

ANDROID APPLICATION DEVELOPER



ASSESSMENT PACKAGE
National Vocational Certificate Level 2

Version 1 - June, 2019

Published by

National Vocational and Technical Training Commission
Government of Pakistan

Headquarter

Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
www.navttc.org

Responsible

Director General Skills Standard and Curricula, National Vocational and Technical Training Commission
National Deputy Head, TVET Sector Support Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Layout & design

SAP Communications

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This document has been produced with the technical assistance of the TVET Sector Support Programme, which is funded by the European Union, the Federal Republic of Germany and the Royal Norwegian Embassy and has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with the National Vocational and Technical Training Commission (NAVTTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC), Qualification Awarding Bodies (QABs) and private sector organizations.

Document Version

June, 2019

Islamabad, Pakistan

ANDROID APPLICATION DEVELOPER



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ASSESSMENT PACKAGE
National Vocational Certificate Level 2

Version 1 - June, 2019

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer-Junior Assistant	CS Code: 0613001017	Level: 2	Version:
Competency Standard Title: Use Basic of Programming Communicate the Workplace Policy and Procedure	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Create a Program that take input a number from user and Print Table of that number on screen. (Total = 70 minutes) <ol style="list-style-type: none"> Write pseudo code (20 min) Draw Flow Chart (20 min) Write & Test Program (30 min) Assessment Task 2: Write a Program according to given instructions (45 min) <ol style="list-style-type: none"> Make a Shape Class that have draw() function that print "Share is Drawn" on screen Make a Circle Class that Inherit from <u>Shape</u> class and override the <u>shape()</u> function that will print "Circle is drawn" Make a Rectangle Class that Inherit from <u>Shape</u> class and override the <u>shape()</u> function that will print "Circle is drawn" Now in main() function of program Create Shape object and call draw() function Create Circle object and call draw() function Create Rectangle object and call draw() function Now assign circle object to shape variable and then call draw method (What you think it will print on the screen ?). Assessment Task 3: Write a program to that store 7 colors in Array List then copy that array to HashMap then Print on the Screen. (30 min) <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1:(CU1) – P1, P2 Prepare basic pseudo code as per given algorithm, Prepare basic algorithm as per given task</p> <p>Performance Criteria 2: (CU1) – P3 Draw flowchart as per given algorithm</p> <p>Performance Criteria 3: (CU1) – P5 Write basic program as per given task</p>

