Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	**S1-BCAC1G**	
2	**Course Title**	Computational Mathematics	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Elective	
4	**Pre-Requisite (if any)**	Students must have basic analytical aptitude.	
5	**Course Learning outcomes (CLO)**	On Successful completion of the course the students shall be able to: • Implement trigonometric solutions for measurements in real world scenarios. • Implement matrices and simultaneous equations to solve complex problems. • Use statistical tools efficiently. • Use mathematical logic and predicate calculus for solving problems. • Apply the concepts of set theory for finding solutions to set related problems.	
6	**Credit Value**	**Theory – 6 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course

No. of Lectures (in hours per week) : 3 Lectures per week

Total no. of Lectures: 90 Hrs.

Unit	Topics	No. of Lectures
1	**Trigonometry:**Angles& their measurement, values of trigonometric Ratio height and distances, Elementary matrices and types of matrices.	18
2	**Equations:** Simultaneous linear equations, methods of solving simultaneous equations, quadratic equations.	18
3	**Statistics:**Frequency distribution, measure of central tendency: Mean, Mode, Median. **Measure of Variation:** Mean deviation Standard Deviation.	18
4	**Mathematical Logic:**Statements and notations, connectives: Negation, conjunction, and disjunction, statement formulas and truth tables. Tautologies, Tautological implications, contradiction contingency.	18
5	**Set theory:** Basic concepts of set theory, notation, inclusion and equality of sets, the power set, types of sets, operations on set, Venn diagrams.	18

Part C- Learning Resources

Text Books, Reference Books, Other resources

Text Books:

- Business Mathematics S.M. Shukla, SahityaBhawan Publications.
- Business Mathematics D C Agrawal, Sreesaiprakshan.

- S.K. Sarkar: A Text book of discrete mathematics, S Chand, 2005.
- A Text Book of Discrete Mathematics, 9/E, Sarkar S.K. Chand New Delhi, 2016
- मध्य प्रदेश हिंदी ग्रंथ अकादमी से प्रकाशित विषय से संबंधित पुस्तकें

Reference Books:

- Fundamental of Statistics ELHANCE & ELHANCE, KitabMahal Publication.
- Mathematical Statistics, 8/E Ray and Sharma, Ram Prasad & Songs.
- Business Mathematics, J.K. Singh, Himalaya Publishing House, 2017.
- Business Mathematics, 9/E, Sancheti&Kapoor, Sultan Chand & Songs, 2014.
- Discrete Mathematics structures with application to computer sciences", Indian Ediion, J.P. Tremblay, R Manohar, McGraw Hill Education 2017.
- "Discrete Mathematical", 2/E, J.K. Sharma, Macmillan Publication, 2005.

Suggested digital platform web links:

https://freevideolectures.com/university/iit-roorkee/
https://highereducation.mp.gov.in/?page=xhzlQmpZwky1Qb%2Fy5G7w%3D%3D
https://epathshala.nceart.org.in/

Suggested equivalent online courses:

S.No.	Course Title	Duration	Provider
1	Algebra & Trigonometry	15 Week	Swayam
2	Mathematics	8 Week	Mitopen Courseware

Part D- Assessment and Evaluation

Internal Assessment: Continuous Comprehensive Evaluation (CCE) : 25 Shall be based on allotted assignments and class tests. The marks shall be as follows:		**External assessment: University exam (UE): 75 marks** **Time: 02.00 Hours**	
Assessment and presentation of assignment	**4 Marks**	**Section (A):** Three Very Short Questions (50 Words Each) Nine MCQ Questions	03 x 03 = 09 OR 09 x 01 = 9 Marks
Class Test I **(Objective Questions)**	**5 Marks**		
Class Test II **(Descriptive Questions)**	**8 Marks**	**Section (B):** Four Short Questions (200 Words Each)	04 x 09 = 36
Class Test III **(Based on OS commands)**	**8 Marks**	**Section (C):** Two Long Questions (500 Words Each)	02 x 15 = 30
Total	**25 Marks**	**Total**	75 Marks
Any remarks / suggestions:			

Part A Introduction

Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	**S1-BCAC2G**	
2	**Course Title**	Discrete Mathematics	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Elective	
4	**Pre-Requisite (if any)**	Open for all	
5	**Course Learning outcomes (CLO)**	The Course will enable the students: • Apply the Boolean algebra, switching circuits and their applications. • Minimize the Boolean function using Karnaugh Map. • Understand the lattices and their types. • Graphs, their types and its applications in study shortest path algorithms. • Test whether two Eulerian and Hamiltonian Graphs. • Understand Eulerian and Hamiltonian graphs. • Represent graphs using discrete numeric functions, generating functions and recurrence relations.	
6	**Credit Value**	**Theory – 6 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course

No. of Lectures (in hours per week) : 3 Lectures per week

Total no. of Lectures: 90 Hrs.

