

FIGURE 1 ACF plot of demand for Omelette at DAD hospital.

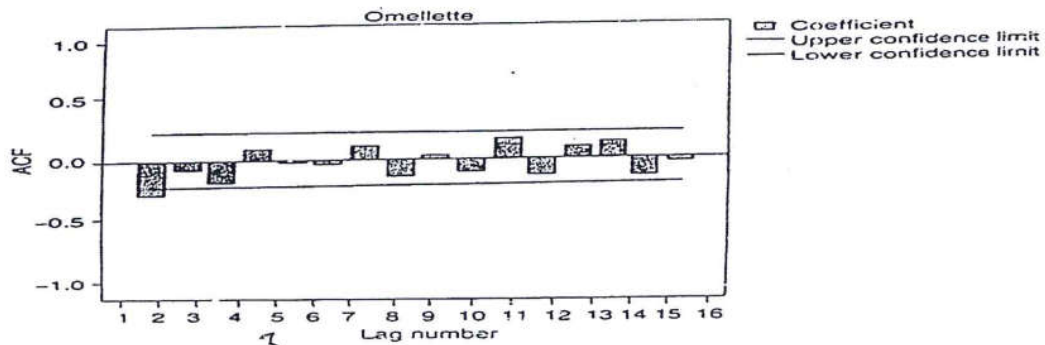


FIGURE 2 ACF plot of demand for Omelette after differencing ($d = 1$).

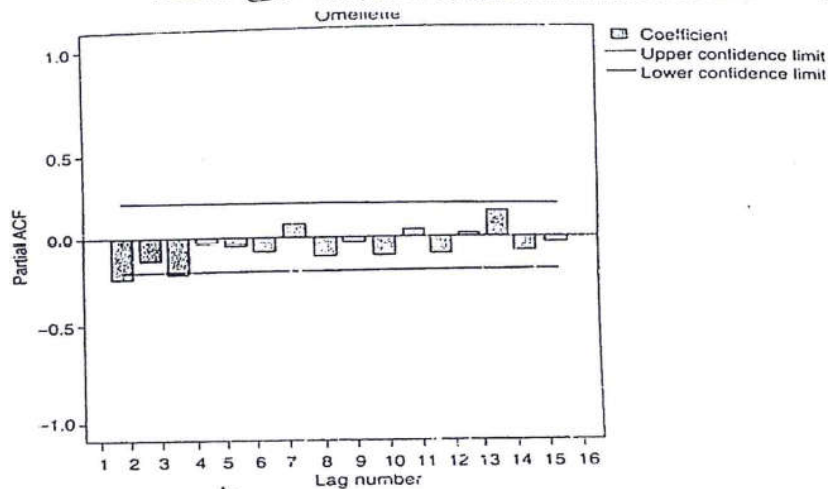


FIGURE 3 PACF plot of demand for Omelette after differencing ($d = 1$).

c Explain in detail AR Model Identification using ACF and PACF.

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4a Briefly explain two basic architecture for a recommendation system.

6

b Derive the equation for support vectors H_1 and H_2 (Hyperplanes) for SVM.

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Class-Labeled Training Tuples from the *AllElectronics* Customer Database

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i. Compute Gini index for impurity of D .

5a. A meteorologist studying the weather in a region decides to classify each day as simply sunny or cloudy. After analyzing several years of weather records, he finds:

- the day after a sunny day is sunny 80% of the time, and cloudy 20% of the time; and
- the day after a cloudy day is sunny 60% of the time, and cloudy 40% of the time

- i. Setup a Markov Chain to model this process.
- ii. Write a transition matrix

b	What are the research Studies to detect relationships
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c	Compute the stationary distribution for the transition matrix
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$$P = \begin{pmatrix} 0.9 & 0.7 & 0.8 \\ 0.05 & 0 & 0 \\ 0.05 & 0.3 & 0.2 \end{pmatrix}$$