	<p>Assessment Task 2</p> <p>Performance Criteria 1: (CU2) – P1 Prepare a class for an object using inheritance as per given requirements</p> <p>Performance Criteria 2: (CU2) – P2 Prepare a basic program by using polymorphism techniques as per given requirements</p> <p>Performance Criteria 3:</p> <p>(CU2) – P3 Prepare a basic application as per given requirements.</p> <p>Performance Criteria 4 :.Seek advice on the communication method/equipment most appropriate for the task</p>
	<p>Assessment Task 3</p> <p>Performance Criteria 1: (CU3) – P1 Prepare a program to swap data as per given requirements</p> <p>Performance Criteria 2: (CU3) – P2 Prepare a program to show contact list by using hash-map techniques as per given requirements</p> <p>Performance Criteria 3:Use appropriate non-verbal behavior at all times</p>
	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance criteria 1 Inheritance</p> <p>Performance criteria 2 Polymorphism</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1 Create a Program that take input a number from user and Print Table of that number on screen. (Total = 70 minutes) i. Write pseudo code (20 min) ii. Draw Flow Chart (20 min) iii. Write & Test Program (30 min)				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1:(CU1) – P1, P2 Prepare basic pseudo code as per given algorithm, Prepare basic algorithm as per given task						
2	Performance Criteria 2: (CU1) – P3 Draw flowchart as per given algorithm						
3	Performance Criteria 3: (CU1) – P5 Write basic program as per given task						
4						
Competent <input type="checkbox"/>					Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2 Write a Program according to given instructions (45 min) <ul style="list-style-type: none">i. Make a Shape Class that have draw() function that print “Share is Drawn” on screenii. Make a Circle Class that Inherit from <u>Shape</u> class and override the <u>shape()</u> function that will print “Circle is drawn”iii. Make a Rectangle Class that Inherit from <u>Shape</u> class and override the <u>shape()</u> function that will print “Circle is drawn”iv. Now in main() function of program Create Shape object and call draw() functionv. Create Circle object and call draw() functionvi. Create Rectangle object and call draw() functionvii. Now assign circle object to shape variable and then call draw method (What you think it will print on the screen ?).		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU2) – P1 Prepare a class for an object using inheritance as per given requirements			
2	Performance Criteria 2: (CU2) – P2 Prepare a basic program by using polymorphism techniques as per given requirements			
3	Performance Criteria 3: (CU2) – P3 Prepare a basic application as per given requirements.			
4	Performance Criteria 4: Seek advice on the communication method/equipment most appropriate for the task			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3 Write a program to that store 7 colors in Array List then copy that array to HashMap then Print on the Screen. (30 min)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU3) – P1 Prepare a program to swap data as per given requirements			
2	Performance Criteria 2: (CU3) – P2 Prepare a program to show contact list by using hash-map techniques as per given requirements			
3	Performance criteria 3: Use appropriate non-verbal behavior at all times			
4				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/> Sufficient <input type="checkbox"/> Authentic <input type="checkbox"/> Valid <input type="checkbox"/> Reliable <input type="checkbox"/>				
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level-2 Android Application Developer (Junior Assistant)	CS Code: (0613001017)	Level: 2	Version: 1
Competency Standard Title: Use Basics of Programming	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 2 in Mobile Application Developer(Junior Assistant)	CS Code:	Level: 2	Version:
Competency Standard Title: Use Basics of Programming	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
3 What is a variable	A variable is nothing but a name given to a storage area that our programs can manipulate.
4 What are the elements of a flow chart	Q 1. The Oval. An End or a Beginning. Oval. Q 2. The Rectangle. A Step in the Flowcharting Process. Rectangle. Q 3. The Arrow. Directional Flow. Q 4. The Diamond. Call for a Decision.
5 Define algorithms	It is a step-wise representation of a solution to a given problem, which makes it easy to understand.
6 What is the use of switch statement	A switch statement allows a variable to be tested for equality against a list of values.
Q 5. why the loop is used in programming	A loop statement allows us to execute a statement or group of statements multiple times.
7 describe the different types of loops	While loop, for loop, do-while loop
8 Define Arrays	An array is used to store a collection of data, but it is often more useful to think of an array as a collection of variables of the same type.
9 what is a function	A function is a group of statements that together perform a task.

Question	Candidate's answer
10 what is an object	Anything that has some properties and characteristics is called objects
11 What does mean by oops	OOps stands for object oriented programming
12 What are the three elements of OOPS	Inheritance, polymorphism , encapsulation.

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer-Junior Assistant	CS Code: 0613001018	Level: 2	Version:
Competency Standard Title: Interpret technical requirements for apps development Perform basic communication	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Write key functionalities of android app as per requirements provided by assessor. Assessment Task 2: Create an App Requirement Report document based on problem statement as per requirements provided by the assessor. Assessment Task 3: Present a Proposal Document among peers and get feedback from them. <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU1)-P1: Create a block diagram for interpreted technical statement</p> <p>Performance Criteria 2: (CU1)-P2: Build a report listing functional and non-functional needs of system to be developed.</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: (CU2)-P2: Identify any potential challenges and solutions</p> <p>Performance Criteria 2: Receive the instructions from Supervisor</p> <p>Performance Criteria 3: Carry out the instructions of the supervisor</p> <p>Performance Criteria 4: Report to the supervisor as per organizational SOPs</p>
	<p>Assessment Task 3</p> <p>Performance Criteria 1: (CU3)-P1: Create a Proposal Document based on App requirements specifications.</p>
	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance Criteria 1 (CU1)-P1: Create a block diagram for interpreted technical statement</p> <p>Performance Criteria 2 (CU1)-P2: Build a report listing functional and non-functional needs of system to be developed.</p> <p>Performance Criteria 3 (CU3)-P1: Create a Proposal Document based on App requirements specifications.</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1 Write key functionalities of android app as per requirements provided by assessor.				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1: (CU1)-P1: Create a block diagram for interpreted technical statement						
2	Performance Criteria 2: (CU1)-P2: Build a report listing functional and non-functional needs of system to be developed.						
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>				