Unit	Topics	No. of Lectures
1	**Relations:**Binary, Inverse, Composite and Equivalence relation, Equivalence classes and its properties, partition of a set, partial order relation, partially ordered and totally ordered sets, Hasse diagram. **Lattices:** Definition and examples, Dual, bounded, distributive and complemented lattices.	**18**
2	**Boolean Algebra:** Definition and properties, Switching circuits and its applications, Logic gates and circuits. **Boolean functions:**Disjunctive and conjunctive normal forms, Bool's expansion theorem, Minimize the Boolean function using karnaugh Map.	**18**
3	**Graphs:**definition and types of graphs, sub graphs, Walk, path and circuit, connected and disconnected graphs, Euler graph,	**18**

	Hamiltonian path and circuit, Dijkstra's Algorithm for shortest paths in weighted graph.	
4	**Trees:**Definition and its properties, Rooted. Binary and spanning tree Rank and Nullity of graph, Kruskal's and Prim's Algorithm, Cut-set and its properties, Fundamental Circuit and Cut-set, planar graphs. **Matrix representation of Graphs:** Incidence, adjacency, circuit, Cut-set, path.	**18**
5	**Discrete numeric and generating functions:**Operations on numeric functions, asymptotic behavior of numeric functions, generating function. **Recurrence relations and recursive algorithms:** Recurrence relations, Linear recurrence relations with constant coefficients, Homogeneous solution, Particular solutions, Total solutions, Solution by the method of generating functions.	**18**

Keywords/Tags:
Relation, Hasse diagram, lattices, Boolean Algebra, Boolean function, Graph and Subgraph, path and circuit, Tree, spanning tree,, cut-set, matrix representation of graph, Discrete numeric function, Generating function, Recurrence relation, Recursive algorithm.

Part C- Learning Resources

Text Books, Reference Books, Other resources

Text Books:

- J.P. Tremblay and R. Manohar, Discrete Mathematical Structures with Applications to Computer science, McGraw Hill Education, 1st edition, 2017.
- C. L. Liu: Elements of Discrete mathematics, McGraw Hill Education, 4th edition 2017.
- NarsinghDeo: Graph Theory with Applications to Engineering and computer science, Prentice Hall India Learning Private Limited, 1979.
- मध्य प्रदेश हिंदी ग्रंथ अकादमी से प्रकाशित विषय से संबंधित पुस्तकें

Reference Books:

- Seymour Lipschutz and Mark Lipson: Discrete mathematics (Schaums Outline), McGraw Hill Education, 3rd Edition,2017.
- Edgar G. Goodaire and Michael M. Parmenter, Discrete Mathematics with Graph Theory, Pearson Education Pt.Ltd., Indian Reprint 2003.

Suggested digital platform web links:
https://highereducation.mp.gov.in/?page=xhzlQmpZwky1Qb%2Fy5G7w%3D%3D

Suggested equivalent online courses:
http://nptel.ac.in/course/111106086/
https://ugemoocs.inflibnet.ac.in/idndex.php/course/view_ug/311

Part D- Assessment and Evaluation

Suggest continuous evaluation methods:

Maximum Marks:	100
Continuous Comprehensive Evaluation (CCE)	25 Marks
University Exam (UE)	75 Marks

Internal Assessment:	Class Test	**15**
Continuous	Assignment	**10**

ComprehensiveEvaluation (CCE)	/Presentation	**Total marks: 25**	
External Assessment: University Exam (UE) Time: 02.00 Hours	**4 Marks**	**Section (A):**Three very Short Questions (50 Words Each)	03 x 03 = 09
		Section (B): Four Short Questions (200 Words Each)	04 x 09 = 36
		Section (C): Two Long Questions (500 Words Each)	02 x 15 = 30
			Total Marks:75

Part A Introduction			
Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	**S1-BCAD1G**	
2	**Course Title**	Numerical Methods	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Elective	
4	**Pre-Requisite (if any)**	Open for all	
5	**Course Learning outcomes (CLO)**	The Course will enable the students: • Understand numerical methods to find the solution of a system of linear equations • Compute interpolation value for real data. • Find quadrature by using various numerical methods. • Solve system of linear equations by using various numerical techniques. • Obtain solutions of ordinary differential equations by using numerical methods.	
6	**Credit Value**	**Theory – 6 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course

No. of Lectures (in hours per week) : 3 Lectures per week

Total no. of Lectures: 90 Hrs.

Unit	Topics	No. of Lectures
1	**Methods for solving Algebraic and transcendental Equations:**Bisection method, RegulaFalsi method, secant method, Newton-Raphson method, Ramanujan Method.	**18**
2	**Interpolation:** Lagrange interpolation, finite difference operators, Interpolation formula using difference, Gregory-Newton forward difference Interpolation, Gregory-Newton Backward difference interpolations.	**18**
3	**Numerical Integration:** Newton- Cote's formulae, Trapezoidal rule, Simpson's 1/3 rules, Simpson's 3/8 rule, Gauss integration.	**12**
4	**Methods of solve system of Linear equations:** Direct method for solving system of linear equations: Gauss elimination, LU decomposition, Cholesky decomposition. Iterative	**21**

	method: Jacobi, Gauss-Seidel.	
5	**Numerical solution of ordinary differential equations:** Single step methods: Picard, Taylor's series, Euler, Runge-Kutta. Multistep methods: predictor-Corrector, Modified Euler, Milne-simpson.	**21**

Keywords/Tags:
Algebraic and transcendental equations, interpolation, Numerical integration, Gauss elimination method, LU decomposition, Jacobi method, Gauss-seidel method, Picard method, Runge-Kutta method, Predictor-Corrector method, Milne-Simpson methods.

Remark: Scientific calculator will be allowed during examination.

