|  | **PES University, Bengaluru**  (Established under Karnataka Act No. 16 of 2013) | | **UE20CS906** |
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| **August 2024: END SEMESTER ASSESSMENT (ESA)**  **M TECH DATA SCIENCE AND MACHINE LEARNING\_ SEMESTER I**  **UE20CS906 - Data Visualization using Tableau** | | | |
| Time: 3 Hrs | | Answer All Questions | Max Marks: 100 |
| **Instructions** | | | |
| * All questions are compulsory. * Please enter your Name and SRN number at the beginning of the .twbx file. * The compressed file to be uploaded in Olympus should be a .twbx file. Any other file types will not be considered for evaluation | | | |

|  |  | **Using ‘Most Streamed Spotify Songs 2024.csv ’ dataset; answer the following questions.** |  |
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|  |  | **Dataset Description:** This dataset contains detailed information about the most streamed songs on Spotify in 2024. Below is a description of each field in the dataset:   * Track: Name of the song. * Album Name: Name of the album the song belongs to. * Artist: Name of the artist(s) of the song. * Release Date: Date when the song was released. * ISRC: International Standard Recording Code for the song. * All Time Rank: Ranking of the song based on its all-time popularity. * Track Score: Score assigned to the track based on various factors. * Spotify Streams: Total number of streams on Spotify. * Spotify Playlist Count: Number of Spotify playlists the song is included in. * Spotify Playlist Reach: Reach of the song across Spotify playlists. * Spotify Popularity: Popularity score of the song on Spotify. * YouTube Views: Total views of the song's official video on YouTube. * YouTube Likes: Total likes on the song's official video on YouTube. * TikTok Posts: Number of TikTok posts featuring the song. * TikTok Likes: Total likes on TikTok posts featuring the song. * TikTok Views: Total views on TikTok posts featuring the song. * YouTube Playlist Reach: Reach of the song across YouTube playlists. * Apple Music Playlist Count: Number of Apple Music playlists the song is included in. * AirPlay Spins: Number of times the song has been played on radio stations. * SiriusXM Spins: Number of times the song has been played on SiriusXM. * Deezer Playlist Count: Number of Deezer playlists the song is included in. * Deezer Playlist Reach: Reach of the song across Deezer playlists. * Amazon Playlist Count: Number of Amazon Music playlists the song is included in. * Pandora Streams: Total number of streams on Pandora. * Pandora Track Stations: Number of Pandora stations featuring the song. * Soundcloud Streams: Total number of streams on Soundcloud. * Shazam Counts: Total number of times the song has been Shazamed. * TIDAL Popularity: Popularity score of the song on TIDAL. * Explicit Track: Indicates whether the song contains explicit content. |  |
| **1** | **a)** | How do the Spotify streams vary by artist?(Ignore Nulls) | 5 |
| **b)** | What are the top 10 albums Played on apple music? | 5 |
| **c)** | Show Comparison of track in Amazon Playlist vs Apple Music Playlist. | 5 |
| **d)** | Create a Tableau visualization that displays the total TikTok likes and differentiate it by artist using color coding. (Only for top 10 Artist) | 5 |
|  | | | |
| **2** | **a)** | Show How Airplay spins Vary across year using trend line or line chart | 6 |
| **b)** | Show the number of TikTok posts across different months (use the Release Date field). | 7 |
| **c)** | Compare TikTok Likes, TikTok Posts, Youtube Likes for Artist Akon, Ariana Grande,Bruno Mars, and Ed Sheeran | 7 |
|  | | | |
| **3** | **a)** | Create a calculated field to find out the total number of songs with more than 500 million(500000000) Spotify streams for each artist. | 10 |
| **b)** | Create a heatmap/TreeMap to show the correlation between Spotify streams and YouTube views for each track. | 10 |
|  | | | |
| **4** | **a)** | Create a scatter plot that shows the relationship between Spotify streams and YouTube views for the top three artists with the highest number of Spotify streams. Use different colors for each artist to differentiate them. | 10 |
|  | | | |
| **5** | **a)** | Create a storyboard using all the visuals you created. Explain your insights through story points. (Write your insights in Caption) | 30 |