalability P3. Choose business Integration
CU 2. Competitor Analysis	P1. Check competitor domain P2. Check competitor ranking on Alexa ranking P3. Check competitor traffic P4. Check competitor domain authority and value P5. Check competitor visibility on digital platforms
CU 3. Integrate keyword research tools with website	P1. Create Google Keyword Planner Profile P2. Generate Keyword Ideas
CU 4. Conduct keyword analysis	P1. Check Keyword Competition P2. Check Keyword Traffic Volume P3. Check Keyword Relevancy
CU 5. Conduct keyword mapping	P1. Generate and Download Keyword List P2. Group Relevant Keywords P3. Generate Potential Keyword URLs P4. Integrate Potential URLs into Website
CU 6. Integrate keyword strategy	P1. Implement relevant keywords in content P2. Generate SEO title P3. Generate meta description

Knowledge & Understanding



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



The candidate must be able to demonstrate underpinning knowledge required to carry out tasks covered in this competency standard. Therefore, trainee must be able to:

- Explain the steps to analyze a business
- Explain the steps to gather information about competitors
- Explain how to use keyword research tools, i.e., Google Keyword Planner
- Gathering information about keyword mapping
- Explain keyword strategy and its implementation

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Google Keyword Planner
3.	Internet Connection
4.	Ubersuggest
5.	Yoast SEO
6.	Microsoft Excel
7.	Keywords Everywhere (Chrome Extension)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Install operating system
- Resolve Installation errors.



0613-S&AD&A-6. Perform On-Page SEO

Overview: This competency standard covers the skills and knowledge required to perform on-page SEO. The trainee will be expected to perform on-page SEO via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Check on-page SEO	P1. Check website navigation P2. Check website structure
CU 2. Optimize On-page factors	P1. Check domain length and type P2. Optimize page title P3. Optimize meta description
CU 3. Analyze keyword density	P1. Check current keyword description P2. Maintain ideal keyword density
CU 4. Develop keyword proximity and prominence	P1. Maintain keyword proximity P2. Maintain max keyword prominence
CU 5. Conduct keyword placement	P1. Add keyword in title P2. Add keyword in meta description P3. Add keyword in headings P4. Add keyword in subheadings P5. Add keyword in image name P6. Add keyword in alt tags
CU 6. Analyze domain selection and value	P1. Select minimum character domain name P2. Check domain pricing P3. Include keyword in domain name
CU 7. Optimize file name and title tag	P1. Include keyword in page title P2. Include keyword page URLs
CU 8. Install Yoast SEO plugin	P1. Search Yoast SEO in plugins section P2. Activate Yoast SEO plugin
CU 9. Install G Site Kit Plugin	P1. Search G Site Kit in plugins section P2. Activate G Site Kit plugin



CU 10. Install AMP Plugin	<p>P1. Search AMP in plugins section</p> <p>P2. Activate AMP plugin</p>
CU 11. Optimize content with Yoast SEO	<p>P1. Optimize content with Yoast SEO guidelines</p> <p>P2. Resolve warning issues</p>
CU 12. Optimize header and footer	<p>P1. Create primary menu in header</p> <p>P2. Create at least one page in for each menu section</p> <p>P3. Add resourceful links in footer</p> <p>P4. Add widgets in footer</p> <p>P5. Add social icons in footer</p> <p>P6. Add business description in footer</p>
CU 13. Optimize page speed	<p>P1. Check website speed with google page speed insights</p> <p>P2. Check image rendering issues</p> <p>P3. Check server response time</p> <p>P4. Implement less code for smooth functioning</p> <p>P5. Resolve the issues guidelines by google page speed insights</p>
CU 14. Develop URL Redirection	<p>P1. Search 301 redirections in plugins section</p> <p>P2. Install and activate the plugin</p> <p>P3. Create redirect links for updated page links</p>
CU 15. Select Hosting	<p>P1. Check server downtime</p> <p>P2. Check hosting backup</p> <p>P3. Check https hosting</p> <p>P4. Check real time support</p> <p>P5. Compare pricing between other hosting services</p> <p>P6. Check server location</p>
CU 16. Create robots.txt files	<p>P1. Open Yoast SEO plugin dashboard</p> <p>P2. Generate robots.txt file by clicking generate file tab</p>
CU 17. Create sitemaps	<p>P1. Go to sitemap generator</p> <p>P2. Type website URL</p> <p>P3. Generate sitemap</p> <p>P4. Download the sitemap file</p>
CU 18. Develop anchor text and internal links	<p>P1. Develop anchor text and internal links</p> <p>P2. Choose anchor text for hyperlink</p> <p>P3. Paste link on the keyword</p> <p>P4. Add relevant internal links</p>



CU 19. Create Schema

- P1. Search Schema in plugins section
- P2. Activate Schema plugin
- P3. Click on Schema Setting
- P4. Configure Schema Plugin according to your website like title, description, address, home url, category etc.
- P5. Open Google Structured Data Testing Tool and fetch URL and check all data schema proper configured.

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Explain on-page SEO main aspects
- Understanding about keyword proximity and prominence
- Gather information about keyword density and keyword placement
- Explain AMP and G Site Kit main functions
- Understanding of Yoast SEO plugin and its primary key focus areas
- The ability to choose suitable hosting and domain
- Explain Robots Tags and Robots.txt files
- Understanding about anchor text and internal link strategy
- Explain canonical tags
- Explain how sitemap works

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Yoast SEO (WordPress Plugin)
3.	Internet Connection
4.	Google Keyword Planner
5.	G Site Kit (WordPress Plugin)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Show skills about how to use Yoast SEO.
- Verify that sitemap is generated.
- Show that how robots tags and robots.txt files differ



0613-S&AD&A-7. Perform Off-Page SEO

Overview: This competency standard covers the skills and knowledge required to perform off-page SEO. The trainee will be expected to perform off-page SEO via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Check backlinks	P1. Identify backlink entities P2. Explore link building process
CU 2. Create backlinks	P1. Add relevant outbound links P2. Reply to relevant blogs on other websites
CU 3. Submit website to search engines	P1. Create web profile P2. Validate confirmation
CU 4. Submit website to directories	P1. Add web profile P2. Validate email confirmation
CU 5. Submit website to blogs	P1. Reply on relevant blogs P2. Type website URL
CU 6. Submit to forums	P1. Add relevant discussion topics on forums P2. Insert website URL
CU 7. Submit to Q&A websites	P1. Create website profile as business entity P2. Reply to relevant topics
CU 8. Conduct social bookmarking	P1. Add relevant topics or website pages' links on social media platforms P2. Insert relevant website links to other social media posts in comments
CU 9. Create articles on blog submission websites	P1. Create blog profile on blogger P2. Write a blog article P3. Share it with others and on social media platforms

Knowledge & Understanding



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Explain backlinks and link building strategy
- The ability to create backlinks
- The ability to submit website profiles on search engines, directories, forums, blogs, and Q&As platforms.
- Explain how to implement social bookmarking.

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Internet Connection
3.	UberSuggest
4.	Google Keyword Planner
5.	Keywords Everywhere (Chrome Extension)
6.	Microsoft Excel

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Show skills about gathering information about backlinks sources
- Present how to submit a website profile on different search engines and platforms
- Show that how blogger works
- Present how to create backlinks



0613-S&AD&A-8. Perform Advanced Technical SEO

Overview: This competency standard covers the skills and knowledge required to perform Technical SEO. The trainee will be expected to perform Technical SEO via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Conduct page speed analysis	P1. Monitor page speed with AMP interface P2. analyze desktop and mobile version page speed
CU 2. Create content friendly URLs	P1. Insert keyword in URL P2. Type descriptive URL
CU 3. Generate robot tags and robot's txt file	P1. Specify no-follow sections P2. Insert robot tags to relevant sections
CU 4. Conduct Redirection Strategy	P1. Update the links with 301 redirection plugin P2. Do not remove any updated links
CU 5. Develop AMP Version	P1. Enable AMP version in post editing section P2. Create content friendly posts
CU 6. Analyze G Site Kit	P1. Check google search console dashboard P2. Check google analytics dashboard P3. Apply for Google AdSense

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Explain AMP deep understanding
- The ability to create Robots tags and robots.txt files
- Explain redirects (301, and 302)
- Understanding of Google Page Speed Insights
- Explain URL strategy