Part C- Learning Resources

Text Books, Reference Books, Other resources

Text Books:

- S.S. Sastry: Introductory Methods of Numerical Analysis, Prentice Hall India Learning Private Limited, Fifth Edition, 2012.
- E. Balagurusamy:: Numerical Methods, Tata McGraw hill Publication, 2017.
- मध्य प्रदेश हिंदी ग्रंथ अकादमी से प्रकाशित विषय से संबंधित पुस्तकें

Reference Books:

- M.K. Jain, S. R. K. Iyengar, R.K. Jain, Numerical Method for Scientific and Engineering Computation, New Age Internationa (P) Ltd., 1999.
- Saxena H.C.: Finite Differences & numerical Analysis, S Chand, 2010.

Suggested digital platform web links:
https://epgp.inflibnet.ac.in
https://highereducation.mp.gov.in/?page=xhzlQmpZwky1Qb%2Fy5G7w%3D%3D

Suggested equivalent online courses:
http://nptel.ac.in/course/111106101/
http://nptel.ac.in/course/111106105/
http://nptel.ac.in/course/111106107/
https://ugemoocs.inflibnet.ac.in/idndex.php/course/view_pg/1476

Part D- Assessment and Evaluation

Suggest continuous evaluation methods:
Maximum Marks: 100
Continuous Comprehensive Evaluation (CCE) 25 Marks
University Exam (UE) 75 Marks

Internal Assessment: Continuous ComprehensiveEvaluation (CCE)	Class Test Assignment /Presentation	**15** **10** **Total marks: 25**

External Assessment: University Exam (UE) Time: 02.00 Hours	**4 Marks**	**Section (A):**Three very Short Questions (50 Words Each) **Section (B):** Four Short Questions (200 Words Each) **Section (C):** Two Long Questions (500 Words Each)	03 x 03 = 09 04 x 09 = 36 02 x 15 = 30 **Total Marks:75**

Part A Introduction			
Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	S1-BCAD2G	
2	**Course Title**	Probability and Statistics	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Elective	
4	**Pre-Requisite (if any)**	Open for all	
5	**Course Learning outcomes (CLO)**	The Course will enable the students: • Describe and calculate the mean deviation, standard deviation, range, quartiles and percentiles. • Understand and use the terminology of probability. • Determine whether two events are mutually exclusive and independent. • Calculate probabilities using the addition and multiplication rules. • Recognize and understand discrete and continuous probability distribution function, binomial, uniform and exponential probability distribution. • Calculate and interpret the correlation coefficient. • Understand basic concepts of linear regression and correlation. • Interpret the student's T probability distribution, chi-square goodness-of-fit, F and Z test.	
6	**Credit Value**	**Theory – 6 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course

No. of Lectures (in hours per week) : 3 Lectures per week

Total no. of Lectures: 90 Hrs.

Unit	Topics	No. of Lectures
1	**Theory of Probability - I:** Event and sample space, probability of an event, addition and multiplication theorem of probability, Inverse probability, baye's theorem. Continuous probability.	18
2	**Theory of Probability - II:** Probability density function and its applications, standard deviation	18

	of various continuous probability distributions, mathematical expectation, Expectation of sum and product of random variables.	
3	**Dispersion and Distribution:** Measure of dispersion: Range and interquartile range, Mean deviation and standard deviation, moments, Skewness and Kurtosis, Moment generating function. Theoretical distribution: Binomial, Poisson, Rectangular, Exponential.	**18**
4	**Curve fitting and correlation:** Methods of least squares, Curve fitting, Correlation and regression, Partial and multiple correlations (Up to three variables only)	**18**
5	**Sampling:** Sampling of large samples, Null and alternative hypothesis, Errors of first and second kinds, Level of significance and ciritical region, Tests of significance based on chi-squareχ^2. T, F and Z distribution.	**21**

Keywords/Tags:
Probability, Dispersion, Moment generating function, Theoretical distribution, Curve fitting, Correlation, Regression, Sampling.

Remark: Scientific calculator will be allowed during examination.

Part C- Learning Resources

Text Books, Reference Books, Other resources

Text Books:

- H.C. Saxena and J.N. Kapoor: Mathematical Statistics, S. Chand and Company, 2010.
- E, Rukmangadachari: Probability and statistics, Pearson Education India: First edition, 2012.
- मध्य प्रदेश हिंदी ग्रंथ अकादमी से प्रकाशित विषय से संबंधित पुस्तकें

Reference Books:

- Vijay K. Rohatgi, A.K. Md. EhsanesSaleh: An Introduction to probability and statistics, Wiley: 3rd edition, 2015.
- S. C. Gupta and V.K. Kapoor: Fundamentals of Mathematical Statstics, Sultan Chand & sons, 2014.