Assessment Task 2		Description of assessment task 2 Create an App Requirement Report document based on problem statement as per requirements provided by the assessor.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU2)-P2: Identify any potential challenges and solutions			
2	Performance Criteria 2: Receive the instructions from Supervisor			
3	Performance Criteria 3: Carry out the instructions of the supervisor			
	Performance Criteria 4: Report to the supervisor as per organizational SOPs			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3 Present a Proposal Document among peers and get feedback from them.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU3)-P1: Create a Proposal Document based on App requirements specifications.			
2	Performance Criteria 2:			
3	Performance Criteria 3:			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>		Authentic <input type="checkbox"/>
		Valid <input type="checkbox"/>		Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance Criteria 1: Create a block diagram for interpreted technical statement			
2	Performance Criteria 2: Build a report listing functional and non-functional needs of system to be developed.			
3	Performance Criteria 3: Create a Proposal Document based on App requirements specifications.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code: 0613001018	Level:2	Version:1
Competency Standard Title: Interpret technical requirements for apps development	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code:	Level: 2	Version:
Competency Standard Title: Interpret technical requirements for apps development	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
Q 6. What is a block diagram ?	A block diagram is a type of chart, which is often used in presentations, because of its universality - the graphic blocks can be applied to many processes.
Q 7. What is difference between functional and non-functional requirement?	Functional requirement is any requirement which specifies what the system should do. Non-functional requirement is any requirement which specifies how the system performs a certain function.
Q 8. How many types of android app components?	There are four different types of app components: Activities Services Broadcast receivers Content providers
Q 9. Differentiate Activities from Services.	Activities can be closed, or terminated anytime the user wishes. On the other hand, services are designed to run behind the scenes, and can act independently. Most services run continuously, regardless of whether there are certain or no activities being executed.
Q 10. What items are important in every Android project?	These are the essential items that are present each time an Android project is created: <ul style="list-style-type: none"> • AndroidManifest.xml • build.xml • bin/ • src/ • res/ • assets
Q 11. What is the AndroidManifest.xml?	This file is essential in every application. It is declared in the root directory and contains information about the application that the Android system must know before the codes can be executed.

Question	Candidate's answer
Q 12. What are the types of mobile apps?	<p>There are mainly three types of apps:</p> <ul style="list-style-type: none">• Native app• Hybrid app• Web-based app

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer=Junior Assistant	CS Code: 0613001019	Level: 2	Version:
Competency Standard Title: Use Data Bases for apps development Management	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Develop a relational Database in SQLite for a newly established organization using Entity Relationship Diagram (ERD) Assessment Task 2: Perform CRUD (Create, Read, Update and Delete) operation using Data Manipulations Languages (DML) and Data Definition Languages (DDL) Assessment Task 3: Perform normalization on the developed database and configure with application. <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU1)-P1: Create data tables.</p> <p>Performance Criteria 2: (CU1)-P2: Create relationship between tables</p> <p>Performance Criteria 3: (CU2)-P2: Identify system entities and relationships for database as per requirements</p> <p>Performance Criteria 4: (CU4)-P2: Develop basic Database Project</p> <p>.....</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: (CU3)-P1: Apply CRUD (Create, Read, Update & Delete)</p> <p>Performance Criteria 2: (CU3)-P2: Apply joins</p> <p>Performance Criteria 3: (CU3)-P3: Apply aggregate functions</p> <p>Performance Criteria 4: (CU3)-P4: Create Stored procedures and views</p> <p>Performance Criteria 5: (CU4)-P1: Apply DDL (Data Definition Language)</p> <p>.....</p>
	<p>Assessment Task 3</p> <p>Performance Criteria 1: (CU4)-P3: Configure Database with Applications</p> <p>Performance Criteria 2:(CU4)-P4: Apply normalization on database</p> <p>.....</p>
	<p>.....</p>

	Portfolios required at the time of assessment (if any) for Performance criteria 1 for the evaluation of portfolio Performance criteria 2 for the evaluation of portfolio Performance criteria 3 for the evaluation of portfolio
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Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1 Develop a relational Database in SQLite for a newly established organization using Entity Relationship Diagram (ERD)				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1: (CU1)-P1: Create data tables.						
2	Performance Criteria 2: (CU1)-P2: Create relationship between tables						
3	Performance Criteria 3: (CU2)-P2: Identify system entities and relationships for database as per requirements						
4	Performance Criteria 4: (CU4)-P2: Develop basic Database Project						
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>				

