Recommender Systems
Assignment- Week 7
TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10   **Total marks: 20**

QUESTION 1:

Which of the following evaluation approach does not require participation from real users?

     a) Online experiment
     b) Offline experiment
     c) Real-time experiments
     d) User studies

Correct Answer: b

Explanation: Refer to Week 7 lecture 1 slide 5

QUESTION 2:

Which of the following may introduce systematic bias in the result while conducting offline experiments.

     a) pre-filter the data by excluding items or users with low counts, in order to reduce the costs of experimentation
     b) Randomization in choice
     c) Bias on the rating data
     d) All of the above

Correct Answer: d

Explanation: Refer to Week 7 lecture 1 slide 8

QUESTION 3:

Random subsampling is a variation of the _____ method in which the method is repeated k times. The overall accuracy estimate is taken as the _____ of the accuracies obtained from each iteration.

      a) K-fold cross validation, mode

      b) holdout, average

      c) Leave-one-out Cross-validation, average

      d) Bootstrap, mode

Correct Answer: b

Explanation: Refer to Week 7 lecture 2 slide 6

QUESTION 4:

In _____ method each sample is used the same number of times for training and once for testing?

      a) holdout random subsampling

      b) random subsampling

      c) cross validation

      d) bootstrapping

Correct Answer: c

Explanation: Refer to Week 7 lecture 2 slide 12

QUESTION 5:

The Good Predicted Item MAE (GPIM) in recommender systems is a measure of _____.

      a) MAE for relevant items for a group of users

      b) MAE for relevant items

      c) MAE for the recommended items

      d) MAE only

Correct Answer: c

Explanation: Refer to Week 7 lecture 3 slide 8

QUESTION 6:

_____ curves emphasize the proportion of recommended items that are preferred while _____ curves emphasize the proportion of items that are not preferred that end up being recommended

      a) Receiver Operating Characteristic, Precision-recall
      b) Precision-recall, Receiver Operating Characteristic
      c) Precision, recall
      d) F1, False positive

Correct Answer: b

Explanation: Refer to Week 7 lecture 3 slide 10

QUESTION 7:

During a user study 20 persons participated. One of the questions asked to them was whether the recommendations are relevant to them or not. While 12 said yes, 8 said know. Based on this sample you would like to know whether the recommendation would be appreciated by the target population. The methodology for these belong to _____.

      a) Descriptive statistics
      b) Inferential statistics
      c) Exploratory statistics
      d) Small sample statistics

Correct Answer: b

Explanation: Refer to Week 7 lecture 4 slide 3-6

QUESTION 8:

During a user study 20 persons participated. One of the questions asked to them was whether the recommendations are relevant to them or not. They answered in a continuous scale of 1-5. Which of the following statistic can be used to find whether the recommendation would be appreciated by the target population. Please note that a person likely to like the item if the value is 4 or above. Assuming sample mean as μ, the null hypothesis H_0 here is

      a) H_0: $\mu = 20$

b) H_0: $\mu = 1$

c) H_0: $\mu = 5$

d) H_0: $\mu = 4$

Correct Answer: d

Explanation: Refer to Week 7 lecture 4 slide 13-22

QUESTION 9:

For conducting t-test you need to know the _____ mean and _____ standard deviation

    a) population, population

    b) population, sample

    c) sample, population

    d) Determine the test statistic, Determine the rejection region of null hypothesis choosing a level of significance, Make the decision, Formulate the null and alternative hypothesis

Correct Answer: b

Explanation: Refer to Week 7 lecture 5 slide 5

QUESTION 10:

To test the claim that mean values of three or more population are equal, which of the following test would be most appropriate

    a) Single-sample t test

    b) Paired-samples t test

    c) Independent sample t test

    d) Analysis of variance (ANOVA)

Correct Answer: d

Explanation: Refer to Week 7 lecture 5 slide 12