Bangalore Mathematical Institute
Faculty of Mathematics

PUC II Syllabus – Slip Test #1
Faculty:G Ekaveera Kumar

Topic: Part Syllabus Test

2020/12/07

Name: Gowtham _____
Student Number: Class 12 _____

- Answer all questions.
- Do the calculations properly and avoid losing credits.
- Read the question properly.
- Time for the exam is 90 minutes.
- Do not give approximate answers.
- Write the answers only in a plain paper and send it for evaluation.
- All the Best.

1. Using adjoint method, find the inverse of the matrix

$$A = \begin{bmatrix} 2 & -3 & 7 \\ 5 & 4 & 3 \\ 6 & 2 & 1 \end{bmatrix}$$

2. Evaluate the integral

$$\int \frac{2x+3}{x^2+7x+1}\,dx$$

3. Evaluate

$$\int \frac{\cos(2x)-\cos(2a)}{\cos x-\cos a}\,dx$$

where a is a constant.(Appeared in PUC 2015)

4. If

$$A=\begin{bmatrix}-2\\4\\5\end{bmatrix},\ B=[1\ \ 3\ \ -6]$$

Then verify that

$$(AB)^T=B^TA^T$$

(Appeared in PUC 2016)

5. Evaluate

$$\int \sqrt{x^2-8x+7}\,dx$$