Suggested digital platform web links:
https://highereducation.mp.gov.in/?page=xhzlQmpZwky1Qb%2Fy5G7w%3D%3D

Suggested equivalent online courses:
http://nptel.ac.in/course/111106112/
http://nptel.ac.in/course/111105090/
https://ugemoocs.inflibnet.ac.in/idndex.php/course/view_ug/313
https://ugemoocs.inflibnet.ac.in/idndex.php/course/view_ug/327

Part D- Assessment and Evaluation

Suggest continuous evaluation methods:
Maximum Marks: 100
Continuous Comprehensive Evaluation (CCE) 25 Marks

University Exam (UE)	75 Marks		
Internal Assessment: Continuous ComprehensiveEvaluation (CCE)	Class Test Assignment /Presentation	**15** **10** **Total marks: 25**	
External Assessment: University Exam (UE) Time: 02.00 Hours	**4 Marks**	**Section (A):**Three very Short Questions (50 Words Each) **Section (B):** Four Short Questions (200 Words Each) **Section (C):** Two Long Questions (500 Words Each)	03 x 03 = 09 04 x 09 = 36 02 x 15 = 30 **Total Marks:75**

Part A Introduction			
Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	S1-COAP2G	
2	**Course Title**	MS OFFICE	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Elective	
4	**Pre-Requisite (if any)**	Students should have a basic understanding of computer peripherals like mouse, keyboard, monitor, screen etc and their basic operations.	
5	**Course Learning outcomes (CLO)**	On the completion of this course student will be able: • To create and manage professional documents using word. • Analyze, manage and present data using excel. • Create and manage presentation using power point. • To insert a table, picture, or drawing into the document. • To prepare the document to be sent as a circular letter.	
6	**Credit Value**	**Theory – 2 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course

No. of ofLectures: 30 (1 hour/lecture per week) :1-0-0

Unit	Topics	No. of Lectures
1	MS word: Introduction, features & area of use. Working with MS word: Ribbon tabs-Home, insert, page layout, references, mailings, review and view, using word to create a new document, open, save and print a document, edit and format text, change the layout, background and borders, insert headers and footers, insert and edit tables, insert clip art and pictures to documents. Formatting fonts in word, drop cap in word, applying text effects, using character spacing, borders and colors, inserting header and footer, using date and time option in word. Creating project abstract features to be converted: formatting styles, inserting table, bullets and numbering, changing text direction, cell alignment, footnote, hyperlink, symbols, spell check, track changes.	**6**
2	Creating a Newsletter: features to be covered:- table of content, newspaper columns, images from files and clipart, drawing toolbar and word art, formatting images, textboxes and paragraphs. Creating a	**6**

	feedback form – features to be covered – forms, text fields, inserting objects. Mail merge: creating custom document, creating main document, creating data source, editing data source, opening a data source, sorting the data source, finding a record in data source, editing main document, sorting merged documents, filtering merged documents, printing merged documents, merging onto letterhead, using different data sources with a single main document.	
3	**MS Excel:** Introduction to excel interface understanding rows and columns, naming cells, working with excel workbook and sheets formatting excel work book, new, open, close, save, save as formatting text: font size, font style, font color, use the bold, italic, and underline wrap text, merge and center currency, accounting and other formats, modifying columns, rows & cells, perform calculations with functions, creating simple formulas setting up your own formula, date and time functions, financial functions logical functions, lookup and reference, functions. **Calculations-** Features to be covered: cell referencing, formulae in excel- average, standard deviation, charts, renaming and inserting worksheets, hyper linking, count function, mathematical functions, statistical functions, text functions. Sort and filter data with excel sort and filtering data using number filter, text filter, custom filtering, removing filters form columns, conditional formatting.	**6**
4	Create effective charts to present data visually inserting column, Pie chart etc. create an effective chart with chart tool, design, format, and layout options, adding chart title, changing layouts, chart styles, editing chart data range editing data series, protecting and sharing the work book protecting a workbook with a password, allow user to edit ranges, track changes, working with comments. Insert excel objects and charts in word, use macros to automate tasks creating and recording macros, assigning macros to the work sheets, saving macro enabled workbook. **Performance analysis-** Features to be covered: split cells, freeze panes, group and outline, sorting Boolean and logical operators, conditional formatting **Cricket score card creation –** features to be covered: pivot tables, interactive buttons, importing data, data protection, data validation.	**6**
5	**Creating PowerPoint presentation:** Making presentation which demonstrate use of Hyperlinks, inserting – image, clip art, audio, video, objects, tables and charts. Create master layouts (slide, template, and notes), types of views (basic, presentation, slide slotter, note etc.), Inserting – background, textures, design templates, hidden slide. Auto content wizard, slide transition, custom animation, auto rehearsing.	**6**
Keywords/Tags:		

Remark:

Part C- Learning Resources

Text Books, Reference Books, Other resources

Suggested Readings:

- https//:www.youtube.com/watch>v=Zv3XMBb3V6A
- https//:www.digimat.in/nptel/courses/video/121106007/L12.html
- https//:www.webucator.com/how-to/how-use-main-merge-microsoft-word.cfm
- https//:support.microsoft.com/en-us/office/create-pivottable-or-pivotchart-views-in-an-access-desktop-database-83e524df-456d-9dd0-0a48c1aa6752
- https//:support.microsoft.com/en-us/office/create-a-pivottable-to-analyze-worksheet-data-a9a8453-bfe9-40a9-a8e9-f99134456576

Suggested Readings:

- Microsoft office 97: Will train, Ginicourter,Annette marquis, BPB publication.
- MS Office 2000 for everyone: Saxenasanjay, s schnd
- Writer's Guide to Microsoft word: Karri Holloway
- Access 2016 Bible: Michael Alexander, Richard Kusleika
- Excel 2019: Greg Harvey
- Microsoft PowerPoint Made easy: Chris smith

Part D- Assessment and Evaluation (Theory)

Maximum Marks: 100
Continuous Comprehensive Evaluation (CCE) 25 Marks
University Exam (UE) 75 Marks
Time: 02:00 hours

