Answers

Section I: Database Design

For the given requirement, I will create the following collections:

1. restaurants collection
2. reviews collection

- restaurants collection →

Attribute	Data Type
_id	ObjectId
name	string
address	string
description	string

- reviews collection →

Attribute	Data Type
_id	ObjectId
restaurantId	ObjectId
rating	number
reviewText	string

The restaurants and reviews collections will be related to each other at the database level by the restaurantId attribute in the reviews collection, which will reference the _id attribute in the restaurants collection.

2. How the model is connected→ code is available in models folder.

3. For Admin analytics

```
import {restaurantModel} from '../models/restaurant_model';
import { messages } from '../utils/messages';

export const getAnalytics= async()=>{
    try {
        const restaurants = await restaurantModel.aggregate([
          {
            $lookup: {
              from: 'reviews',
              localField: '_id',
              foreignField: 'restaurantId',
              as: 'restaurantReviews',
            },
          },
          {
            $group: {
              _id:'$_id',
              restaurantId:{$first:'$_id'},
              name:{$first:'$name'} ,
              reviewCount: { $sum:{$size:'$restaurantReviews'}
            } ,
            },
          },
          {
            $project: {
              _id:0,
              ID: '$restaurantId',
              RestaurantName: '$name',
              TotalReviews:'$reviewCount'
            },
         },
        ]);
        return restaurants;
}
catch(error){
  throw new Error(messages.ERROR_FETCHING_DATA);
}
}
```

Section II

Restful API design

HTTP Verb	**API Endpoint**	**Brief Description**
GET	/restaurants	Get a list of all restaurants
GET	/restaurants/:_id	Get the details of a single restaurant, including all reviews
POST	/restaurants/:_id/review	Submit a review with rating for a restaurant
POST	/restaurants/post	Save a new restaurant
GET	/admin/analytics	Get analytics of all available restaurants for admin

Section III → ES6 Basics

1.
   ```
   const result1 = a.filter((_, index) => index % 2 === 0);
   ```
2.
   ```
   const result2 = a.map(x => x * x);
   ```
3.
   ```
   const result3 = a.filter((_, index) => index % 2 === 0).map(x => x * x);
   ```