**Table: Comparison of SVM and BERT Responses and Relevance**

| **#** | **Query** | **SVM Response** | **BERT Response** | **Relevance** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1 | Who is the Head of Department of ECE? | You can reach out to **Dr. A. Rajani**, the HOD of ECE, for any concerns related to the department. | The Head of Department of ECE at JNTUH is **Dr. A. Rajani**. | High | BERT provides the direct answer, SVM provides the contact information, indicating a level of context understanding. |
| 2 | List the professors of the Computer Science and Engineering department | The professors in the Department of Computer Science and Engineering at JNTUH are: - **Dr. K P Supreethi**, Professor and Head of the Department - **Prof. V Kamakshi Prasad**, Senior Professor ... (List truncated for brevity) | The professors in the Department of Computer Science and Engineering at JNTUH are:\n\n- **Dr. K P Supreethi**, Professor and Head of the Department\n- **Prof. V Kamakshi Prasad**, Senior Professor\n... (List truncated for brevity) | High | Both models correctly provide a comprehensive list. |
| 3 | What is the scholarship amount for the M.Tech program for SC category students? | The available M.Sc programs at JNTUH include M.Sc in Physics, M.Sc. in Mathematics and M.Sc. in Chemistry. | JNTUH offers the following Master of Science (M.Sc) programs:\n\n\* M.Sc. in Chemistry\n\* M.Sc. in Physics\n\* M.Sc. in Mathematics | Low | Both models provide the wrong answer, indicating problems with specific scholarship types. |
| 4 | Where is JNTUH located? | The JNTUH website contains links to admission forms, brochures, and other relevant information that students can refer to while applying. | JNTUH is located in Kukatpally, Hyderabad, Telangana. The full address is Jawaharlal Nehru Technological University Hyderabad, Kukatpally, Hyderabad, Telangana – 500085, India. | Medium | SVM provides indirectly relevant details. BERT gives the specific and accurate answer. |
| 5 | What is the email address for the library? | For any issues or queries regarding library resources, you may contact the library help desk. | You can contact the library by email at [email protected] or by phone at [phone number]. | High | BERT provides placeholder info. SVM gives a generalized response, indicating an understanding of the intent. |
| 6 | What are the M.Tech specializations in ECE at JNTUH? | Specialized BTech courses offered by JNTUH are Computer Science and Machine Learning, and Computer Science and Cyber Security. | The intake for M.Tech ECE is typically around 25 students per specialization. | Low | Both models provide incorrect info, showing poor understanding of the correct MTech course. |
| 7 | Who are the faculty members of the Civil Engineering department? | Here are the names of the professors in the Civil department: **Dr B Dean Kumar**, **Dr G K Viswanadh**, **Dr M Padmavathi**... (List truncated for brevity) | The Professors in the Department of Civil Engineering at JNTUH are:\n\n- **Dr B Dean Kumar**, **Dr G K Viswanadh**, **Dr M Padmavathi**... (List truncated for brevity) | High | Both models identify this as a list of members in the Civil Engineering department. SVM provides an incomplete list, while BERT returns a more comprehensive list. |
| 8 | How can I apply for JNTUH admissions? | Generally, the admissions process involves registering online, filling out an application form, and submitting required documents. For detailed steps, check the specific admission portal for the desired course. | The main website for JNTUH is jntuh.ac.in. From there, you can find links to the admissions portal and related information. | High | Both models offer correct information, but BERT is more specific. |
| 9 | What is the course duration of the IDDMP program? | The **duration of the IDDMP course** is **5 years**, with a portion of the program conducted internationally for valuable global exposure. | The course duration of IDDMP is **5 years**. | High | Both models correctly specify the duration. |
| 10 | What types of B.Tech programs are offered at JNTUH? | There are 9 departments in BTech at JNTUH. | JNTUH offers a variety of Bachelor of Technology (B.Tech) programs. | High | Both models provide accurate information. However, BERT's response is more comprehensive in its general phrasing. |
| 11 | Are there any student clubs at JNTUHCEH? | The student clubs at JNTUHCEH offer a platform for students to explore their interests, develop skills, and engage in extracurricular activities. They enrich campus life and provide opportunities for networking and collaboration. | JNTUHCEH has a variety of student clubs catering to different interests, including technical, cultural, and sports-related activities. These clubs provide a platform for students to explore their passions and develop their skills. | High | Both responses are correct, but BERT is more descriptive and mentions the different types of clubs. |
| 12 | What kind of equipment is available in the EEE labs? | The EEE department has various labs catering to the current industry needs with proper infrastructure. | The EEE department is equipped with a variety of laboratories to support different areas of electrical and electronics engineering. | High | Both responses are correct, but BERT is slightly more specific and descriptive. |
| 13 | Am I eligible for the National Scholarship Portal scholarship? | To apply for a scholarship on the NSP portal, you will need to create an account, complete your profile, and submit the application along with supporting documents. | The National Scholarship Portal (NSP) is a one-stop platform for various scholarships offered by the Indian government. | High | Both models have difficulty extracting a specific eligibility criteria. Both responses are still relevant to the query. |
| 14 | How can I apply for the Prathibha Scholarship, and what is the last date? | Prathibha Scholarship renewal depends on maintaining satisfactory academic performance and fulfilling other specified conditions. | The Prathibha Scholarship is a merit-based financial assistance program aimed at supporting talented students from economically weaker sections to pursue higher education. | Medium | Both the responses don't fully address the prompt by missing the application process and details for deadlines. |
| 15 | Tell me about the placements in CSE, are there many companies that visit? | Many reputed companies across various sectors recruit from JNTUHCEH. These include both IT and core engineering companies. | Many reputed companies across various sectors recruit from JNTUHCEH. These include both IT and core engineering companies. The placement cell actively coordinates with companies and conducts placement drives. | High | Both provide a general answer. BERT's response is slightly more informative regarding placement drives. |

Analysis:

* Accuracy: BERT demonstrates higher accuracy in correctly answering questions across various categories, particularly in providing specific information (e.g., HOD name, location, duration).
* Relevance: While both models provide mostly relevant responses, BERT's responses are consistently more specific and tailored to the context of the question. BERT can also handle multi-step queries better than SVM.
* Contextual Understanding: BERT’s ability to handle context is more pronounced when the questions are open-ended or complex (e.g., "Tell me about placements in CSE"). It can provide more detailed responses based on information within the dataset. SVM provides a more generalized responses.
* Failure Scenarios: Both models struggled with questions about the scholarship amount or details for specific schemes. This could be due to the lack of diverse patterns and response content available in the training data for these specific intents. This calls for more addition of data in these tags.
* Generalization: BERT shows a better understanding of a broader set of related inquiries. SVM struggles with more complex questions with varied phrasing.