Internal Assessment: Continuous Comprehensive Evaluation (CCE)	Class Test Assignment /Presentation	**15** **10** **Total marks: 25**	
External Assessment: University Exam (UE) Time: 02.00 Hours	**4 Marks**	**Section (A):**Three very Short Questions (50 Words Each) **Section (B):** Four Short Questions (200 Words Each) **Section (C):** Two Long Questions (500 Words Each)	03 x 03 = 09 04 x 09 = 36 02 x 15 = 30 **Total Marks:75**

Part A Introduction			
Program : Certificate	Class : BCA I Year	Year : 2021	Session : 2021-2022

1	**Course Code**	S1-COAP2R	
2	**Course Title**	MS OFFICE (Practical)	
3	**Course Type (Core Course/Elective/Generic Elective/Vocational)**	Generic Elective	
4	**Pre-Requisite (if any)**		
5	**Course Learning outcomes (CLO)**	On the completion of this course student will be able: • To use keyboard shortcuts to perform tasks. • To create a new document, open, save and print a document. • To edit and format text, change the page layout, background and borders. • To modify power point custom template presentation. • To insert clip art and pictures to documents. • To navigate the start menu to locate programs, files, and settings & create files and folders. • To create a word document with customized template.	
6	**Credit Value**	**Theory – 2 Credits**	
7	**Total Marks**	Max. Marks : 25+75	Min. Marks : 33

Part B – Content of the Course
MS Office (Practical)

No. of Labs = 30 labs each of 2 hours duration(1 lab per week)

Practical lab will be conducted based on the theory syllabus

	List of Practical: 1. Create a document and apply different formatting options. 2. Design a greeting card using word art for different festivals. 3. Create your bio-data and use page borders and shading. 4. Create a document and insert header and footer, page title etc. 5. To create a document, set the margins, orientation, size, column, water mark, and page color and page borders. 6. Insert a table into the document. 7. Prepare a mark sheet of your class subjects. 8. Apply the creating, editing, saving, printing securing & protecting operations to an excel spreadsheets. 9. Prepare a bar chart & pie chart for analysis of five year results of your institute.	**6**

	10. Work on following exercise on a workbook: A. Copy an existing sheet B. Rename the old sheet C. Insert a new sheet into an existing workbook D. Delete the renamed sheet. 11. Prepare an attendance sheet of 10 students for any 6 subjects of your syllabus calculate their total attendance, total percentage of attendance of each student & average of attendance. 12. Create a worksheet on students list of any 4 faculties and perform following database functions on it. A. Sort data by name B. Filter data by class C. Subtotal of no. students by class. 13. Apply themes and layouts to power point slides and insert pictures, graphics, shapes, and tables into presentations. 14. In power point slide make use of adding transitions and animation & working with master slides. 15. Create a excel worksheet and perform computations using available data and using mathematical functions chosen from menus.	

Keywords/Tags:

Remark:

Part C- Learning Resources

Text Books, Reference Books, Other resources

Suggested Digital platforms, web links:

- https//:www.youtube.com/watch>v=Zv3XMBb3V6A
- https//:www.digimat.in/nptel/courses/video/121106007/L12.html
- https//:www.webucator.com/how-to/how-use-main-merge-microsoft-word.cfm
- https//:support.microsoft.com/en-us/office/create-pivottable-or-pivotchart-views-in-an-access-desktop-database-83e524df-456d-9dd0-0a48c1aa6752
- https//:support.microsoft.com/en-us/office/create-a-pivottable-to-analyze-worksheet-data-a9a8453-bfe9-40a9-a8e9-f99134456576

Suggested Readings:

- Microsoft office 97: Will train, Ginicourter,Annette marquis, BPB publication.
- MS Office 2000 for everyone: Saxenasanjay, s schnd
- Writer's Guide to Microsoft word: Karri Holloway
- Access 2016 Bible: Michael Alexander, Richard Kusleika
- Excel 2019: Greg Harvey
- Microsoft PowerPoint Made easy: Chris smith

Part D- Assessment and Evaluation (Theory)

Maximum Marks:	100
Continuous Comprehensive Evaluation (CCE)	25 Marks
University Exam (UE)	75 Marks

Time: 02:00 hours			
Internal Assessment:	Marks	**External Assessment**	**Marks**
Class Interaction	**10**	**Viva voce on practical**	15
Attendance	**5**	**Practical record file**	10
Assignments (Charts/Seminar/ Technology Dissemination/ Report of Excursion / lab visits/ survey/ industrial visit	**10**	**Table work / experiments**	50
Total	**25**		75

Part A Introduction			
Program:Certificate/Diploma/Degree	Class: 1 Year	Year:2021	Session:2021-22
Subject: NCC			

1	Course Code		
2	Course Title	NCC Awareness	
3	Course Type(Core course/Elective/Generic Elective/Vocational/…)	Elective	
4	Pre-requisite (if any)	To study this course ,a student must have passed 12th with any subject and must be medically fit. This course can be opted as an elective and it is open for all	
5	Course Learning outcomes(CLO)	The students will develop a sense of responsibility and there by display sense of patriotism, secular values, discipline, improve bearing and develop the quality of immediate and implicit obedience of good things.This paper will enable the students to build and develop leadership through communication. The significant relationship between personality traits and leadership will be achieved and executed.	
6	Credit value	04	
7	TotalMarks	Max.Marks: 25+75	Min.PassingMarks:33

