

## Model Development Phase Template

|               |                                  |
|---------------|----------------------------------|
| Date          | 02 June 2025                     |
| Name          | Prachi Mohan Patil               |
| Project Title | Restaurant Recommendation System |
| Maximum Marks | 10 Marks                         |

### Initial Model Training Code, Model Validation and Evaluation Report

#### Initial Model Training Code (5 marks):

```
from sklearn.feature_extraction.text import CountVectorizer
from sklearn.feature_extraction.text import TfidfVectorizer
df_percent.set_index('name', inplace=True)
indices = pd.Series(df_percent.index)

# Creating tf-idf matrix
tfidf = TfidfVectorizer(analyzer='word', ngram_range=(1, 2), min_df=0, stop_words=None)
tfidf_matrix = tfidf.fit_transform(df_percent['reviews_list'])

cosine_similarities = linear_kernel(tfidf_matrix, tfidf_matrix)
```

#### Model Validation and Evaluation Report (5 marks):

| Model   | Summary                      | Training and Validation Performance Metrics  |
|---------|------------------------------|--|
| Model 1 | Content-based Recommendation | <p><b>Training Metrics</b> -None (unsupervised, no explicit training phase)</p> <p><b>Validation Metrics</b> - None (recommendations are inspected manually)</p> |