



SANATANA DHARMA COLLEGE

ALAPPUZHA

Affiliated to the University of Kerala
Reaccredited by NAAC with A+ grade



CRITERION: 1

Curricular Aspects

1.2.1

Certificate/Value Added Courses – List of Courses And Brochures



2021-2022





YEAR	COURSE
2021-2022	1) Certificate programme in Goods and Services Tax
	2) Skill Development Course- Excel for Beginners





SANTANA DHARMA COLLEGE, ALAPPUZHA

Affiliated to University of Kerala, Re-accredited with A+ grade by NAAC

Admission Notification 2020-21

ബഹുമാന്യരെ,

എസ് ഡി കോളേജ് ആലപ്പുഴയിൽ ഈ അക്കാദമിക് വർഷം യു.ജി.സി അംഗീകാരത്തോടെ പുതുതലമുറ കോഴ്സുകൾ ആരംഭിക്കുന്നു.

Sl No.	Programme	Trade/Courses	Duration	Eligibility	Application Registration Link
1.	Certificate	Goods and Service Tax-Accounts Assistant	6 months	10, +12	https://forms.gle/qKa9uCvYEBfZrxoE9
2.	Certificate	Equality Dealership	6 months	10, +12	

HOW TO APPLY ;

- Candidates can apply online by clicking/ touching the respective registration link.
- Last date for submission of application is 10/12/2021.
- No age limit for applying.
- Selection will be based on marks of Qualifying exam.

For further enquiries, kindly contact : 9446536514

വളരെ അധികം തൊഴിൽ സാധ്യതയുള്ള ഈ കോഴ്സുകൾക്ക് അടിസ്ഥാന വിദ്യാഭ്യാസം 10, +12 മാത്രമാണ്, പ്രായപരിധിയില്ല. താല്പര്യമുള്ളവർ 10/12/2021 നകം ഓൺലൈനിൽ അപേക്ഷിക്കുക

വിശദ വിവരങ്ങൾക്ക് കോളേജ് വെബ്സൈറ്റ് സന്ദർശിക്കുക





**Certificate programme in Goods and Services Tax,
2021-22
List of students**

1	Athira raj
2	Nandhini Menon P
3	Harikrishnan H
4	Ashamol
5	Navaneeth P. Kumar
6	Abhilash
7	Manu Krishna
8	Adarsh Babu
9	Fathima S
10	Karthik madhukar
11	Anuja Raj
12	Sruthy S
13	Arathy R
14	Asif Sinan
15	Naveen Kumar
16	Jashin John
17	Sreeparvathy J
18	Sayed Ibrahim



**SYLLABUS SCHEDULE FOR UGC APPROVED NSQF CERTIFIED -
CERTIFICATE PROGRAMME**

PROGRAMME: GOODS AND SERVICE TAX – ACCOUNTS ASSISTANT DURATION : 6 MONTHS

Paper Name	Learning outcome	Hours allotted
Introduction to GST	<p>Describe Goods & Services with their cross linkages Identify the Fundamental Concepts of GST Identify cases where CGST and SGST will work simultaneously Explain how IGST is levied Identify whether a transaction is taxable under CGST, IGST or SGST</p> <p>Identify the Incidence of Taxation Learn about Time of Supply of Goods Learn on Purpose of place of supply Define Location of supplier of goods Define the recipient with respect to supplies involving payment and supplies not involving payment</p>	<p>40 hours (15 hours of online training if required)</p>



<p>GST - Theory</p>	<p>Outline the PAN based Registration Process, its rules, and the Purpose of registration Explain single or separate registration for business vertical Identify whether registration should be done centrally or selectively in each state List the details to be furnished during registration Identify common mistakes made during registration Differentiate between Taxable Person vs. Registered Person Identify the Registration Timelines – Migrations Explain the benefits of registration Demonstrate form filling with case studies</p> <p>Define Input Credit Identify Input Tax Credit eligibility using case studies Explain the concept of reversal of VAT Define tax liability for Goods in Transit Define Consideration Value transactions having non-monetary consideration</p>	<p>45 hours (15 hours of online training if required)</p>
<p>GST – Practise</p>	<p>Maintain different types of ledgers Prepare documents such as Invoice, Credit Note and Debit Note. Identify the different types of returns and their applicability to the business- Monthly Returns, Quarterly Returns Navigate the GST Websites-GSTN, CBEC etc. File periodic returns online</p> <p>Identify the Types of Payment, Modes of Payment, Rules of Collection of Tax Prepare different Challans, CPIN & CIN Distinguish between TDS and TCS Identify cases for reversal of credit Calculate tax based on various Case studies Memorize the due dates for payment List the Penalties for late payments Demonstrate the process of online payment</p>	<p>45 hours (15 hours of online training if required)</p>