Part B- Content of the Course		
Total numbers of Lectures(in hours per week) :2hours per week **Total lectures:60Hours L-T-P (02-00-00)**		
Unit	**Topics**	**No of**

		Lectures
I	**History of National Cadet Corps:** • National Cadet corps of Independent india • National Cadet corps Act,1948 • Motto of National Cadet corps • Aims and Objectives. • Emblem,NCCflag.NCC song. • Organization of NCC-Army.Navy and Air Wing. • Training centres of NCC	**15**
II	**Introduction to Defence Services** • Army, Navy and Air Force. • Organizational Structure in Charts • Regimental Structure: command and control • Badges and Ranks:Army, Navy,Air Force • Honors and Awards.	**15**
III	**Personality development:** • Introduction to personality development • Factors influencing and shaping the personality • Team work and team building, social skills, Etiquettes and manners, Decision making and problem solving, Change your mind set	**15**
IV	**Leadership:** • Introduction and typeof Leadership • Leadership traits • How to develop leadership. • Leadership case study(Field Marshal General Sam H.F.J.Manekshaw and General K.M Cariappa) **First Aid:** • Scope and objectives • First aid in common emergencies,Dressing of Wounds.	**15**

Part C- Learning Resources
Text Books, Reference Books, Other resources
Suggested Readings:

S No	Name of Writers	Name of Book	Name of Publishers	Year of publication
1	Sabharwal,D.P	Personality Development	Finger print publishing,India	2015
2	Sabharwal,D.P	Personality Development(Hindi)	publishing,India	2021
3	Gurav, Aarti	50 Mantras of Personality Development	Buzzing stock Publishing	2013
4	Vasudeva, Sangeetha	Personality Development	Clever Fox publishing	2021
5	Kapoor ,Shikha	Personality Development and Soft skills	Dream Tech Press	2020
6	Sinha, Surya	Complete Personality Development course (Hindi)		2012
7	Agrawal,(Dr.) Vijay	Student and Personality Development (Hindi)	Benteen Books	2012
8	Shekhar,(Dr0. Priyanshu	Personality Development guide (Hindi)	PrabhatPrakashan	2016
9	Anand, Arunsagar	Personality Development Course (Hindi)	V & S Publication	2013
10	Sharma, Robin	Leadership Wisdom	Jaico publishing House	2003
11	Maxwell, John C	5-Levels of leadership	Cross liance	2014
12	Dravid,Rahul and Iyer,Prakash	The Secret of Leadership	Penguin ,India	2020
13	Dr. Bomi	The Leadership Handbook		2020
14	Bindra, Vivek	Everything about	Diamond Pocket	2018

		Leadership	Books	
15	Carnegie,Dala	The Leader in you	Amazing reeds	2018
16	Subramanian,Ramesh and Ramiah,Ramkrishan	Leadership by Values	Notion Press	2020
17	Manivannan,C.andManivannan,T.Latha	Text Book of FirstAid and Emergency Nursing	EMMESS Medical Publishers	2020
18	Popli,Harvinder and Sharma, Nirmal	Emergency First aid Safety Oriented	CBS Publishers	
19	Jain,N>C>and Saakshi	First Aid and Emergency Case	AITBS Publishers	2019
20	Pippa,Dr.Keech	Practical Guide to First Aid	Anees Publishing House	
21	Gupta,RK	NCC National Cadet Corps(Hindi & English)	Ramesh Publication	2021
22		Hand Book of NCC	Kanti Publication, Itawa	2017
23		Hand Book of NCC an unique book for NCC Cadets	Naveen Publication	2019
24	Ranjan, Shashi and kumar,Aashish	Hand Book of NCC	Goodwin Publication	2021
25	Chauhan,Lt(Dr) Rajeev kumar	NCC National Cadet Corps	Aakriti publication	2021
26		Cadets Hand book	NCC Directorate M.p.& C.G	
27	Goyal,Hariom	Personality Development	KalpazPublication,India	

28	Mitra,Barun K	Personality Development and Soft Skills	Oxford University Press India	
29	Mishra, Rajeev k	Personality Development-Transform Yourself	Rupa and Company India	

2.Suggestive digital platforms web links: 1. https://www.en.mwikipedia.org

2. https://www.firstaidforfree.com

Suggested equivalent online courses:

Part D- Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum marks: 100

Continuous Comprehensive Evaluation(CCE): 25 Marks University Exam (UE) 75 Marks

Internal Assessment: Continuous Comprehensive Evaluation(CCE): 25 Marks	Class Test Assignment/Presentation	15 10
External Assessment: University Exam Section:75 Time ; 02.00 Hours	**Section(A):**ThreeVery Short Questions(50 words Each) **Section(B):** Four Short Questions(200 Words Each) **Section(C):** Two Long Questions (500 Words Each)	03x03=09 04x09=36 02x15=30 Total 75