Tools and Equipment

The tools and equipment required for this competency standard are given below:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



S. No.	Items
1.	Computer/Laptop
2.	Internet Connection
3.	301 Redirection (WordPress Plugin)
4.	Google PageSpeed Insights
5.	Notepad
6.	AMP (WordPress Plugin)
7.	G Site Kit (WordPress Plugin)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Show how to implement AMP
- The ability to create Robots Tags and Robots.txt
- Verify that sitemap is submitted



0613-S&AD&A-9. Perform Local SEO

Overview: This competency standard covers the skills and knowledge required to perform Local SEO. The trainee will be expected to perform Local SEO via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Submit website to local business	P1. Create web profile on local business web P2. Confirm the email
CU 2. Submit website to local directories	P1. Sign up with web URL on online local directories P2. Confirm the validation email
CU 3. Submit website to free classifieds	P1. Create posts on classified website P2. Response to other relevant classified posts
CU 4. Generate website profile to google my business	P1. Sign up on google my business P2. Confirm the validation email
CU 5. analyze website trend on google my business	P1. Check web traffic on google my business P2. Check click through rate keyword queries
CU 6. Maintain consistent strategy for business	P1. Reply to reviews P2. Reply to comments on posts P3. Resolve issues with users
CU 7. Engage with users	P1. Post images of business environment P2. Post value offers P3. Compliment users in replies

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- Gathering the news from credible sources.
- Verifying the facts and figures in story.
- The Ability to talk the people for getting details to add into the story.
- Understanding of newspaper policies

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Word Processor
3.	Internet Connection
4.	Cell Phone
5.	Writing Pad
6.	Pen

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Show skills about gathering information from various sources.
- Verify the facts and authenticity of the news.
- Present himself or herself as an unbiased journalist.



0613-S&AD&A-10. Analyze Reports and Management

Overview: This competency standard covers the skills and knowledge required to perform Reports and Management. The trainee will be expected to perform Reports and Management via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Analyze website ranking on different search engines	P1. Check page ranking for google P2. Check page ranking for Bing P3. Check page ranking for yahoo
CU 2. Introduce Google Analytics	P1. Scope the google analytics P2. Check the functionality of google analytics
CU 3. Install Google Analytics	P1. Sign up for google analytics with web URL P2. Add tracking code in web header P3. Confirm the email, connected with website hosting
CU 4. Analyze Visitor Reports	P1. Check user traffic in visitor section P2. Check user timings P3. Check user devices
CU 5. Analyze Geographic Reports	P1. Check user location P2. Check target audience traffic
CU 6. Analyze Traffic Resources Reports	P1. Check traffic medium P2. Check traffic keywords P3. Check traffic links
CU 7. Analyze Keyword Reports	P1. Check potential keyword searches P2. Monitor keyword volume

Knowledge & Understanding



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Explain Google Analytics and its basics
- Verify that Google Analytics is connected
- The Ability to check Analytics dashboard and setting panel
- Explain user session, and bounce rate

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Internet Connection
3.	Google Analytics
4.	Gmail Account
5.	Website Admin Panel

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Present basic understanding about Google Analytics.
- Show skills about gathering information from Google Analytics.



0613-S&AD&A-11. Integrate Google Search Console (GSC)

Overview: This competency standard covers the skills and knowledge required to perform Integrate Google search console. The trainee will be expected to perform Integrate Google search console via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Analyze Google Search Console	P1. Scope the google search console P2. Integrate google search console app with web
CU 2. Install Google Search Console	P1. Sign up for website on google search console P2. Add the tracking code in web header to confirm the website
CU 3. Configure Google Search Console	P1. Check the real time traffic performance P2. Check coverage on dashboard
CU 4. Add website URL as property	P1. Type website URL as property P2. Confirm the validation email for property
CU 5. Submit sitemaps	P1. Upload sitemap file on google search console P2. Write the sitemap URL in sitemap bar
CU 6. Submit Site URLs	P1. Add page and post URLs for indexing P2. Check if the indexing can be done in real-time P3. Check live testing
CU 7. Resolve Crawl/Validations Errors	P1. Check crawling issues P2. Validate and fix the errors
CU 8. Remove URLs	P1. Add URLs to remove from the indexed database P2. Search on google for confirmation
CU 9. analyze Traffic on Google Search Cons	P1. Check the performance dashboard P2. Check amp dashboard P3. Check potential page URLs

Knowledge & Understanding



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Basic understanding of Google Search Console
- Explain how to connect Google Search Console
- The Ability to generate sitemap.
- Understanding about sitemap and how it works.
- Explain indexing and how to index URL
- Explain how to remove URL
- Explain how to use inspector tool
- Explain to use coverage and performance reports
- Explain crawl/validation errors

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Internet Connection
3.	Gmail Account
4.	Google Search Console
5.	Website Admin Panel

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Present the basics of GSC.
- Show skills about how to use GSC.
- Verify that GSC is connected.
- Verify that sitemap is submitted.
- Verify that live testing is enabled.
- Verify that URL indexing is requested.



0613-S&AD&A-12. Analyze through Google Analytics

Overview: This competency standard covers the skills and knowledge required to Analyze Google Analytics. The trainee will be expected to Analyze Google Analytics via laptop/desktop and smartphone, according to the workplace requirements. The underpinning knowledge regarding this competency standard will be sufficient to provide the basis for the job at the workplace.

Competency Unit	Performance Criteria
CU 1. Add Properties	P1. Add web URL as property P2. Confirm with email validation
CU 2. Add Views	P1. Create master view P2. Create raw data view
CU 3. Setup Goals and Conversions	P1. Add checkout page links P2. Add checkout link as conversion
CU 4. Install Google Tag Manager	P1. Copy the code and paste it on website header P2. Confirm it by email confirmation
CU 5. Integrate Filters	P1. Add IP addresses for internal traffic P2. Add IP addresses for external traffic
CU 6. Track Landing Page	P1. Check the traffic on landing page P2. analyze engaging keywords
CU 7. Track Visitor Location	P1. Check the visitor stats in visitor reports P2. Check visitor timings
CU 8. Track Visitor Conversion	P1. Click on conversion section P2. Check for the conversions
CU 9. Monitor Website Performance	P1. Check engaging page links P2. Check engaging post links P3. Check overall traffic of website
CU 10. Check Website Bounce Rate	P1. analyze bounce rate from dashboard P2. analyze session timeout rate



CU 11. Monitor Visitor Behavior

- P1. Check user device, and demographics
- P2. Check user sources and mediums

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Explain property, views, and user roles.
- Explain Google Tag Manager.
- Explain audience, geographic and behavior reports.
- Explain Goals and Conversions.
- Explain audience segmentation and retargeting.
- Learn conversion funneling.

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer/Laptop
2.	Internet Connection
3.	Google Analytics
4.	Gmail Account
5.	Website

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Show how to check audience, geographic and behavior reports
- Show how to add roles.
- Show how to add filters.
- Show how to create goals, funnels and conversion.
- Show to create audience segmentation and retargeting.



3. Theme Developer

0613-S&AD&A-13. Explore/Install different front end frameworks

Overview: After this competency standard candidate will be able to select and install different front end frameworks.

Competency Unit	Performance Criteria
CU1. Search/select front end framework	P1. Explore different front end frameworks P2. Compare these frameworks based on advantages, disadvantages, impact, popularity and purpose etc. P3. Select appropriate frontend framework
CU2. Install/setup framework(s)	P1. Install the selected framework. P2. Configure the framework P3. Search and Install plugins. P4. Activate Plugins
CU3. Set up Working Environment	P1. Download editors P2. Install editors P3. Choose default browser

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- List down various frontend frameworks
- Describe the advantages and disadvantages of different frameworks
- Describe following theories:
 - Responsive Design
 - Mobile First
 - MVP(minimum viable product)



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Angular
7.	Bootstrap
8.	Sublime, Brackets or Notepad++
9.	FTP Client

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Setup frontend development environment



0613-S&AD&A-14. Design web templates using frontend frameworks

Overview: After this competency standard candidate will be able to design responsive web templates.