S No.	STUDENT UNIQUE ID	Name of the Candidate	Aadhar Number / Mobile Number	Total Theory	Total Practical	GROSS TOTAL	Final Result
1	SDC/NSQF/GST02/01	Athira Raj		45	75	120	Pass
2	SDC/NSQF/GST02/02	Nandini Menon P		40	70	110	Pass
3	SDC/NSQF/GST02/03	Harikrishnan H		45	65	110	Pass
4	SDC/NSQF/GST02/04	Ashamol		50	70	120	Pass
5	SDC/NSQF/GST02/05	Navaneeth P Kumar		45	65	110	Pass
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10	SDC/NSQF/GST02/10	Karthik Madhukar		35	60	95	Pass
11	SDC/NSQF/GST02/11	Anuja Raj		45	60	105	Pass
12	SDC/NSQF/GST02/12	Sruthy. S		50	60	110	Pass
13	SDC/NSQF/GST02/13	Arathy R		40	60	100	Pass
14	SDC/NSQF/GST02/14	Asif Sinan A		40	60	100	Pass
15	SDC/NSQF/GST02/15	Naveen Kumar H		50	65	115	Pass
16	SDC/NSQF/GST02/16	Jashin John		50	70	120	Pass
17	SDC/NSQF/GST01/17	Sreeparvathy J		35	75	110	Pass
18	SDC/NSQF/GST01/18	Sayed Ibrahim		35	70	105	Pass



PG & RESEARCH DEPARTMENT OF COMMERCE
SD COLLEGE

SKILL DEVELOPMENT PROGRAM - I



08-Nov-2021

&

07-Nov-2021

Excel for beginners

Resource Persons

Dr. Krishnan M
SD COLLEGE

Dr. Aby Tellas
Loyola College of
Social Sciences

Prof. Cyriac Jose
Saintgits Institute of
Management



**SANATANA DHARMA
COLLEGE**



**LOYOLA
COLLEGE OF
SOCIAL SCIENCES**



SAINTGITS
LEARN.GROW.EXCEL





Certificate programme in M.S. Excel, 2021-2022
List of students

1	Nayana Das
2	Gayathri lekshmi L
3	Swetha Santhosh
4	Devi Krishna
5	Sreeraj
6	Malick Bin Amar
7	Navaneetha
8	Arjun C.M.
9	Sayaf Shihab
10	Gowri P.
11	Nayana C.R.
12	Kavya S. Kurup
13	Aleena Antony
14	Abhirami S.S.
15	Anakha S.
16	Meera Shyam
17	Anakha Sivan
18	Simran Ramesh Lithiya
19	Athira S. Kammath
20	Anupama B.
21	Nikhita C.S.
22	Buhaina
23	Parvathy B.
24	Souparnika S.
25	Sona Soji
26	Kavya K.
27	Lekshmi M. Lal
28	Naveen Kumar
29	Malavika M.

CERTIFICATE PROGRAMME ON MICROSOFT EXCEL
MAY 2023

SYLLABUS

Create Worksheets and Workbooks	<ul style="list-style-type: none">• Creating new workbooks• Saving workbooks• Closing workbooks• Opening workbooks• Selecting cells• Import data• Add a worksheet to an existing workbook• Copy and move a worksheet
Navigate in Worksheets and Workbooks	<ul style="list-style-type: none">• Search for data within a workbook• Navigate to a named cell, range, or workbook element• Insert and remove hyperlinks



Format Worksheets and Workbooks	<ul style="list-style-type: none"> • Rename a worksheet • Change worksheet order and colour • Insert and delete columns or rows • Change workbook themes • Adjust row height and column width • Insert headers and footers
Customise Options and Views for Worksheets and Workbooks	<ul style="list-style-type: none"> • Hide or unhide worksheets • Hide or unhide rows and columns • Customise the Quick Access toolbar • Modify document properties • Display formulas
Configure Worksheets and Workbooks for Distribution	<ul style="list-style-type: none"> • Inspect a workbook for hidden properties or personal information • Inspect a workbook for accessibility and compatibility issues
Apply Custom Data Formats and Validation	<ul style="list-style-type: none"> • Create custom number formats • Populate cells by using advanced Fill Series options • Configure data validation