Assessment Task 2		Description of assessment task 2 Perform CRUD (Create, Read, Update and Delete) operation using Data Manipulations Languages (DML) and Data Definition Languages (DDL)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU3)-P1: Apply CRUD (Create, Read, Update & Delete)			
2	Performance Criteria 2: (CU3)-P2: Apply joins			
3	Performance Criteria 3: (CU3)-P3: Apply aggregate functions			
4	Performance Criteria 4: (CU3)-P4: Create Stored procedures and views			
5	Performance Criteria 5: (CU4)-P1: Apply DDL (Data Definition Language)			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3 Perform normalization on the developed database and configure with application.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU4)-P3: Configure Database with Applications			
2	Performance Criteria 2:(CU4)-P4: Apply normalization on database			
3	Performance Criteria 3:			
4				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 4		Description of assessment task 4		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance criteria 1:			
2	Performance criteria 2:			
3	Performance criteria 3:			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/> Sufficient <input type="checkbox"/> Authentic <input type="checkbox"/> Valid <input type="checkbox"/> Reliable <input type="checkbox"/>				
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code: 0613001019	Level: 2	Version: 1
Competency Standard Title: Use Data Base for apps development Management	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code:	Level: 2	Version:
Competency Standard Title: Use Data Base for apps development Management	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
Q 13. What is a Database? Describe various types of database models.	Database is a computerized record keeping system. There are different types of databases such as: <ul style="list-style-type: none"> - Relational Model - Hierarchal Model - Network Model -
Q 14. Define Entity?	Entity is any object that has some characteristics and properties about which we can store data.
Q 15. Define Relationship and its different types?	A relationship, in the context of databases, is a situation that exists between two relational database tables when one table has a foreign key that references the primary key of the other table
Q 16. What is Entity Relationship Diagram (ERD)?	
Q 17. What are different types of symbols used in ERD?	Rectangle , oval, diamond arrows to show the flow of data base
Q 18. What are joins ?	A joins is means for combining columns from one or more table by using values common to each
Q 19. Describe different types of aggregate function.	AVG, count,MIN,MAX ,SUM
Q 20. For what purpose stored procedures are used?	A stored procedure is a prepared SQL code that you can save so the code can be reused over and over again.

Question	Candidate's answer
Q 21. Describe why Views are important in database?	<p>Views are important because of:</p> <ul style="list-style-type: none"> • Security. Each user can be given permission to access the database only through a small set of views that contain the specific data the user is authorized to see, thus restricting the user's access to stored data. • Query Simplicity. ... • Structural simplicity. ... • Data Integrity. ... • Logical data independence. ... • Performance.
Q 22. What is meant by Data Definition Language (DDL) and describe its function?	A DDL is a language used to define data structures and modify data. For example, DDL commands can be used to add, remove, or modify tables within in a database.
Q 23. What is meant by constraints?	Constraints are the rules enforced on the data columns of a table to limit the type of data that can go into the table
Q 24. What are Keys in Database? Describe the function of Keys?	Those attributes that are uniquely identified other attributes are called keys.
Q 25. Define attributes in a database?	The characteristics of an entities is called attributes

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code: 0613001020	Level: 2	Version:
Competency Standard Title: Design User Interface for Mobile Apps	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Identify and copy the elements of interface by applying space distribution, intendent action and perform content periodization and input controls within 60 minutes given by assessor.</p> <p>Assessment Task 2: Make use case diagram by applying graphic user interface and wire frames as per given requirements within 60 minutes.</p> <p>d complete:</p> <p>6. Knowledge assessment test (Written or Oral)</p> <p>7. Portfolios at the time of assessment (if any)</p>
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU4)-P1 Perform content prioritization as per design requirement</p> <p>Performance Criteria 2: (CU4)-P2 Apply space distribution as per design requirement</p> <p>Performance Criteria 3: (CU4)-P3 Apply intendant action as per design requirement</p> <p>Performance Criteria 4: (CU4)-P4 Perform input controls</p> <p>.....</p> <p>Assessment Task 2</p> <p>Performance Criteria 1: CU1- P1.Make sketch as per requirement</p> <p>Performance Criteria 2: CU1- P2.Make wireframe as per provided sketch</p> <p>Performance Criteria 3: CU2- P1. Make prototype using up-to-date design software</p> <p>Performance Criteria 4: CU2- P2.Make final design using up-to-date design software</p> <p>Performance Criteria 5: CU2- P3Apply transition using up-to-date design software</p> <p>Performance Criteria 5:CU3-P1.Prepare Use Case Diagram using relevant software as per given requirement</p> <p>Performance Criteria 7: CU3-P2.Create paths and user scenario as per provided document</p> <p>Performance Criteria 8: CU3-P3.Make relationship and system boundaries as per given requirement</p>