Competency Unit	Performance Criteria
CU1. Discover Template/Theme Hierarchy	P1. Search for Basic Theme/Template Page Hierarchy P2. Build different template structures, like shopping cart etc. P3. Add/edit other Template Files like search, attachment etc. P4. Discover how to work with the theme components (e.g. style.css, functions.php, index.php files etc.)
CU2. Discover the concepts of Responsive Web Design	P1. Explore how to adjust screen P2. Discover how to set viewport for a web page P3. Build Grid views P4. Create responsive Images and videos
CU3. Design templates	P1. Design simple templates P2. Design RWD templates P3. Edit/Create Headers/Footers in Theme P4. Add Menus P5. Work with Sidebars P6. Add Widget Areas

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Describe the hierarchy of different templates
- Describe how to Create Static Pages and Archive Page
- Describe how to add other template Files like search, attachment etc.
- Describe how to Adjust screen and setting viewport for a web page and Build Grid views
- Understand responsive Images and videos
- Understand simple and RWD templates
- Understand wordpress themes



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Angular
7.	Bootstrap
8.	Wordpress
9.	Sublime, Brackets or Notepad++
10.	FTP Client

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Design web structures using frontend framework
- Design Web Template hierarchy
- Design Complete Templates using frontend frameworks



0613-S&AD&A-15. Design web view layout for mobile using frontend frameworks

Overview: After this competency standard candidate will be able to design mobile layouts.

Competency Unit	Performance Criteria
CU1. Explore basic Layout Design	P1. Identify Grids, Gutters, Margins P2. Identify Vertical Rhythm
CU2. Identify Responsive Mobile Layout concepts	P1. Discover screen compatibility e.g. Screen sizes, layouts etc. P2. Develop layouts for different screen sizes and pixel densities P3. Apply breakpoints for different screen sizes through media queries
CU3. Design Mobile Layouts	P1. Apply Grid Systems like Bootstrap P2. Create Vertical Grid & Vertical Rhythm P3. Balance Layout and properly use white space blocks P4. Design Mobile Responsive Layout

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Define Grids, Gutters, Margins and Vertical Rhythm
- Describe screen compatibility e.g. Screen sizes, layouts etc.
- Define display cutouts
- Describe Vertical Grid & Vertical Rhythm
- Describe how to balance Layout and properly use white space blocks
- Design Mobile Responsive Layout



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Angular
7.	Bootstrap
8.	Materialize
9.	Sublime, Brackets or Notepad++
10.	FTP Client

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Design basic mobile layout using frontend frameworks
- Design responsive mobile layouts using frontend frameworks



0613-S&AD&A-16. Design Game Screens using different frameworks

Overview: After this competency standard candidate will be able to design responsive web templates.

Competency Unit	Performance Criteria
CU1. Discover game screen development concepts	P1. Identify the methods of game screens development for smart phones P2. Identify methods for desktop screen/web based games development P3. Design Initial Paintings P4. Design shapes P5. Add texture
CU2. Set game-play mechanics	P1. Design characters P2. Design levels and puzzles P3. Design art and animation
CU3. Design Game Theme	P1. Build game themes using screen development techniques P2. Integrate the screen concepts and game play mechanics

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Define different methods of game screens development for smart phones, desktop screen/web based games development
- Understand how to design shapes
- Understand how to design Initial Paintings
- Define characters, levels, puzzles, art and animation
- Describe how to Integrate the screen concepts and game play mechanics



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Adobe Photoshop
7.	Drawing board
8.	Drawing Paper
9.	Adobe Premier
10.	Adobe Illustrator
11.	Corel Draw

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Design Game Screens using different frameworks
- Design Game Themes using different frameworks



0613-S&AD&A-17. Use frontend libraries in Theme Development

Overview: After this competency standard candidate will be able to design themes templates using frontend libraries.

Competency Unit	Performance Criteria
CU1. Explore different frontend libraries	P1. Discover libraries P2. List down features P3. Compare libraries P4. Download frontend libraries
CU2. Configure Frontend libraries	P1. Design your library P2. Integrate libraries with your applications P3. Implement theme on application P4. Build/Run the application through editor

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Understand the file system with directory hierarchy
- Understand the concepts of HTML tags
- Describe how to add CSS
- Understand the concept of Bootstrap with Grid layout system
- Understand the implementation of Javascript on web applications



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Angular
7.	Bootstrap
8.	Sublime, Brackets or Notepad++
9.	FTP Client

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Discover and use frontend Libraries
- Develop frontend theme using frontend libraries



0613-S&AD&A-18. Customize templates/themes

Overview: After this competency standard candidate will be able to customize website and mobile applications themes and templates.

Competency Unit	Performance Criteria
CU1. Search suitable Theme/Template	P1. Select the appropriate design P2. Install Theme/Template P3. Activate the Theme/Template
CU2. Configure/Customize Template	P1. Customize Theme/Template header P2. Customize Homepage Settings and Content P3. Customize the Homepage P4. Add/Edit and Publish Webpages and Blogposts P5. Add Social Media Buttons
CU3. Install/Configure plugins	P1. Install a Plugin. P2. Activate the Plugins P3. Configure Plugins

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Describe how to add/install themes
- Describe how to Activate the theme
- Describe how to Customize template header and other contents
- Describe how to Add/Edit and Publish Webpages and Blogposts
- Describe how to Add/Edit and activate plugins



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Web Browser
4.	Search Engines
5.	Youtube
6.	Angular
7.	Wordpress
8.	Bootstrap
9.	Sublime, Brackets or Notepad++
10.	FTP Client

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Add and install templates
- Customize website templates, mobile Layouts and game themes.
- Install and configure templates



B. Generic Competencies

4. *Soft Skills*

0613-S&AD&A-19. **Develop workplace policy and procedures for sustainability**

Overview: This unit describes the skills and knowledge required to develop and implement a workplace sustainability policy and to modify the policy to suit changed circumstances. It applies to individuals with managerial responsibilities who undertake work developing approaches to create, monitor and improve strategies and policies within workplaces and engage with a range of relevant stakeholders and specialists.

Unit of Competency	Performance Criteria
CU1. Develop workplace sustainability policy	<p>P1 Define scope of sustainability in the policies</p> <p>P2 Gather information from a range of sources to plan and develop policy</p> <p>P3 Identify and consult stakeholders as a key component of the policy development process</p> <p>P4 Include appropriate strategies in policy at all stages of work for minimizing resource use, reducing toxic material and hazardous chemical use and employing life cycle management approaches</p> <p>P5 Make recommendations for policy options based on likely effectiveness, timeframes and cost</p> <p>P6 Develop policy that reflects the organization's commitment to sustainability as an integral part of business planning and as a business opportunity</p> <p>P7 Agree to appropriate methods of implementation, outcomes and performance indicators</p>
CU2. Communicate workplace sustainability policy	<p>P1 Promote workplace sustainability policy, including its expected outcome, to key stakeholders</p> <p>P2 Inform those involved in implementing the policy about expected outcomes, activities to be undertaken and assigned responsibilities</p>
CU3. Implement workplace sustainability policy	<p>P1 Develop and communicate procedures to help implement workplace sustainability policy</p> <p>P2 Implement strategies for continuous improvement in resource efficiency</p>



	P3 Establish and assign responsibility for recording systems to track continuous improvements in sustainability approaches
CU4. Review workplace sustainability policy implementation	P1 Review workplace sustainability policy implementation P2 Investigate successes or otherwise of policy P3 Monitor records to identify trends that may require remedial action and use to promote continuous improvement of performance P4 Modify policy and or procedures as required to ensure improvements are made

Knowledge & Understanding

K1: outline the environmental or sustainability legislation, regulations and codes of practice

applicable to the organization identify internal and external sources of information and explain how they can be used to plan and develop the organization s sustainability policy

K2: explain policy development processes and practices

K3: outline organizational systems and procedures that relate to sustainability

K4: outline typical barriers to implementing policies and procedures in an organization and possible strategies to address them. Assessment Conditions

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to Develop workplace policy and procedures for sustainability. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- scope and develop organizational policies and procedures that comply with legislative requirements and support the organization s sustainability goals covering at a minimum:
 - minimizing resource use
 - resource efficiency
 - reducing toxic material and hazardous chemical use
 - employing life cycle management approaches
 - continuous improvement
- plan and implement sustainability policy and procedures including:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- agreed outcomes
- performance indicators
- activities to be undertaken
- assigned responsibilities
- record keeping, review and improvement processes
- consult and communicate with relevant stakeholders to generate engagement with sustainability policy development, implementation and continuous improvement
- Review and improve sustainability policies.