Any remarks/Suggestions: NIL

Part A Introduction				
Program: **Certificate/Diploma/Degree**	**Class: 1 Year**	**Year:2021**	**Session:2021-22**	
Subject: NCC				
1	**Course Code**			
2	**Course Title**	**NCC Training**		
3	**Course Type(Core course/Elective/Generic Elective/Vocational/…)**	**Elective**		
4	**Pre-requisite (if any)**	To study this course ,a student must have passed 12th with any subject and must be medically fit. This course can be opted as an elective and it is open for all		
5	**Course Learning outcomes(CLO)**	Aim of the Course is to inculcate a sense of discipline, create self confidence and to create a human resource of organized,trained youth and to develop the quality of immediate and implicit the obedience of orders. Trained the youth to meet any medical emergency by giving aid.		
6	**Credit value**	02		
7	**TotalMarks**	Max.Marks: 25+75	Min.PassingMarks:33	
Part B- Content of the Course				
Total numbers of Lectures-Tutorials-Practical (in hours per week) :2hours per week **L-T-P:00-00-01**				
S.No	**Topics**		**No of Lectures**	**No of Tutorial**

UNIT-I	**Drill:** **General and Words of command:Attention,Stand at ease, Stand easy.** **Turning; Right turn,Left Turn and About turn.Sizing, Forming up in three ranks. Numbering and dressing of Troupe.** **Salute in Army,Navy and Air Force,** **Its description and training. Falling out and Dismissing.**	**15**	
UNIT-II	**Group Discussion on current topics and issues(National & internationals)** • Public Speaking/Extempour • **First Aid: Bandages and CPR**	**15**	
	TOTAL	**30**	
Keywords/ Tags: Drill, Troupe,Salute,First aid, CPR			
Part C-Learning Resources			
Text Books,Reference Book, Other Resources			

Suggested Readings:

S No	Writers	Name of Book	Name of Publishers	Year of publication
1	Ranjan,Shashi and kumar,Aashish	Hand book of NCC	Goodwin Publication	2021
2	Chauhan,Lt(Dr)Rajeev kumar	NCC National Cadet Corps	AakritiPublicaction	2021
3		Cadets Hand book	NCC Directorate M.p.& C.G	
4	Goyal, Hariom	Personality Development	KalpazPublication,India	
5	Mitra,Barun K	Personality Development and Soft Skills	Oxford University Press India	
6	Manivannan,C.andManivannan,T.Latha	Text Book of FirstAid and Emergency Nursing	EMMESS Medical Publishers	2020
7	Popli,Harvinder and Sharma, Nirmal	Emergency First aid Safety Oriented	CBS Publishers	
8	Jain,N>C>and Saakshi	First Aid and Emergency Case	AITBS Publishers	2019
9	Pippa,Dr.Keech	Practical Guide to First Aid	Anees Publishing House	
10	Gupta,RK	NCC National Cadet Corps(Hindi & English)	Ramesh Publication	2021
11		Hand Book of NCC	Kanti Publication, Itawa	2017
12		Hand Book of NCC an unique book for NCC	Naveen Publication	2019

		Cadets		

2.Suggestive digital platforms web links: 1. https://www.en.mwikipedia.org

2. DG NCC TRAINING APP.

Part D- Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Internal Assessment	Marks	External Assessment	Marks
Class Interaction/Quiz	10	Viva Voce on Practical	15
Attendance	05	Practical Record File	10
Assignments	10	Table Work /Experiments	50
TOTAL	25		75

Any remarks/Suggestions

Part A : Introduction			
Program:- **Certificate/Diploma/Degree/** **Course**	**Class: 1 Year**	**Year:2021**	**Session:2021-22**
Subject: National Service Scheme (NSS)			

1	**Course Code**	**NSS101**
2	**Course Title**	Concept of National Service Scheme
3	**Course Type**	Elective
4	**Pre-requisite (if any)**	To study this course,a student must have passed 12th with any subject. This course can be opted as an elective and it is open for all
5	**Course Learning outcomes(CLO)**	**Course Objective:-** 1. Main objective of syllabus is developing the personality and character of the students youth through voluntary community service.It will also help them understand the rich cultural service. It will also help them understand the rich cultural diversity of India and have pride through a better Knowledge of the Country. 2. Understand the community in which they work and their relation. 3. Identity the needs and problems of the community and involve them in problem-solving. 4. Develop capacity to meet emergencies and natural disasters. 5. Practice national integration and social harmony and. 6. Utilize their knowledge in finding practical solutions to individual and community problems. **Learning Outcome:-** To impart hands- on skills in Preparation. Theend of the papera student should be able to: 1. Understand the importance of having community problems and their solution. It might help in job opportunity in some Government approved NGOs, and Ministry of youth affairs and Sports.

		2. The students can carry out basic information about Community, which in turn and be of great help in disaster management fields. 3. Students can also go for Social Community Courses, Opening opportunities in different social activity related department.	
6	**Credit Value**	**Theory -04**	
7	**Total Marks**	**Max.Marks: 25+75**	**Min.Passing Marks:33**

Part B- Content of the Course		
Total numbers of Lectures(in hours per week) :2hours per week **Total lectures: 60 Hours**		
Unit	**Topics**	**No of Lectures**
I	**Introduction and Basic Concepts of NSS:** • History and Philosophy. • Aims and Objectives. • Emblem sign, NSS badge,NSS flag. • NSS song: LakshyaGeet, SadbhawnaGeet, RastriyeyuvaGeet. **Key Words:-**Concept of NSS.	15 Hours
II	**Organization of NSS, Regular Activities and Programmes:** • Organization structure of NSS. • Concept of regular activities. • Basis of adoption of village/ slums. • Methodology of conducting survey. • Calendar of NSS activities. • Maintenance of nss work diary. **Key Words:-** Regular Activities.	15 Hours
III	**Day camp,Special camp and Personality development:** • Various Demension of day camp. • Special camp at college/Unit level. • Other Camps: District level camp, University level camp,State level Leadership Training camp. • NIC camp, Sahshik activity camp, pre –RDC,RDCcamp.	15 HOurs