	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance criteria 1 for the evaluation of portfolio</p> <p>Performance criteria 2 for the evaluation of portfolio</p> <p>Performance criteria 3 for the evaluation of portfolio</p> <p>.....</p>
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Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1 Identify and copy the elements of interface by applying space distribution, intendant action and perform content periodization and input controls within 60 minutes given by assessor.				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1: (CU4)-P1 Perform content prioritization as per design requirement						
2	Performance Criteria 2: (CU4)-P2 Apply space distribution as per design requirement						
3	Performance Criteria 3: (CU4)-P3 Apply intendant action as per design requirement						
4	Performance Criteria 4: (CU4)-P4 Perform input controls						
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>				

Assessment Task 2		Description of assessment task 2 Make use case diagram by applying graphic user interface and wire frames as per given requirements within 60 minutes.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: CU1- P1.Make sketch as per requirement			
2	Performance Criteria 2: CU1- P2.Make wireframe as per provided sketch			
3	Performance Criteria 3: CU2- P1. Make prototype using up-to-date design software			
4	Performance Criteria 4: CU2- P2.Make final design using up-to-date design software			
5	Performance Criteria 5: CU2- P3Apply transition using up-to-date design software			
6	Performance Criteria 5:CU3-P1.Prepare Use Case Diagram using relevant software as per given requirement			
7	Performance Criteria 7: CU3-P2.Create paths and user scenario as per provided document			
8	Performance Criteria 8: CU3-P3.Make relationship and system boundaries as per given requirement			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/> Sufficient <input type="checkbox"/> Authentic <input type="checkbox"/> Valid <input type="checkbox"/> Reliable <input type="checkbox"/>				
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer (Junior Assistant)	CS Code: 0613001020	Level:2	Version:1
Competency Standard Title: Design User Interface for Mobile Apps	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer(Junior Assistant)	CS Code:	Level: 2	Version:
Competency Standard Title: : Design User Interface for Mobile Apps	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
Q 26.	
Q 27.	
Q 28.	
Q 29.	
Q 30.	
Q 31.	
Q 32.	
Q 33.	

Title of Qualification: National Vocational Certificate Level-2 Android Application Developer (Junior Assistant)	CS Code:	Level: 2	Version:
Competency Standard Title: Use Information Technology Skills capable of android development Use Basics of Programming Interpret Technical requirements for apps development Design User Interface for Mobile Apps Perform Basic Computer Application Perform Basic Communication	Assessment Date (DD/MM/YY):		
	Time Duration: 5 Hours (300 Minutes)		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>8. Assessment Task 1: Make a proto-type of a User Interface as per given template by assessor (annexure A) for Mobile App keeping in mind standard technical requirements of app development. The UI must contain at least 2 screens. (Time Duration: 120 Minutes)</p> <p>9. Assessment Task 2: Make a Database as per given data (Annexure B) and integrate the database (User name & Password) with User Interface of Login Screen already developed in Assessment Task 1 for data insertion & retrieval. (Time Duration: 180 Minutes)</p> <p>And complete:</p> <p>10. Knowledge assessment test (Written or Oral)</p> <p>11. Portfolios at the time of assessment (if any)</p>

Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: Use Operating System</p> <p>Performance Criteria 2: Perform web surfing to find relevant information</p> <p>Performance Criteria 3: Browse information on specific topic (Videos, Images, articles etc.)</p> <p>Performance Criteria 4: Use Internet according to Cyber Laws</p> <p>Performance Criteria 5: Use permissible assets according to Cyber Laws</p> <p>Performance Criteria 6: Identify the activities, services, broadcasts, app/additional resources, app permissions of system</p> <p>Performance Criteria 7: Identify any potential challenges and solutions</p> <p>Performance Criteria 8: Make sketch as per requirement</p> <p>Performance Criteria 9: Make final design using up-to-date design software</p> <p>Performance Criteria 10: Apply transition using up-to-date design software</p> <p>Performance Criteria 11: Prepare Use Case Diagram using relevant software as per given requirement</p> <p>Performance Criteria 12: Make relationship and system boundaries as per given requirement</p> <p>Performance Criteria 13: Perform content prioritization as per design requirement</p> <p>Performance Criteria 14: Apply space distribution as per design requirement</p> <p>Performance Criteria 15: Apply intendant action as per design requirement</p> <p>Performance Criteria 16: Perform input controls</p> <p>.....</p>
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	<p>Assessment Task 2</p> <p>Performance Criteria 1: Introduction of basic programming</p> <p>Performance Criteria 2: Write basic program as per given task</p> <p>Performance Criteria 3: Prepare a class for an object using inheritance as per given requirements.</p> <p>Performance Criteria 4: Prepare a basic application as per given requirements.</p> <p>Performance Criteria 5: Create data tables.</p> <p>Performance Criteria 6: Create relationship between tables.</p> <p>Performance Criteria 7: Identify system entities and relationships for database as per requirements</p> <p>Performance Criteria 8: Create ERD (Entity Relationship Diagram) using software (Microsoft Visio etc.)</p> <p>Performance Criteria 9: Apply CRUD (Create, Read, Update & Delete)</p> <p>Performance Criteria 10: Apply joins</p> <p>Performance Criteria 11: Apply aggregate functions</p> <p>Performance Criteria 12: Create Stored procedures and views</p> <p>Performance Criteria 13: Apply DDL (Data Definition Language)</p> <p>Performance Criteria 14: Develop basic Database Project</p> <p>Performance Criteria 15: Configure Database with Applications</p> <p>Performance Criteria 16: Apply normalization on database</p> <p>Performance Criteria 17: Develop basic reading skills</p> <p>Performance Criteria 18: Develop Basic writing Skills</p> <p>Performance Criteria 19: Develop basic listening skills</p> <p>Performance Criteria 20: Use search engines to open website</p> <p>Performance Criteria 21: Search data on different topics</p> <p>Performance Criteria 22: Refine search to increase relevance of information or content</p> <p>Performance Criteria 23: Navigate a website to access the information or content required</p> <p>Performance Criteria 23: Prepare Excel Sheet as per given required format</p> <p>.....</p>
	<p>Portfolios required at the time of assessment Task 2 (if any) for</p> <p>Performance criteria 2 for the evaluation of portfolio of basic programs</p> <p>Performance criteria 5 for the evaluation of portfolio of Data Tables</p> <p>Performance criteria 8 for the evaluation of portfolio of ERD (Entity Relationship Diagrams)</p> <p>Performance criteria 9 for the evaluation of portfolio of CRUD</p> <p>Performance criteria 14 for the evaluation of portfolio of basic database projects</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							