0613-S&AD&A-20. Manage meetings

Overview: This unit describes the skills and knowledge required to manage a range of meetings including overseeing the meeting preparation processes, chairing meetings, organizing the minutes and reporting meeting outcomes. It applies to individuals employed in a range of work environments who are required to organize and manage meetings within their workplace, including conducting or managing administrative tasks in providing agendas and meeting material. They may work as senior administrative staff or may be individuals with responsibility for conducting and chairing meetings in the workplace.

Unit of Competency	Performance Criteria
CU1. Prepare for meetings	<p>P1 Develop agenda in line with stated meeting purpose</p> <p>P2 Ensure style and structure of meeting are appropriate to its purpose</p> <p>P3 Identify meeting participants and notify them in accordance with organizational procedures</p> <p>P4 Confirm meeting arrangements in accordance with requirements of meeting</p> <p>P5 Dispatch meeting papers to participants within designated timelines</p>
CU2. Conduct meetings	<p>P1 Chair meetings in accordance with organizational requirements, agreed conventions for type of meeting and legal and ethical requirements</p> <p>P2 Conduct meetings to ensure they are focused, time efficient and achieve the required outcomes</p> <p>P3 Ensure meeting facilitation enables participation, discussion, problem-solving and resolution of issues</p> <p>P4 Brief minute-taker on method for recording meeting notes in accordance with organizational requirements and conventions for type of meeting</p>
CU3. Follow up meetings	<p>P1 Check transcribed meeting notes to ensure they reflect a true and accurate record of the meeting and are formatted in accordance with organizational procedures and meeting conventions</p> <p>P2 Distribute and store minutes and other follow-up documentation within designated timelines, and according to organizational requirements</p> <p>P3 Report outcomes of meetings as required, within designated timelines</p>



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Knowledge & Understanding

K1: outline meeting terminology, structures, arrangements

K2: outline responsibilities of the chairperson and explain group dynamics in relation to managing meetings

K3: describe options for meetings including face-to-face, teleconferencing, web-conferencing and using webcams

K4: identify the relevant organizational procedures and policies regarding meetings, chairing and minutes including identifying organizational formats for minutes and agendas.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to manage meetings. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- apply conventions and procedures for formal and informal meetings including:
 - developing and distributing agendas and papers
 - identifying and inviting meeting participants
 - organizing and confirming meeting arrangements
 - running the meeting and following up
- organize, take part in and chair a meeting
- record and store meeting documentation
- Follow organizational policies and procedures.



0613-S&AD&A-21. Manage recruitment selection and induction processes

Overview: This unit describes the skills and knowledge required to manage all aspects of recruitment selection and induction processes in accordance with organizational policies and procedures. It applies to individuals or human resource personnel who take responsibility for managing aspects of selecting new staff and orientating those staff in their new positions. It is not assumed that the individual will be directly involved in the selection processes themselves, although this may well be the case.

Unit of Competency	Performance Criteria
CU1. Develop recruitment, selection and induction policies and procedures	<p>P1 Analyze strategic and operational plans and policies to identify relevant policies and objectives</p> <p>P2 Develop recruitment, selection and induction policies and procedures and supporting documents</p> <p>P3 Review options for technology to improve efficiency and effectiveness of recruitment and selection process</p> <p>P4 Obtain support for policies and procedures from senior managers</p> <p>P5 Trial forms and documents supporting policies and procedures and make necessary adjustments</p> <p>P6 Communicate policies and procedures to relevant staff and provide training if required</p>
CU2. Recruit and select staff	<p>P1 Determine future human resource needs in collaboration with relevant managers and sections</p> <p>P2 Ensure current position descriptors and person specifications for vacancies are used by managers and others involved in recruitment, selection and induction processes</p> <p>P3 Provide access to training and other forms of support to all persons involved in recruitment and selection process</p> <p>P4 Ensure advertising of vacant positions complies with organizational policy and legal requirements</p> <p>P5 Utilize specialists where necessary</p> <p>P6 Ensure selection procedures are in accordance with organizational policy and legal requirements</p> <p>P7 Ensure processes for advising applicants of selection outcome are followed</p> <p>P8 Ensure job offers and contracts of employment are executed promptly, and new appointments are provided with advice about salary, terms and conditions</p>



CU3. Manage staff induction

- P1 Provide access to training and ongoing support for all persons engaged in staff induction
- P2 Check induction processes are followed across the organization
- P3 Oversee management of probationary employees and provide them with feedback until their employment is confirmed or terminated
- P4 Obtain feedback from participants and relevant managers on extent induction process is meeting its objectives
- P5 Make refinements to induction policies and procedures

Knowledge & Understanding

K1: describe recruitment and selection methods, including assessment centers

K2: explain the concept of outsourcing

K3: describe the purpose of employee contracts and industrial relations

K4: summarize relevant legislation, regulations, standards and codes of practice that may affect recruitment, selection and induction

K5: explain why terms and conditions of employment are an important aspect of recruitment

K6: explain the relevance of psychometric and skills testing programs to recruitment.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to manage recruitment selection and induction processes. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- develop or critically analyze a policy and procedures framework for recruitment, selection and induction
- identify the need for recruitment
- prepare and oversee appropriate documentation required for recruitment
- select and advise job applicants appropriately
- manage the induction process
- Comply with relevant legislation and organizational requirements.



0613-S&AD&A-22. Manage personal work priorities and professional development

Overview: This unit describes the skills and knowledge required to create systems and process to organize information and prioritize tasks. It applies to individuals working in managerial positions who have excellent organizational skills. The work ethic of individuals in this role has a significant impact on the work culture and patterns of behavior of others as managers at this level are role models in their work environment.

Unit of Competency	Performance Criteria
CU1. Establish personal work goals	<p>P1 Serve as a positive role model in the workplace through personal work planning</p> <p>P2 Ensure personal work goals, plans and activities reflect the organization s plans, and own responsibilities and accountabilities</p> <p>P3 Measure and maintain personal performance in varying work conditions, work contexts and when contingencies occur</p>
CU2. Set and meet own work priorities	<p>P1 Take initiative to prioritize and facilitate competing demands to achieve personal, team and organizational goals and objectives</p> <p>P2 Use technology efficiently and effectively to manage work priorities and commitments</p> <p>P3 Maintain appropriate work-life balance, and ensure stress is effectively managed and health is attended to</p>
CU3. Develop and maintain professional competence	<p>P1 Assess personal knowledge and skills against competency standards to determine development needs, priorities and plans</p> <p>P2 Seek feedback from employees, clients and colleagues and use this feedback to identify and develop ways to improve competence</p> <p>P3 Identify, evaluate, select and use development opportunities suitable to personal learning style/s to develop competence</p> <p>P4 Participate in networks to enhance personal knowledge, skills and work relationships</p> <p>P5 Identify and develop new skills to achieve and maintain a competitive edge</p>

Knowledge & Understanding

K1: explain principles and techniques involved in the management and organization of:

- performance measurement
- personal behavior, self-awareness and personality traits identification
- a personal development plan



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- personal goal setting
- time

K2: discuss management development opportunities and options for self

K3: describe methods for achieving a healthy work-life balance

K4: outline organization s policies, plans and procedures

K5: explain types of learning style/s and how they relate to the individual

K6: describe types of work methods and practices that can improve personal performance.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to manage personal work priorities and professional development. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- use business technology to create and use systems and processes to organise and prioritise tasks and commitments
- measure and maintain personal work performance including assessing competency against competency standards and seeking feedback
- maintain an appropriate work-life balance to manage personal health and stress
- participate in networks
- develop a personal development plan which includes career objectives and an action plan
- Develop new skills.



0613-S&AD&A-23. Manage workforce planning

Overview: This unit describes the skills and knowledge required to manage planning in relation to an organization’s workforce including researching requirements, developing objectives and strategies, implementing initiatives and monitoring and evaluating trends. It applies to individuals who are human resource managers or staff members with a role in a policy or planning unit that focuses on workforce planning.

