 **COMSATS University Islamabad Lahore Campus**

DWDM Mid Lab Exam Semester SP22-BCS Total Marks 50

**CLO -5 Applying: Perform the data warehousing, OLAP and data mining tasks using modern tools.**

**Important instructions:**

**• Please save your project with Registration # in proper format (SP22-BCS-\_\_\_) and upload it on**

**google classroom.**

**Introduction to Adventure Works DW**

Adventure Works Cycles is a large multinational bicycle manufacturer, with headquarters located in

Bothell, Washington. The company has approximately 300 employees, 29 of which are sales

representatives. The primary distribution channel for Adventure Works Cycles through the retail stores of

their resellers. These resellers are located in Australia, Canada, France, Germany, the United Kingdom,

and the United States. Adventure Works Cycles also sells to individual customers worldwide by means of

the Internet.

Adventure Works Cycles has five major product offerings:

Bikes – Three primary bike product lines: Mountain, Road, and Touring.

Accessories – Examples include helmets and water bottles.

Clothing – Examples include jerseys and biking shorts.

Components – Examples include bottom brackets and frames.

Services – Examples include premium service and standard service.

The sequence of steps that need to be followed in this lab exam is

1. Understand the Adventure works database which will be used in this project.

2. Getting familiar with SQL Server Analysis Services tools.

3. The next step will be to come up with a list of questions: what questions need to be answered, what

metrics will help business managers monitor and grow the business.

4. Based on the business questions that need to be answered, data staging layer in a star schema format

will be designed.

5. Then the cube will be built to extract data from the Star schema staging layer.

**You will be using Following tables at minimum. In your solution you will rename each table and will put Group Leader Reg No at start of table name like you will rename DimProduct as DimProductSP22BCS034**

* FactCallCenter
* Fact Internet sales
* Fact Reseller Sales
* FactSalesQuota
* FactProductInventory
* FactFinance
* Dim Product
* Dim Date
* Dim Customer
* DimSalesTerritory
* DimGeography
* DimEmployee
* DimSalesReason

1. **You are required to Construct an Analysis Services Project in Microsoft Visual Studio for Cube deployment and analysis using Browser and Microsoft Excel. The cube you create in this assignment is based on Adventure Works DW. [10] [CLO-5: Applying]**
2. **Construct a hierarchy of sales territory and Geography separately then apply this hierarchy to compare Sales under different salesReasonType using DimSalesReason Assess the values for Promotion and Marketing Reason Type (Use appropriate relationship type for its creation) [10] [CLO-5: Applying]**
3. **Construct a date Hierarchy for Calendar year, semester, quarter, month and date then use this hierarchy to estimate SalesAmount, TotalProductCost and product Units Balance available in inventory on different dates. [10] [CLO-5: Applying]**
4. **Compute inventory balance using FactProductInventory balance of a Product Subcategory according to following rule and show the value. [10] [CLO-5: Applying]**

**Product Subcategory number you will use for retrieval of inventory balance should match with the last digit of your Reg no**

1. **Use FactSalesQuota table to determine SalesamountQuota of top 10 employees and list their names [10] [CLO-5: Applying]**

**Note:**

**You have to upload your analysis services project file. Also take screenshot of every task performed and prepare a word document and submit it in Google Classroom**