

SRI GURU TEGH BAHADUR KHALSA COLLEGE
North Campus, University of Delhi-110007

Academic Calendar July-Dec 2016

Total Days : 100

Holidays : 8

Total Teaching Days : 92

Semester Break: 11th – 16th October 2016

Week	Dates	Number of working days	List of holidays
1.	20/07/2016-23/07/2016	4	
2.	25/07/2016-30/07/2016	6	
3.	01/08/2016-06/08/2016	6	
4.	08/08/2016-13/08/2016	6	
5.	16/08/2016-20/08/2016	5	15 th August(Independence day)
6.	22/08/2016-27/08/2016	5	25 th August (Janmashtami)
7.	29/08/2016-03/09/2016	6	
8.	05/09/2016-10/09/2016	6	
9.	13/09/2016-17/09/2016	5	12 th September(Id-ul- Zuha)
10.	19/09/2016-24/09/2016	6	
11.	26/09/2016-01/10/2016	6	2 nd October(Gandhi Jayanti)
12.	03/10/2016-08/10/2016	6	
13.	10/10/2016-15/10/2016	1	11 th October(Dussehra) 12 th October(Muharram) 14 th October(Guru Nanak Birthday)
14.	17/10/2016-22/10/2016	6	
15.	24/10/2016-29/10/2016	6	30 th October (Diwali)
16.	31/10/2016-05/11/2016	6	
17.	07/11/2016-12/11/2016	6	

Teaching Schedule (July- December 2016)

Teacher: S.K.Bhatia

Department: Mathematics

Course: B.Sc.(H) Maths

Subject: C1 Calculus

Semester: 1

Text Books

[1] Calculus (Third Edition), by M.J.Strauss G.L.Bradley & K.J.Smith.

[2] Calculus(seventh Edition), by H.Anton, I.Bivens & S.Davis.

[3] Differential Calculus by Shanti Narayan.

Week	Topics to be covered	Remarks
1.	<ul style="list-style-type: none"> ▪ Conic section ▪ Techniques of sketching conics, reflection Properties of conic. 	[2] <ul style="list-style-type: none"> • Chapter 11 • Section 11.4 • Exclude Questions 51-61,69-71,77,78 • Assignment-1
2.	<ul style="list-style-type: none"> ▪ Rotation of axis & second degree equation. ▪ Classification into conics using discriminant. 	[2] <ul style="list-style-type: none"> • Chapter 11(Section 11.5) • Do questions 1-17,23-27 • Test-1
3.	<ul style="list-style-type: none"> ▪ Hyperbolic functions. 	[2] <ul style="list-style-type: none"> • Chapter -7 (Section 7.8) • Only definitions.
	<ul style="list-style-type: none"> ▪ Higher order derivatives, applications of Leibnitz rule. 	[3] <ul style="list-style-type: none"> • Pages 211-230 • Assignment-2
4.	<ul style="list-style-type: none"> ▪ The first derivative test ,concavity & inflection points. ▪ Second derivative test, curve sketching using first & second derivative test 	[1] <ul style="list-style-type: none"> • Chapter 4(Section4.3) • Exclude Questions 13,15

5.	<ul style="list-style-type: none"> ▪ Limits at infinity, graphs with asymptotes 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 4(Section 4.4) • Exclude Questions 29 to 34, 43 to 46
6.	<ul style="list-style-type: none"> ▪ L'Hopital's Rule 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 4(Section 4.5) • Only the problems based on L'Hopital's rule are to be done
7.	<ul style="list-style-type: none"> ▪ Applications in business, economics and life sciences 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 4 (Section 4.7) • Test -2
8.	<ul style="list-style-type: none"> ▪ Parametric representation of curves and tracing of parametric curves. 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 9(Section 9.4)
	<ul style="list-style-type: none"> ▪ Polar coordinates and tracing of curves in polar coordinates. 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 11(Section 11.1) Questions 1-50
9.	<ul style="list-style-type: none"> ▪ Reduction formulas, derivations, and illustrations of reduction formulas of the type <ol style="list-style-type: none"> 1. $\int \sin^n x dx$ 2. $\int \cos^n x dx$ 3. $\int \sin^m x \cos^n x dx$ 4. $\int (\log x)^n dx$ 5. $\int \tan^n x dx$ 6. $\int \sec^n x dx$ 7. $\int \sin^m x \cos^n x dx$ 8. $\int \sin^m x \cos^n x dx$ 9. $\int \cos^m x \cos^n x dx$ 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 8 (Sections 8.2-8.3, pages 532-538) • Do these reduction formulae with limit also. • Assignment- 3
10.	<ul style="list-style-type: none"> ▪ Volumes by slicing, disks and washers method 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 6(Section 6.2) • Test-3
11.	<ul style="list-style-type: none"> ▪ Volume by cylindrical shells 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 6(Section 6.3)
12.	<ul style="list-style-type: none"> ▪ Arc Length ▪ Arc length of parametric curves 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 6(Section 6.4)
13.	<ul style="list-style-type: none"> ▪ Area of surface of revolution 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter 6(Section 6.5)

14.	<ul style="list-style-type: none"> ▪ Introduction to vector functions and their graphs, operations with vector valued function, limits and continuity of a vector functions, differentiation and integration of vector functions. 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 10 • (Section 10.1) Exclude questions 33 to 42 • Section 10.2 • Assignment-4
15.	<ul style="list-style-type: none"> ▪ Modeling ballistics and planetary motion. ▪ Kepler`s second law. 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 10 (Section10.3) • Exclude Questions 23,24,26,27,28,34
16.	<ul style="list-style-type: none"> ▪ Curvature 	<p>[2]</p> <ul style="list-style-type: none"> • Chapter13 • (Section13.5) • Test-4
	<ul style="list-style-type: none"> ▪ Tangential and normal components of acceleration. 	<p>[1]</p> <ul style="list-style-type: none"> • Chapter 10 (Section10.4) • Exclude Questions 22,23,25,26,27
17.	<ul style="list-style-type: none"> ▪ Problems and Examples ▪ Revision 	

NOTE : Problems based on Computer Aided Software, Modelling problems & Exploration problems given in the prescribed syllabus books should not be done.