Unit of Competency	Performance Criteria
CU1. Research workforce requirements	<p>P1 Review current data on staff turnover and demographics</p> <p>P2 Assess factors that may affect workforce supply</p> <p>P3 Establish the organization’s requirements for a skilled and diverse workforce</p>
CU2. Develop workforce objectives and strategies	<p>P1 Review organizational strategy and establish aligned objectives for modification or retention of the workforce</p> <p>P2 Consider strategies to address unacceptable staff turnover, if required</p> <p>P3 Define objectives to retain required skilled labor</p> <p>P4 Define objectives for workforce diversity and cross-cultural management</p> <p>P5 Define strategies to source skilled labor</p> <p>P6 Communicate objectives and rationale to relevant stakeholders</p> <p>P7 Obtain agreement and endorsement for objectives and establish targets</p> <p>P8 Develop contingency plans to cope with extreme situations</p>
CU3. Implement initiatives to support workforce planning objectives	<p>P1 Implement action to support agreed objectives for recruitment, training, redeployment and redundancy</p> <p>P2 Develop and implement strategies to assist workforce to deal with organizational change</p> <p>P3 Develop and implement strategies to assist in meeting the organization’s workforce diversity goals</p> <p>P4 Implement succession planning system to ensure desirable workers are developed and retained</p> <p>P5 Implement programs to ensure workplace is an employer of choice</p>
CU4. Monitor and evaluate workforce trends	<p>P1 Review workforce plan against patterns in exiting employee and workforce changes</p> <p>P2 Monitor labor supply trends for areas of over- or under-supply in the</p>



external environment

P3 Monitor effects of labor trends on demand for labor

P4 Survey organizational climate to gauge worker satisfaction

P5 Refine objectives and strategies in response to internal and external changes and make recommendations in response to global trends and incidents

P6 Regularly review government policy on labor demand and supply

P7 Evaluate effectiveness of change processes against agreed objectives

Knowledge & Understanding

K1: explain current information about external labor supply relevant to the specific industry or skill requirements of the organization

K2: outline industrial relations relevant to the specific industry

K3: describe labor force analysis and forecasting techniques

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to manage workforce planning. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- review and interpret information from a range of internal and external sources to identify:
 - current staff turnover and demographics
 - labor supply trends factors that may affect workforce supply
 - organization's workforce requirements objectives and strategies
- manage workforce planning including developing, implementing, monitoring and reviewing strategies to meet workforce needs
- review relevant trends and supply and demand factors that will impact on an organization's workforce
- Develop a workforce plan that includes relevant research and specific strategies to ensure access to a skilled and diverse workforce.



0613-S&AD&A-24. Undertake project work

Overview: This unit describes the skills and knowledge required to undertake a straightforward project or a section of a larger project. It covers developing a project plan, administering and monitoring the project, finalizing the project and reviewing the project to identify lessons learned for application to future projects. This unit applies to individuals who play a significant role in ensuring a project meets timelines, quality standards, budgetary limits and other requirements set for the project.

Unit of Competency	Performance Criteria
CU1. Define project	<p>P1 Access project scope and other relevant documentation</p> <p>P2 Define project stakeholders</p> <p>P3 Seek clarification from delegating authority of issues related to project and project parameters</p> <p>P4 Identify limits of own responsibility and reporting requirements</p> <p>P5 Clarify relationship of project to other projects and to the organization’s objectives</p> <p>P6 Determine and access available resources to undertake project</p>
CU2. Develop project plan	<p>P1 Develop project plan in line with the project parameters</p> <p>P2 Identify and access appropriate project management tools</p> <p>P3 Formulate risk management plan for project, including Work Health and Safety (WHS)</p> <p>P4 Develop and approve project budget</p> <p>P5 Consult team members and take their views into account in planning the project</p> <p>P6 Finalize project plan and gain necessary approvals to commence project according to documented plan</p>
CU3. Administer and monitor project	<p>P1 Take action to ensure project team members are clear about their responsibilities and the project requirements</p> <p>P2 Provide support for project team members, especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and documented time lines are met</p> <p>P3 Establish and maintain required recordkeeping systems throughout the project</p> <p>P4 Implement and monitor plans for managing project finances, resources and quality</p> <p>P5 Complete and forward project reports as required to stakeholders</p>



	P6 Undertake risk management as required to ensure project outcomes are met P7 Achieve project deliverables
CU4. Finalize project	P1 Complete financial recordkeeping associated with project and check for accuracy P2 Ensure transition of staff involved in project to new roles or reassignment to previous roles P3 Complete project documentation and obtain necessary sign-offs for concluding project

Knowledge & Understanding

K1: give examples of project management tools and how they contribute to a project

K2: outline types of documents and other sources of information commonly used in defining the parameters of a project

K3: explain processes for identifying and managing risk in a project

K4: outline the organization's mission, goals, objectives and operations and how the project relates to them

K5: explain the organization's procedures and processes that are relevant to managing a project including:

- lines of authority and approvals
- quality assurance
- human resources
- budgets and finance
- recordkeeping
- reporting

Outline the legislative and regulatory context of the organization in relation to project work, including work health and safety (WHS) requirements.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to undertake project work. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- define the parameters of the project including:
 - project scope
 - project stakeholders, including own responsibilities
 - relationship of project to organizational objectives and other projects
 - reporting requirements
 - resource requirements
- use project management tools to develop and implement a project plan including:
 - deliverables
 - work breakdown
 - budget and allocation of resources
 - timelines
 - risk management
 - recordkeeping and reporting
- consult and communicate with relevant stakeholders to generate input and engagement in planning, implementing and reviewing the project
- provide support to team members to enable them to achieve deliverables and to transition them as appropriate at completion of the project
- finalize the project including documentation, sign-offs and reporting

Review and document the project outcomes.



0613-S&AD&A-25. Identify and communicate trends in career development

Overview: This unit describes the skills and knowledge required to conduct research to identify and communicate career trends. It establishes the need to interact professionally with others in assessing career needs, to effectively assist clients identify competencies they require for a career and employability in a given context. It also examines how to maintain quality of career development services and professional practice. It applies to individuals seeking to identify and communicate trends in career development.

Unit of Competency	Performance Criteria
CU1. Research and confirm career trends	<p>P1 Apply knowledge of changing organizational structures, lifespan of careers and methods of conducting work search, recruitment and selection processes</p> <p>P2 Analyze changing worker and employer issues, rights and responsibilities in context of changing work practices</p> <p>P3 Examine importance of quality careers development services</p> <p>P4 Maintain all research, documentation, sources and references (electronic or physical) to a high degree of currency and relevance</p> <p>P5 Analyze implications of relevant policy, legislation, professional codes of practice and national standards relating to worker and employer issues</p> <p>P6 Research changes and trends in theory of career development counseling and practice</p> <p>P7 Confirm clusters, levels and combinations of transferable employability skills and preferences that may open employment options spanning more than one occupation or career pathway</p>
CU2. Assess and confirm ongoing career development needs of target group	<p>P1 Analyze history and records in assessing needs of target group</p> <p>P2 Assess success of previous career development services and techniques used for individual or target group</p> <p>P3 Deploy other means to investigate appropriate care and counseling approaches as required</p> <p>P4 Maintain privacy and security of all data, research and personal records according to relevant policy, legislation, professional codes of practice and national standards</p> <p>P5 Establish existing work-life balance requirements, issues and needs</p>
CU3. Maintain quality of career development	<p>P1 Analyze and review relevance of career theories, models,</p>



services and professional practice

frameworks and research for target group

P2 Incorporate into career development services and professional practice, major changes and trends influencing workplace and career-related options and choices

P3 Comply with all relevant policy, legislation, professional codes of practice and national standards that influence delivery of career development services

Knowledge & Understanding

K1: explain client care and counseling techniques and processes in the context of career development services

K2: describe diversity and its potential effects on career choices

K3: outline human psychological development and needs in relation to careers development

K4: outline relevant policy, legislation, codes of practice and standards relevant to career development

K5: explain recruitment and selection processes in the context of career development services

K6: describe a range of data gathering and research techniques

K7: explain techniques used to analyze trends.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to identify and communicate trends in career development. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- research and analyze current economic, labor market, employment, career and vocational, educational and training trends
- identify choices and career development needs for individuals and target groups within a given context
- report and document management of research and career development materials
- Comply with all relevant local, state/territory and national legislation, policies and practices.



0613-S&AD&A-26. Apply specialist interpersonal and counseling interview skills

Overview: This unit describes the skills and knowledge required to use advanced and specialized communication skills in the client-counselor relationship. This unit applies to individuals whose job role involves working with clients on personal and psychological issues within established policies, procedures and guidelines.