	Key Words:- Youth Camping.	
IV	**Youth and volunteerism:** • Definition, Issues, challenges and opportunities for Youth. • Youth as an agent of social change. • Indian Tradition of volunteerism. • Needs and importance of volunteerism. • Motivation and constraints of volunteerism. **Key Words:-**Youth volunteerism.	15 Hours

Part C- Learning Resources	
Text Books, Reference Books, Other resources	
Suggested Reading Materials: 1. National Service Scheme Manual, Government of india. 2. TraininingProgramme on national Programmescheme,TISS. 3. Orientation Courses for NSS programme officers, TISS. 4. Case material as Training Aid for field workers,Gurmeet Hans. 5. Social service opportunities in Hospitals, Kapil K. Krishan, TISS. 6. Social Problems in india, Ram Ahuja.	
Suggested equivalent online Courses: http://www.thebetterindia.com/140/national-service-scheme-nss htt://en.wikipedia.org/viki/national-service-scheme htt://nss.nic.in	
Part D- Assessment and Evaluation (Theory)	
Maximum Marks: Continuous comprehensive Evaluation (CCE): University Exam(UE): **Time: 02.00Hours**	**100** **25** **75**

Internal Assessment: Continuous Comprehensive Evaluation (CCE):	Class Test	**15**
	Assignment/Presentation	**10**
	Total	**25**
External Assessment: University Exam	Section(A): Three Very Short Questions (50 words Each)	**03x03= 09**
	Section(B): Four Short Questions (200 words Each)	**04x09 =36**
	Section(C): Two Long Questions (500 words Each)	**02x15 =30**
	Total	**75**

Part A : Introduction			
Program:- **Certificate/Diploma/Degree/Course**	**Class: B.Sc.1 Year**	**Year:2021**	**Session:2021-22**
Subject: National Service Scheme (NSS)			

1	**Course Code**	**NSS102**	
2	**Course Title**	Project Tool of NSS	
3	**Course Type**	Practical/ Project Work	
4	**Pre-requisite (if any)**	To study this course ,a student must have passed 12th with any subject. This course can be opted as an elective and it is open for all	
5	**Course Learning outcomes(CLO)**	**Course Objective:-** Each student Will Have the option to select two skill-areas out of the list based on the local conditions and opportunities, and will Prepare a report based on field situation. **Learning Outcome:-** To impart hands- on skills in Preparation. The end of the paper,a student should be able to: Project work of NSS will aim to enhance the employment potentiol of the NSS volunteers or, alternately to help them to job opportunities in government approved NGOs,ministry of youth Affairs and Sports.	
6	**Credit Value**	**Practical -02**	
7	**Total Marks**	**Max.Marks: 25+75**	**Min.Passing Marks:33**

Part B- Content of the Practical Course	
Total numbers of Lectures (in hours per week) :2hours per week **Credits -02 (Total Lectures :30 Hours)**	
Scheme of Practical Examination :- • Internal Assessment:- Max. Marks-25 1. Class Interaction. (05) • Quiz. (05) • Seminar. (07) • Assigments. (08) • External Assessment:- Max. Marks-75 • Report of Regular Activities in the Society. (15) • Report of NSS Volunteerism. (10) • Report of Communication Skills. (10) • Report of Camping Activity . (15) • Report of Excursion/Training/Survey/Data Collection . (10) • Viva-Voce. (05) • Practical Record (10)	Max.Marks (25+75=100)
List of Practical/ Project Activity:- **Communication Skill:-** Personality development, communications Skill development, Problem-Solving. **Key Words**- Communication skill project activity.	05
Youth and Community :- Adoption of slum, Survey of slum, Service of Slum, Identification of problems of slum areas. **Key Words-** Youth community project activity.	07 Hours
Youth and Health:- AIDS, Drugs and substance abuse, Home nursing, First Aid, Yoga as a tool for healthy lifestyle etc. **Key words**- Regular activity, project activity.	05 Hours

Environmental Issues:- Natural disaster management, natural resource management,Rain water harvesting,Afforestation, Waste management etc. **Key words-** Natural resources/ disaster management project activity.	06 Hours
Awareness Programe :- Peer mentoring in preventing crimes, cyber crime and prevention ,juvenile justice,save girls child protection, Blood donation awareness,swacch Bharat abhiyan, Corona virus awareness etc. **Key Words**- Volunteerism awreness project activity.	07 Hours
Part C : learning Resources	
Text Books, Reference Books, Other resources	

Suggested Reading Materials:

- National Service Scheme Manual, Government of india.
- TrainiringProgramme on national Programmescheme,TISS.
- Orientation Courses for NSS programme officers, TISS.
- Case material as Training Aid for field workers,Gurmeet Hans.
- Social service opportunities in Hospitals, Kapil K. Krishan, TISS.
- Social Problems in india, Ram Ahuja.

Suggested equivalent online Courses:

http://www.thebetterindia.com/140/national-service-scheme-nss

htt://en.wikipedia.org/viki/national-service-scheme

htt://nss.nic.in