Apply Advanced Conditional Formatting	<ul style="list-style-type: none"> • Create custom conditional formatting rules • Create conditional formatting rules that use formulas • Manage conditional formatting rules
Data Filtering	<ul style="list-style-type: none"> • Using AutoFilters • Applying a custom AutoFilter • Creating advanced filters • Applying multiple criteria • Using complex criteria • Copying filtered results to a new location • Using database functions
Create and Modify Custom Workbook Elements	<ul style="list-style-type: none"> • Create and modify simple macros • Insert and configure form controls
Auditing Worksheets	<ul style="list-style-type: none"> • Tracing precedent and dependent cells • Tracing errors • Cell Validation
Create and Manage Tables	<ul style="list-style-type: none"> • Create an Excel table from a cell range • Convert a table to a cell range • Add or remove table rows and columns



Manage Table Styles and Options	<ul style="list-style-type: none"> • Apply styles to tables • Configure table-style options • Insert total rows
Filter and Sort a Table	<ul style="list-style-type: none"> • Filter records • Sort data by multiple columns • Change sort order • Remove duplicate records
Summarise Data by using Functions	<ul style="list-style-type: none"> • Perform calculations by using the SUM function • Perform calculations by using MIN and MAX functions • Perform calculations by using the COUNT function • Perform calculations by using the AVERAGE function
Perform Conditional Operations by using Functions	<ul style="list-style-type: none"> • Perform logical operations by using the IF, SUMIF and AVERAGEIF functions • Perform statistical operations by using the COUNTIF function
Format and Modify Text by using Functions	<ul style="list-style-type: none"> • Format text by using RIGHT, LEFT, and MID functions • Format text by using UPPER, LOWER, and PROPER functions • Format text by using the CONCATENATE function



Create Charts	<ul style="list-style-type: none"> • Create a new chart • Add additional data series • Switch between rows and columns in the source data • Analyze data
Format Charts	<ul style="list-style-type: none"> • Resize charts • Add and modify chart elements • Apply chart layouts and styles • Move charts to a chart sheet
Insert and Format Objects	<ul style="list-style-type: none"> • Insert text boxes and shapes • Insert images • Format charts • Modify object properties • Add alternative text to objects for accessibility
Apply Custom Data Formats and Validation	<ul style="list-style-type: none"> • Create custom number formats • Learn how to use the Flash fill function • Populate cells by using advanced Fill Series options • Configure data validation



Apply Advanced Conditional Formatting and Filtering	<ul style="list-style-type: none"> • Create custom conditional formatting rules • Create conditional formatting rules that use formulas • Manage conditional formatting rules
Create and Modify Custom Workbook Elements	<ul style="list-style-type: none"> • Create custom colour formats • Create and modify cell styles • Create and modify custom themes • Create and modify simple macros • Insert and configure form controls
Prepare a Workbook for Internationalization	<ul style="list-style-type: none"> • Display data in multiple international formats • Apply international currency formats • Manage multiple options for Body and Heading fonts
Apply Functions in Formulas	<ul style="list-style-type: none"> • Perform logical operations by using AND, OR, and NOT functions • Perform logical operations by using nested functions • Perform statistical operations by using SUMIFS, AVERAGEIFS, and COUNTIFS functions
Look up data by using Functions	<ul style="list-style-type: none"> • Look up data by using the VLOOKUP function • Look up data by using the HLOOKUP function



Apply Advanced Date and Time Functions	<ul style="list-style-type: none"> • Reference the date and time by using the NOW and TODAY functions • Serialize numbers by using date and time functions
Perform Data Analysis and Business Intelligence	<ul style="list-style-type: none"> • Import, transform, combine, display, and connect to data • Consolidate data • Perform what-if analysis by using Goal Seek and Scenario Manager • Calculate data by using financial functions
Troubleshoot Formulas	<ul style="list-style-type: none"> • Trace precedence and dependence • Monitor cells and formulas by using the Watch Window
Define Named Ranges and Objects	<ul style="list-style-type: none"> • Name cells • Name data ranges • Name tables • Manage named ranges and objects



Create and Manage PivotTables	<ul style="list-style-type: none"> • Create PivotTables • Modify field selections and options • Create slicers • Group PivotTable data • Add calculated fields • Format data
Create and Manage Pivot Charts	<ul style="list-style-type: none"> • Create PivotCharts • Manipulate options in existing PivotCharts • Apply styles to PivotCharts • Drill down into PivotChart details