Unit of Competency	Performance Criteria
CU1. Communicate effectively	<p>P1 Identify communication barriers and use strategies to overcome these barriers in the client-counselor relationship</p> <p>P2 Facilitate the client-counselor relationship through selection and use of micro skills</p> <p>P3 Integrate the principles of effective communication into work practices</p> <p>P4 Observe and respond to non-verbal communication cues</p> <p>P5 Consider and respond to the impacts of different communication techniques on the client-counselor relationship in the context of individual clients</p> <p>P6 Integrate case note taking with minimum distraction</p>
CU2. Use specialized counseling interviewing skills	<p>P1 Select and use communication skills according to the sequence of a counseling interview</p> <p>P2 Identify points at which specialized counseling interviewing skills are appropriate for inclusion</p> <p>P3 Use specialized counseling communication techniques based on their impacts and potential to enhance client development and growth</p> <p>P4 Identify and respond appropriately to strong client emotional reactions</p>
CU3. Evaluate own communication	<p>P1 Reflect on and evaluate own communication with clients</p> <p>P2 Recognize the effect of own values and beliefs on communication with clients</p> <p>P3 Identify and respond to the need for development of own skills and knowledge</p>

Knowledge & Understanding

K1: legal and ethical considerations for communication in counseling practice, and how these are applied in individual practice:

- codes of conduct/practice



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- discrimination
- duty of care
- human rights
- practitioner/client boundaries
- privacy, confidentiality and disclosure
- rights and responsibilities of workers, employers and clients
- work role boundaries responsibilities and limitations of the counselor role
- work health and safety

K2: principles of person-centered practice

K3: key objectives of counseling interviewing

K4: stages of a counseling interview

K5: potential impacts of using different communication skills and techniques in counseling contexts

K6: communication techniques and micro-skills including:

- attending behaviors active listening, reflection of content feeling, summarizing
- questioning skills open, closed, simple and compound questions
- client observation skills
- noting and reflecting skills
- providing client feedback

K7: specialized counseling communication techniques, and how they are used, including:

- challenging
- reframing
- focusing

K8: components of the communication process including:

- encoder
- decoder

K9: primary factors that impact on the communication process including:

- context
- participants
- rules
- messages
- channels
- noise
- feedback

K10: communication barriers and resolution strategies, including:

- environmental
- physical
- individual perceptions
- cultural issues
- language
- age issues
- disability

K11: observational techniques including:

- facial expressions
- non-verbal behavior
- posture
- silence

K12: ways in which different people absorb information, including:

- visual
- auditory
- kinesthetic

K13: obstacles to the counseling process

K14: impacts of trauma and stress on the communication process, including on:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- concentration and attention
- memory
- use of verbal and written language
- use of body language
- challenging within the counseling session

K15: self-evaluation practices, including:

- how to recognize own biases
- Impact of own values on the counseling relationship.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to apply specialist interpersonal and counseling interview skills. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- interviewed at least 3 different clients using specialized interpersonal communication and counseling interviewing skills, including:
- micro-skills and communication techniques, including:
 - attending behaviors active listening,
 - reflection of content, summarizing
 - questioning skills open, closed, simple and compound questions
 - client observation skills
 - noting and reflecting skills
 - providing client feedback
- specialized counseling interviewing skills, including:
 - challenging
 - reframing
 - focusing
- integrated clear case note taking into the interview process
- Completed a structured process of self-reflection and evaluation of own communication used during the 3 interviews.



0613-S&AD&A-27. Work safely in an office environment

Overview: This unit describes the performance outcomes, skills and knowledge required to participate in workplace occupational health and safety (OHS) processes to protect workers own health and safety, and that of others.

Unit of Competency	Performance Criteria
CU1. Work safely	P1 Follow established safety procedures when conducting work P2 Carry out pre-start systems and equipment checks in accordance with workplace procedures
CU2. Implement workplace safety requirements	P1 Identify designated persons for reporting queries and concerns about safety in the workplace P2 Identify existing and potential hazards in the workplace, report them to designated persons and record them in accordance with workplace procedures P3 Identify and implement workplace procedures and work instructions for controlling risks P4 Report emergency incidents and injuries to designated persons
CU3. Participate in OHS consultative processes	P1 Contribute to workplace meetings, inspections or other consultative activities P2 Raise OHS issues with designated persons in accordance with organizational procedures P3 Take actions to eliminate workplace hazards or to reduce risks
CU4. Follow safety procedures	P1 Identify and report emergency incidents P2 Follow organizational procedures for responding to emergency incidents

Knowledge & Understanding

- K1: Explain responsibilities of employers and employees under relevant health and safety regulation
- K2: describe emergency procedures including procedures for fires, accidents and evacuation
- K3: outline commonly used hazard signs and safety symbols

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to participate in workplace OHS processes. The evidence should integrate employability skills with



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. The unit assessment must ensure the safety processes; hazards and risk are relevant to the area of work. Evidence of the following is essential:

- Accurately following all relevant safety procedures
- Identifying and reporting hazards to designated personnel
- Knowledge of relevant health and safety regulations
- Knowledge of relevant materials, equipment and work processes.



0613-S&AD&A-28. Develop workplace documents

Overview: This unit covers interpreting and composing a range of workplace documents from a number of sources. It includes interpreting written information for workplace purposes as well as planning, drafting and reviewing a basic document before writing the final version. The focus is on the content and structure of written materials and not on the use of computer technology

Unit of Competency	Performance Criteria
CU1. Interpret written information	<p>P1 Read workplace materials to identify the subject and key information for using or reporting to others.</p> <p>P2 Read procedural manuals and codes of practice to locate specific information to carry out work functions in accordance with policy and standards.</p> <p>P3 Read a range of written materials to locate and select required information for summaries, short reports and responses to requests.</p> <p>P4 Identify the cultural context and prior knowledge required to interpret workplace information and obtain assistance when required.</p> <p>P5. Determine audience and purpose for the document</p> <p>P6 Seek assistance with interpretation of complex materials in accordance with organizational procedures.</p>
CU2. Develop written materials	<p>P1 Identify and comply with established requirements for a range of written materials in accordance with organizational procedures and standard templates.</p> <p>P2. Determine format and structure</p> <p>P3. Establish key points for inclusion</p> <p>P4. Identify organizational requirements</p> <p>P5. Establish method of communication</p> <p>P6. Establish means of communication</p>
CU3. Draft document	<p>P1 Develop draft document to communicate key points</p> <p>P2. Obtain and include any required additional information</p> <p>P3 Prepare written information in an accurate, concise and unambiguous manner that meets intended audience and organizational requirements.</p>
CU4. Review document	<p>P1 Check draft for suitability of tone for audience, purpose, format and communication style</p> <p>P2. Check draft for readability, grammar, spelling, sentence and paragraph construction and correct any inaccuracies or gaps in</p>



	content. P3. Check draft for sequencing and structure P4. Check draft to ensure it meets organizational requirements P5. Ensure draft is proofread, where appropriate, by supervisor or colleague
CU5. Write final document	P1 Make and proofread necessary changes P2. Ensure document is sent to intended recipient within required time frames P3. File copy of document in accordance with organizational policies and procedures

Knowledge & Understanding

- K1: Explain the reading and writing procedures at a level to cope with a range of workplace materials
- K2: Explain the integration of information from a number of sources in order to generate meaning
- K3: Describe the ways to write and sequence paragraphs according to the required purpose of written material
- K4: Outline the linking ideas in written material through selection and use of words, grammatical structures, headings and punctuation appropriate to the purpose
- K5: Elaborate spelling, punctuation and grammar for workplace documents at an experienced level
- K6: Explain the response to diversity, including gender and disability
- K7: Explain the implementation of ergonomic requirements for office work
- K8: Explain the environmental policies such as those relating to paper use/wastage/recycling
- K9: Describe the preparation of general information and papers according to target audience
- K10: Elaborate the ways of proofreading and editing documents to ensure clarity of meaning and conformity to organizational requirements
- K11: Describe the problem-solving skills to determine document design and production processes
- K12: Explain the usage of resources to assist in document production, such as dictionary, thesaurus, templates, style sheets
- K13: Describe the ways to produce business letters, memos, job applications, resumes, meeting agendas and minutes
- K14: Explain the ways to fold and insert letters into a standard and window faced envelope.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



A person who demonstrates competency in this unit must be able to provide evidence of the ability to interpret written information for workplace purposes and plan, draft and review a basic document before writing the final version. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Evidence of the following is essential:

- Producing a range of documents that accurately convey required information including single and multipage business letters, memos, job applications, resumes, meeting agendas and minutes.
- Using formatting suitable for intended audience
- Knowledge of organizational policies and procedures for document production



0613-S&AD&A-29. Prepare and implement negotiation

Overview: This unit covers the skills, knowledge and attitudes required to prepare for and participate in a process of negotiation.