Assessment Task 1:		Description of assessment task 1		
		Make a proto-type of a User Interface as per given template by assessor (annexure A) for Mobile App keeping in mind standard technical requirements of app development. The UI must contain at least 2 screens. (Time Duration: 120 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Performance Criteria 1: Use Operating System			
2.	Performance Criteria 2: Perform web surfing to find relevant information			
3.	Performance Criteria 3: Browse information on specific topic (Videos, Images, articles etc.)			
4.	Performance Criteria 4: Use Internet according to Cyber Laws			
5.	Performance Criteria 5: Use permissible assets according to Cyber Laws			
6.	Performance Criteria 6: Identify the activities, services, broadcasts, app/additional resources, app permissions of system			
7.	Performance Criteria 7: Identify any potential challenges and solutions			
8.	Performance Criteria 8: Make sketch as per requirement			
9.	Performance Criteria 9: Make final design using up-to-date design software			
10.	Performance Criteria 10: Apply transition using up-to-date design software			
11.	Performance Criteria 11: Prepare Use Case Diagram using relevant software as per given requirement			
12.	Performance Criteria 12: Make relationship and system boundaries as per given requirement			
13.	Performance Criteria 13: Perform content prioritization as per design requirement			
14.	Performance Criteria 14: Apply space distribution as per design requirement			
15.	Performance Criteria 15: Apply intendant action as per design requirement			
16.	Performance Criteria 16: Perform input controls			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2 Make a Database as per given data (Annexure B) and integrate it with User Interface already developed in Assessment Task 1: for data insertion & retrieval. (Time Duration: 180 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Performance Criteria 1: Introduction of basic programming			
2.	Performance Criteria 2: Write basic program as per given task			
3.	Performance Criteria 3: Prepare a class for an object using inheritance as per given requirements.			
4.	Performance Criteria 4: Prepare a basic application as per given requirements.			
5.	Performance Criteria 5: Create data tables.			
6.	Performance Criteria 6: Create relationship between tables.			
7.	Performance Criteria 7: Identify system entities and relationships for database as per requirements			
8.	Performance Criteria 8: Create ERD (Entity Relationship Diagram) using software (Microsoft Visio etc.)			
9.	Performance Criteria 9: Apply CRUD (Create, Read, Update & Delete)			
10.	Performance Criteria 10: Apply joins			
11.	Performance Criteria 11: Apply aggregate functions			
12.	Performance Criteria 12: Create Stored procedures and views			
13.	Performance Criteria 13: Apply DDL (Data Definition Language)			
14.	Performance Criteria 14: Develop basic Database Project			
15.	Performance Criteria 15: Configure Database with Applications			
16.	Performance Criteria 16: Apply normalization on database			
17.	Performance Criteria 17: Develop basic reading skills			
18.	Performance Criteria 18: Develop Basic writing Skills			
19.	Performance Criteria 19: Develop basic listening skills			
20.	Performance Criteria 20: Use search engines to open website			
21.	Performance Criteria 21: Search data on different topics			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/> Sufficient <input type="checkbox"/> Authentic <input type="checkbox"/> Valid <input type="checkbox"/> Reliable <input type="checkbox"/>				
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 2 for the evaluation of portfolio of basic programs			
2	Performance criteria 5 for the evaluation of portfolio of Data Tables			
3	Performance criteria 8 for the evaluation of portfolio of ERD (Entity Relationship Diagrams)			
4	Performance criteria 9 for the evaluation of portfolio of CRUD			
5	Performance criteria 14 for the evaluation of portfolio of basic database projects			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification National Vocational Certificate Level 2 Android Application Developer – Junior Assistant	CS Code:	Level:2	Version:1
Competency Standard Title: Comply Personal Health and Safety Guidelines Communicate the Workplace Policy and Procedure Perform Basic Communication (Specific) Perform Basic Computer Application (Specific) Use information technology skills capable of Android Development Use Basics of Programming Interpret Technical Requirements for Apps Development Use Data Bases for Apps Development Design User Interface for Mobile Apps	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 2 Android Application Developer –Junior Assistant	CS Code:	Level: 2	Version:
Competency Standard Title: Comply Personal Health and Safety Guidelines Communicate the Workplace Policy and Procedure Perform Basic Communication (Specific) Perform Basic Computer Application (Specific) Use information technology skills capable of Android Development Use Basics of Programming Interpret Technical Requirements for Apps Development Use Data Bases for Apps Development Design User Interface for Mobile Apps	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
What is a CPU?	Central processing unit
What are the components of CPU?	There are two main components of CPU,ALU and CU
Differentiate between input and output devices and give examples of each.	Everything that is given to the computer in the form of data is called input. The devices that are used to enter input in computer is called input devices such as keyboard. Mouse etc
What is a variable	A variable is nothing but a name given to a storage area that our programs can manipulate.
What are the elements of a flow chart	The Oval. An End or a Beginning. Oval. The Rectangle. A Step in the Flowcharting Process. Rectangle. The Arrow. Directional Flow. The Diamond. Call for a Decision.

Question	Candidate's answer
Define algorithms	It is a step-wise representation of a solution to a given problem, which makes it easy to understand.
What items are important in every Android project?	<p>These are the essential items that are present each time an Android project is created:</p> <p>AndroidManifest.xml</p> <p>build.xml</p> <p>bin/</p> <p>src/</p> <p>res/</p> <p>assets</p>
What is the AndroidManifest.xml?	This file is essential in every application. It is declared in the root directory and contains information about the application that the Android system must know before the codes can be executed.
What are the types of mobile apps?	<p>There are mainly three types of apps:</p> <p>Native app</p> <p>Hybrid app</p> <p>Web-based app</p>

