Bharati Vidyapeeth's
Institute of Computer Applications and Management
A-4, Paschim Vihar, New Delhi-63.
MCA – IV Semester First Internal
Data warehousing and data mining (MCA 204)

Note: Attempt all Questions. Marks are indicated against them.

Max. Marks: 45   *Max. Time: 02 Hrs.*

Q1. Answer any **seven** of the following including part i.   (3+2*6 =15)

     i.   Explain data granularity in a data warehouse and how is it applicable to the data warehouse.
     ii.   Why is data portioning important in data warehouse design
     iii.   'Data warehouse is non-volatile' .Explain.
     iv.   What is the importance of data staging component?
     v.   What is multidimensional database?
     vi.   What type of processing take place in data warehouse?
     vii.   What are advantages and disadvantages of using top-down approach for building a data warehouse
     viii. Differentiate between slowly changing and rapidly changing dimension with example
     ix.   Explain briefly the significance of JAD techniques.
     x.   A dimension table is wide; the fact table is deep. Justify.
     xi.   Are junk dimensions necessary in a data warehouse?

Q2.   Answer any **three** of the following.   (5*3=15)

     i.   Why is entity relationship modeling technique not suitable for the data warehouse? How is dimensional modeling different? Explain with example
     ii.   Explain Information Package diagram. Make information package diagram for promotion analysis system.
     iii.   Describe at least five differences between operational and informational systems
     iv.   What are three major types of metadata in a data warehouse. What is the significance of different type of meta data in data warehouse.

Q3.   Answer any **three** of the following.   (5*3=15)

     i.   Explain Type-2 updates to dimension table with example. Draw and explain building blocks of data warehouse.
     ii.   What are aggregated fact tables? Explain One, Two and Three way Aggregated fact table with the help of an example. Also explain how aggregation can speed up analysis
     iii.   What is STAR schema? For a manufacturing company design a family of three STARS to support the value chain.
     iv.   What is Schema? Explain and compare Star and Snow Flake Schema for sales department of LG Electronics Ltd. with the dimensions: time, Branch, Item location, city and supplier.