Unit of Competency	Performance Criteria
CU1. Prepare for the negotiation	<p>P1 Identify objectives and preferred outcome of the negotiation and determine minimum acceptable outcome</p> <p>P2 Understand in relation to what can be offered and what is needed from the other party</p> <p>P3 Gather information regarding the other party objectives, needs, preferences, resources, what they want to achieve - in order to determine best negotiating points</p> <p>P4 List and rank the issues to consider that may be made.</p> <p>P5 Find examples and refine negotiation argument.</p> <p>P6 Check information to ensure it is correct and up-to-date.</p> <p>P7 Develop a negotiation plan that includes information about the other party and its interests and a set of responses and strategies to the anticipated tactics.</p> <p>P8 Prepare an agenda in advance, which includes discussion topics, participants, location and schedule</p>
CU2. Participate in negotiations	<p>P1 Analyze all aspects of the incident for degree of hazard, priorities, optional outcomes and appropriate strategies</p> <p>P2 Analyze and determine strategies and priorities on the incident sought from a range of sources</p> <p>P3 Assess long term objectives against resources and priorities</p> <p>P4 Apply a range of communication techniques to make and maintain contact with the key people</p> <p>P5 Provide clear and factual information to enable an honest and realistic assessment of the interests of the key people and their positions</p> <p>P6 Resolve the conflict and express their likely consequences clearly and do an analysis of the benefits</p> <p>P7 Re assess points of disagreements for common positive positions</p>
CU3. Coordinate support services	<p>P1 Assess the need for support services in terms of the determined strategies and priorities</p>



	<p>P2 Negotiate the resources of support services according to established procedures and availability</p> <p>P3 Provide information on strategies to support services and maintain the communication</p> <p>P4 Delegate roles and responsibilities according to expertise and resources</p>
CU4. Restore order	<p>P1 Assess the incidents for degree of risk and take appropriate action to reduce and remove the impact of the incident and restore order</p> <p>P2 Take action designed to minimize risk and the preserve the safety and security of all involved</p> <p>P3 Take action to prevent the escalation of the incident appropriate to the circumstances and agreed procedures.</p> <p>P4 Carry out the use of force for the restoration of control and the maintenance of security in the least restrictive manner.</p> <p>P5 Complete reports accurately and clearly provided to the appropriate authority promptly</p> <p>P6 Review, evaluate and analyze the incident and the organizational response to it and report it promptly and accurately.</p>
CU5. Provide leadership, direction and guidance to the work group	<p>P1 Link between the function of the group and the goals of the organization</p> <p>P2 Participate in decision making routinely to develop, implement and review work of the group and to allocate responsibilities where appropriate</p> <p>P3 Give opportunities and encouragement to others to develop new and innovative work practices and strategies</p> <p>P4 Identify conflict and resolve with minimum disruption to work group function</p> <p>P5 Provide staff with the support and supervision necessary to perform work safely and without risk to health</p> <p>P6 Allocate tasks within the competence of staff and support with appropriate authority, autonomy and training</p> <p>P7 Supervise appropriately the changing priorities and situations and takes into account the different needs of individuals and the requirements of the task</p>



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- K1: Explain organization’s policies, guidelines and procedures related to control and surveillance, safety and preventing and responding to incidents and breaches of orders covered in the range of variables.
- K2: Explain organization’s management and accountability systems
- K3: Describe teamwork principles and strategies
- K4: Outline the principles of effective communication
- K5: Outline the guidelines for use of equipment and technology
- K6: Explain code of conduct

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to solve problems which jeopardize safety and security. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Evidence of the following is essential:

- evidence of effective communication strategies including negotiation, counseling, mediation, advocacy demonstrated under pressure working effectively in a team environment
- evidence of knowledge and application of organizations policies, procedures and guidelines for critical incidents
- evidence of accurate and safe use of all emergency equipment
- evidence of managing effective outcomes using strategic planning, team leadership and situational analysis



0613-S&AD&A-30. Maintain professionalism in the workplace

Overview: This unit of competency describes the outcomes required maintain a professional image in the workplace, including behaving ethically, demonstrating motivation, respecting timeframes and maintaining personal appearance.

Unit of Competency	Performance Criteria
CU1. Respect work timeframes	<p>P1 Demonstrate punctuality in meeting, set working hours and times.</p> <p>P2 Utilize working hours follow company regulations.</p> <p>P3 Complete work tasks within deadlines according to order of priority</p> <p>P4 Supervisors are informed of any potential delays in work times or projects.</p>
CU2. Maintain personal appearance and hygiene	<p>P1 Clean hair, body and nails regularly.</p> <p>P2 Wear suitable cloths for the workplace, and respect local and cultural contexts</p> <p>P3 Meet specific company dress code requirements</p>
CU3. Maintain adequate distance with colleagues and clients	<p>P1 Respect personal space of colleagues and clients with reference to local customs and cultural contexts.</p> <p>P2 Keep sufficient distance from others</p> <p>P3 Avoid cross transmission of infections (especially through respiration).</p>
CU4. Work in an ethical manner	<p>P1 Follow company values/ethics codes of ethics and/or conduct, policies and guidelines.</p> <p>P2 Use company resources in accordance with company ethical standards.</p> <p>P3 Conduct personal behavior and relationships in accord with ethical standards and company policies.</p> <p>P4 Undertake work practices in compliance with company ethical standards, organizational policy and guidelines.</p> <p>P5 Instruct co-workers on ethical, lawful and reasonable directives.</p> <p>P6 Share company values/practices with co-workers using appropriate behavior and language.</p> <p>P7 Report work incidents/situations and/or resolved in accordance with company protocol/guidelines.</p>

Knowledge & Understanding



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- K1: Explain application of good manners and right conduct
- K2: Explain basic practices for oral and personal hygiene
- K3: Describe common products used for oral and personal hygiene
- K4: Outline the company code of conduct/values
- K5: Outline the Company regulations, performance and ethical standards
- K6: Explain work responsibilities/job functions
- K7: Describe communication skills
- K8: State workplace hygiene standards

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:

A person who demonstrates competency in this unit must be able to provide evidence of the ability to maintain professionalism in the workplace .The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Evidence of the following is essential:

- clarify and affirm work values/ethics/concepts consistently in the workplace;
- comply with required working times;
- conduct work practices satisfactorily and consistently, in compliance with work ethical standards, organizational policy and guidelines;
- Develop suitable hygiene

Keep adequate distance while interacting with colleagues and clients.



0613-S&AD&A-31. Organize schedules

Overview: This unit describes the skills and knowledge required to manage appointments and diaries for personnel within an organization, using manual and electronic diaries, schedules and other appointment systems. It applies to individuals employed in a range of work environments who provide administrative support to teams and individuals.

Unit of Competency	Performance Criteria
CU1. Establish schedule requirements	<p>P1 Identify organizational requirements and protocols for diaries and staff planning tools</p> <p>P2 Identify organizational procedures for different types of appointments</p> <p>P3 Determine personal requirements for diary and schedule items for individual personnel</p> <p>P4 Establish appointment priorities and clarify in discussion with individual personnel</p>
CU2. Manage schedules	<p>P1 Identify recurring appointments and deadlines, and schedule these in accordance with individual and organizational requirements</p> <p>P2 Establish availability of attendees, and schedule new appointments in accordance with required timelines and diary commitments</p> <p>P3 Negotiate alternative arrangements and confirm when established appointments are changed</p> <p>P4 Record appointments and manage schedules in accordance with organizational policy and procedures</p>

Knowledge & Understanding

- K1: identify the key provisions of relevant legislation, standards and codes that affect aspects of business operations or the achievement of team goals
- K2: describe organizational requirements for managing appointments for personnel within the organization
- K3: summarize the range of appointment systems that could be used
- K4: outline important considerations when managing the schedules of others.

