

Instruction Sheet for the Candidate

Qualification	Full Stack Developer (Mobile App, Web and Game Development)
Competency Standard	Program a Database (Using SQL, MySQL, SQLite, and PostgreSQL)
Purpose of Assessment	Formative Assessment
Candidate Details	Name_____
	Registration/Roll Number_____
Guidance for Candidate	To meet this standard, you are required to complete the following within 03 Hrs. time frame (for practical demonstration & assessment):
Time: 03 Hrs.	During a practical assessment, under observation by an assessor, you are required to
Minimum Evidence Required	<p>Design the Database</p> <ol style="list-style-type: none"> 1. Organize the required information 2. Gather all types of information which needs to be recorded in the database 3. Divide the information into tables 4. Divide information items into major entities 5. Covert logical design to physical design 6. Turn information items into columns 7. Specify primary keys 8. Choose each table's primary key 9. Set up the table relationships 10. Analyze the design for errors. 11. Apply the normalization rules 12. Apply the data normalization rules to see if the tables are structured correctly 13. Create database 14. Create table 15. Create views <p>Manipulate the Database</p> <ol style="list-style-type: none"> 1. Run SELECT statement with single table 2. Use SELECT statement with multiple tables using different JOINS 3. Apply different SQL filters to produce organized data (e.g. HAVING, ORDER BY, GROUP BY, DISTINCT etc.) 4. Run UPDATE statement to update the existing records 5. Run INSERT statement to insert single or multiple records 6. Run DELETE statement to delete single or multiple records 7. Write store procedures 8. Define/Code functions for database 9. Use aggregate functions with SELECT clause

	Administrate the Database
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1. Install database management system
2. Install the database servers
3. Develop processes for optimizing database security
4. Set/Maintain database standards
5. Manage database access controls
6. Install database applications
7. Upgrade database applications
8. Manage database applications
9. Troubleshoot database errors
10. Create automation for repeating database tasks
11. Export the database backups
12. Restore database backups

Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	Full Stack Developer (Mobile App, Web and Game Development)
Competency Standard	Program a Database (Using SQL, MySQL, SQLite, and PostgreSQL)
Purpose of Assessment	Formative Assessment
Assessment Task	<ul style="list-style-type: none"> • Design the Database • Manipulate the Database • Administrate the Database

I can.....

Performance Criteria	Yes	No
1. Organize the required information	<input type="checkbox"/>	<input type="checkbox"/>
2. Gather all types of information which needs to be recorded in the database	<input type="checkbox"/>	<input type="checkbox"/>
3. Divide the information into tables	<input type="checkbox"/>	<input type="checkbox"/>
4. Divide information items into major entities	<input type="checkbox"/>	<input type="checkbox"/>
5. Covert logical design to physical design	<input type="checkbox"/>	<input type="checkbox"/>
6. Turn information items into columns	<input type="checkbox"/>	<input type="checkbox"/>
7. Specify primary keys	<input type="checkbox"/>	<input type="checkbox"/>
8. Choose each table's primary key	<input type="checkbox"/>	<input type="checkbox"/>
9. Set up the table relationships	<input type="checkbox"/>	<input type="checkbox"/>
10. Analyze the design for errors.	<input type="checkbox"/>	<input type="checkbox"/>
11. Apply the normalization rules	<input type="checkbox"/>	<input type="checkbox"/>
12. Apply the data normalization rules to see if the tables are structured correctly	<input type="checkbox"/>	<input type="checkbox"/>

13. Create database	<input type="checkbox"/>	<input type="checkbox"/>
14. Create table	<input type="checkbox"/>	<input type="checkbox"/>
15. Create views	<input type="checkbox"/>	<input type="checkbox"/>
16. Run SELECT statement with single table	<input type="checkbox"/>	<input type="checkbox"/>
17. Use SELECT statement with multiple tables using different JOINS	<input type="checkbox"/>	<input type="checkbox"/>
18. Apply different SQL filters to produce organized data (e.g. HAVING, ORDER BY, GROUP BY, DISTINCT etc.)	<input type="checkbox"/>	<input type="checkbox"/>
19. Run UPDATE statement to update the existing records	<input type="checkbox"/>	<input type="checkbox"/>
20. Run INSERT statement to insert single or multiple records	<input type="checkbox"/>	<input type="checkbox"/>
21. Run DELETE statement to delete single or multiple records	<input type="checkbox"/>	<input type="checkbox"/>
22. Write store procedures	<input type="checkbox"/>	<input type="checkbox"/>
23. Define/Code functions for database	<input type="checkbox"/>	<input type="checkbox"/>
24. Use aggregate functions with SELECT clause	<input type="checkbox"/>	<input type="checkbox"/>
25. Install database management system	<input type="checkbox"/>	<input type="checkbox"/>
26. Install the database servers	<input type="checkbox"/>	<input type="checkbox"/>
27. Develop processes for optimizing database security	<input type="checkbox"/>	<input type="checkbox"/>
28. Set/Maintain database standards	<input type="checkbox"/>	<input type="checkbox"/>
29. Manage database access controls	<input type="checkbox"/>	<input type="checkbox"/>
30. Install database applications	<input type="checkbox"/>	<input type="checkbox"/>
31. Upgrade database applications	<input type="checkbox"/>	<input type="checkbox"/>
32. Manage database applications	<input type="checkbox"/>	<input type="checkbox"/>
33. Troubleshoot database errors	<input type="checkbox"/>	<input type="checkbox"/>
34. Create automation for repeating database tasks	<input type="checkbox"/>	<input type="checkbox"/>
35. Export the database backups	<input type="checkbox"/>	<input type="checkbox"/>
36. Restore database backups	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____ Assessor's Signature _____

Date: _____

Observation Checklist

Assessment Task		<ul style="list-style-type: none"> • Design the Database • Manipulate the Database • Administrate the Database 		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Organize the required information			
2.	Gather all types of information which needs to be recorded in the database			
3.	Divide the information into tables			
4.	Divide information items into major entities			
5.	Covert logical design to physical design			
6.	Turn information items into columns			
7.	Specify primary keys			
8.	Choose each table's primary key			
9.	Set up the table relationships			
10.	Analyze the design for errors.			
11.	Apply the normalization rules			
12.	Apply the data normalization rules to see if the tables are structured correctly			
13.	Create database			
14.	Create table			
15.	Create views			
16.	Run SELECT statement with single table			
17.	Use SELECT statement with multiple tables using different JOINS			
18.	Apply different SQL filters to produce organized data (e.g. HAVING, ORDER BY, GROUP BY, DISTINCT etc.)			
19.	Run UPDATE statement to update the existing records			

20.	Run INSERT statement to insert single or multiple records			
21.	Run DELETE statement to delete single or multiple records			
22.	Write store procedures			
23.	Define/Code functions for database			
24.	Use aggregate functions with SELECT clause			
25.	Install database management system			
26.	Install the database servers			
27.	Develop processes for optimizing database security			
28.	Set/Maintain database standards			
29.	Manage database access controls			
30.	Install database applications			
31.	Upgrade database applications			
32.	Manage database applications			
33.	Troubleshoot database errors			
34.	Create automation for repeating database tasks			
35.	Export the database backups			
36.	Restore database backups			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	Full Stack Developer (Mobile App, Web and Game Development)
Competency Standard	Program a Database (Using SQL, MySQL, SQLite, and PostgreSQL)
Purpose of Assessment	Formative 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: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

	Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)	Satisfactory	Not Satisfactory
1.	Name any three crud operations. 		
2.	Differentiate between Primary key and foreign key. 		
3.	Identify any two types of relationships in database. 		