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** to be competent in this competency standard:



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



A person who demonstrates competency in this unit must be able to provide evidence of the ability to organize schedules. The evidence should integrate employability skills with workplace tasks and job roles and verify competency is able to be transferred to other circumstances and environments.

Performance requirements

This competency is to be assessed using standard and authorized work practices, safety requirements and environmental constraints. Demonstrated evidence is required of the ability to:

- Appropriately manage the schedules of various individuals through a process of careful planning and negotiation.



5. Freelancing

0613-S&AD&A-32. Create/Manage profile on Non-traditional Freelance Platform

Overview: This competency standard covers the skills and knowledge required to create/manage profile on a non-traditional freelance platform.

Competency Unit	Performance Criteria
CU1. Recognize Gig Economy	<p>P1. Enlist at least 03 strong reasons to work as a freelancer</p> <p>P2. Identify difference between a Gig and a bid</p> <p>P3. Identify the most in demand freelance skills on non-traditional platform</p>
CU2. Setup Profile	<p>P1. Set Up a Seller Profile</p> <p>P2. Add personal and professional information on your profile</p> <p>P3. Link up your social media and other professional accounts to your seller profile</p>
CU3. Create your Gig	<p>P1. Find your ideal category and services</p> <p>P2. Check out the competition</p> <p>P3. Create an appealing title for the gig</p> <p>P4. Choose subcategory and tags</p> <p>P5. Create and price gig packages</p> <p>P6. Win buyers with gig description</p> <p>P7. Boost gig success with visuals</p> <p>P8. Choose a suitable gig package among Basic, Standard and Premium options.</p>
CU4. Provide High Quality Services as a seller.	<p>P1. Present a professional profile</p> <p>P2. Get and maintain high rating</p> <p>P3. Be responsive and polite to customer</p>
CU5. Develop/Increase Business	<p>P1. Deliver the work on agreed deadline</p> <p>P2. Ask for feedback form the client</p> <p>P3. Keep in touch with Buyers/Customers</p> <p>P4. Use the contacts page to maintain close coordination with the potential buyers/customers</p> <p>P5. Request customer to recommend you to other clients and</p>



work circles

P6. Abide by the rules and regulations of freelance platform in order completion and cancelation

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Describe what is gig economy.
- Differentiate between a seller and a buyer in non-traditional freelancing.
- Write down the characteristics of a powerful gig.
- List down the qualities of a top-level seller.
- Prepare a business development strategy for a seller.

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Browser
4.	Email Account
5.	Bank account
6.	Microsoft Office (Word, Excel, PowerPoint)
7.	Seller Profile on Non-traditional Freelance Platform (Fiverr)



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Setup a seller account/profile.
- Create a gig for SEO based Content Writing.



0613-S&AD&A-33. Create/Manage profile on a Traditional Freelance Platform

Overview: This competency standard covers the skills and knowledge required to create/manage profile on a traditional freelance platform.

Competency Unit	Performance Criteria
CU1. Explore Traditional Freelance Marketplace	<p>P1. Identify characteristics of traditional freelancing</p> <p>P2. Compare strengths and features of different traditional freelancing platforms/websites</p> <p>P3. Select an appropriate freelance platform best suited to your niche</p>
CU2. Get started with freelance platform	<p>P1. Join a freelance market place by creating an account</p> <p>P2. Add personal information</p> <p>P3. Add professional information</p> <p>P4. Highlight your strengths and skills</p> <p>P5. Build a great profile by adding your portfolio</p>
CU3. Find work/Submit proposals	<p>P1. Find the right project according to your niche</p> <p>P2. Choose b/w hourly vs. fixed price projects</p> <p>P3. Read the project description and demands with great attention/ get clear understanding of the project</p> <p>P4. Write a comprehensive, solution oriented bid proposal for the project</p> <p>P5. Ask questions to clarify the ambiguities.</p> <p>P6. Offer a mockup</p> <p>P7. Setup a competitive fee for the project</p> <p>P8. Review your bid proposal to remove any spelling or grammatical mistakes</p> <p>P9. Submit the bid proposal</p>
CU4. Complete projects & Get paid	<p>P1. Setup a personal deadline to finish the project</p> <p>P2. Make close consultation with your client during the development of the project</p> <p>P3. Communicate with the client by using the freelance platform messaging service only</p> <p>P4. Fulfill all project requirements</p> <p>P5. Do not accept unjust demands by the client</p> <p>P6. Use payment protection methods to get your reward secure</p>



CU5. Manage your reputation as a professional

- P1.** Ask for the feedback
- P2.** Give priority to the returning customer
- P3.** Create a longstanding bond with customers by providing them great value for their money
- P4.** Promote your profile/business by asking clients to recommend you to others
- P5.** Practice fairness and honesty in your dealings

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Write down the names of popular traditional freelance platforms.
- Differentiate between hourly and fixed-price projects.
- Define mockup.
- Perform bidding on the projects.
- Describe best practices to win a customer's trust.

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Browser
4.	Email Account
5.	Bank account
6.	Microsoft Office (Word, Excel, PowerPoint)
7.	Seller Profile on a Traditional Freelance Platform (Upwork, Guru, freelance.com etc)



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Create and maintain a profile on a popular freelance platform.
- Write a bid for a sample project.
- Prepare mockup for a fashion blogpost.



0613-S&AD&A-34. Write professional proposals for freelance projects.

Overview: This competency standard covers the skills and knowledge required to write professional proposals for freelance projects.

Competency Unit	Performance Criteria
CU1. Write a winning proposal	<p>P1. Start proposal with the lines which show your interest and care in the project</p> <p>P2. Write ideas and suggestions in original sentences (Don't Copy & Paste)</p> <p>P3. Present yourself as a problem solver in proposal, suggest one or two workable ideas for the project.</p> <p>P4. Mention expertise to tell the buyer why you are the best person for the specific project</p> <p>P5. Ask for the resources (Website link etc.) to get more familiar about the business/buyer</p> <p>P6. Ask for the reply from the client in response to suggestions</p>
CU2. Adopt best practices of proposal writing	<p>P1. Read the project details beforehand</p> <p>P2. Avoid scripted bid proposals</p> <p>P3. Don't sound impersonal</p> <p>P4. Avoid being too hasty in committing your time</p> <p>P5. Do not underbid fellow freelancers</p> <p>P6. Check buyer's history</p> <p>P7. Use phrases that sell in the market</p> <p>P8. Check competitor's reputation</p> <p>P9. Proofread the bid</p>

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Write the features of a good bid proposal.



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



- Write a sample bid proposal for an essay writing job, highlight your skills/strengths for the job.

Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Browser
4.	Email Account
5.	Bank account
6.	Microsoft Office (Word, Excel, PowerPoint)
7.	Seller Profile on a Freelance Platform (Upwork, Guru, freelancer.com etc.)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Prepare a bid proposal for a research based article writing project.



0613-S&AD&A-35. Develop your communication skills

Overview: This competency standard covers the skills and knowledge required to develop good communication skills.

Competency Unit	Performance Criteria
CU1. Win a client through good communication skills	P1. Pay attention to Client's Requirements P2. Reply Honestly to Client P3. Keep the Client Informed P4. Be Patient while waiting for Response P5. Win a Client through Best of Behavior P6. Maintain the relationship even after the completion of the project
CU2. Work on improving communication skills.	P1. Read an article/story/news piece from and reproduce it in your own words P2. Share your knowledge with others P3. Watch successful people's interviews to grab work life realities of your field P4. Learn to improve your focus P5. Spend time with learned individuals P6. Make self-analysis

Knowledge & Understanding

The candidate must be able to demonstrate underpinning knowledge and understanding required to carry out tasks covered in this competency standard. This includes:

- Write down a note on importance of good communication skills to become a successful freelancer.



National Competency Standards Level-4 for “Mobile App, Web & Game Development”



Tools and Equipment

The tools and equipment required for this competency standard are given below:

S. No.	Items
1.	Computer System
2.	Internet Connection
3.	Browser
4.	Email Account
5.	Books, Newspapers etc.
6.	Microsoft Office (Word, Excel, PowerPoint)
7.	Seller Profile on a Freelance Platform (Upwork, Guru, freelancer.com etc.)

Critical Evidence(s) Required

The candidate needs to produce following **Critical Evidence(s)** in order to be competent in this competency standard:

- Demonstrate written communication skills in convincing a client for a particular project.