A1 Candidate from Batch 1

SANATANA DHARMA COLLEGE, ALAPPUZHA

P.G. & RESEARCH DEPARTMENT OF COMMERCE

CERTIFICATE PROGRAMME IN M.S. EXCEL

ATTENDANCE STATEMENT

Sl. No.	Name of Student	Batch	Session - 1	Session - 2	Session - 3	Session - 4	Remarks
1	Ajyana. Das ✓	B.com. B	✓	✓	✓	✓	✓
2	Gayathri Lakshmi.L ✓	B.com. B	✓	✓	✓	✓	✓
3	Sneha Sankosh ✓	B.com. B	✓	✓	✓	✓	✓
4	Devi Krishna P.T ✓	B.com. B	✓	✓	✓	✓	✓
5.	Sreejais ✓	B.com B	✓	✓	✓	✓	✓
6.	Malick Bin Abbas ✓	B.com B	✓	✓	✓	✓	✓
7.	Navaneetha ✓	B.com B	✓	✓	✓	✓	✓
8.	Ajuna C.M. ✓	B.com B	✓	✓	✓	✓	✓
9.	Saiyaf Shihab ✓	"	✓	✓	✓	✓	✓
10.	Fatima	"	✓	✓	✓	✓	✓
11.	Gloway. P ✓	"	✓	✓	✓	✓	✓
12.	Nayana. E. R ✓	"	✓	✓	✓	✓	✓
13.	Kavya. S. Kurup ✓	"	✓	✓	✓	✓	✓



Handwritten signature and date: 15/05/2024

Dr. Krishnan M
Head
PG & Research Department of Commerce
S. D. College
Alappuzha - 688 003

Sl. No.	Name of Student	Batch	Session - 1	Session - 2	Session - 3	Session - 4	Remarks
14	Aleena Antony	Beom A	✓	✓	✓	✓	Aleena
15	Abhirami, S.S	"	✓	✓	✓	✓	Abhirami
16	Anakha . S.	"	✓	✓	✓	✓	Anakha
17	Meena Syam	"	✓	✓	✓	✓	Meena
18	Aviagha Sivan	"	✓	✓	✓	✓	Aviagha
19	Simran Ramesh Suthia	"	✓	✓	✓	✓	Simran
20	Athira S. Kammath	"	✓	✓	✓	✓	Athira
21	Anrupama . B	"	✓	✓	✓	✓	Anrupama
22	Nikitha . C.S	"	✓	✓	✓	✓	Nikitha
23	Buhaina . A	"	✓	✓	✓	✓	Buhaina
24	Parvathy . B	BCOM B	✓	✓	✓	✓	Parvathy
25	Souparnika . S	BCOM B	✓	✓	✓	✓	Souparnika
26	Sona . Soji	BCOM B	✓	✓	✓	✓	Souparnika
27	kavya.k	B.com (A)	✓	✓	✓	✓	kavya.k
28	lekshmi . M. Lal	B.COM (A)	✓	✓	✓	✓	Lekshmi
29	NAVEENKUMAR M.N	B.COM (B)	✓	✓	✓	✓	Naveen
30	Malavika M	Beom (B)	✓	✓	✓	✓	Malavika

M. K. S. Mahan M
Head
PG & Research Department of Commerce
S. D. College
Alappuzha - 686 003

REGISTRATION
NO. 101/2019





2022-2023





SANATANA DHARMA COLLEGE

ALAPPUZHA

YEAR	COURSE
2022-2023	1) Certificate programme in Goods and Services Tax
	2) Excel for Beginners FDP for Faculties
	3) Density Functional Theory



2022-23

SANATANA DHARMA COLLEGE ALAPPUZHA

Affiliated To University Of Kerala, Re-accredited With NAAC

ADMISSION NOTIFICATION 2021-22, SECOND BATCH



മുൻപ്രവേശനം: വിദ്യാർത്ഥികൾക്ക് അപേക്ഷിക്കാനുള്ള സമയം ഏ. ഏ. ന്റെ അംഗീകാരത്തിന് ശേഷം വിദ്യാർത്ഥികൾക്ക് അപേക്ഷിക്കേണ്ടതാണ്.

Sl. No	Programme	Trade/course	Duration	Eligibility	Examination Agency/Link
1	Diploma	Books & Services for Accounts Assistant	6 months	10+2	www.kcet.ac.in
2	Certificate	Book Binding	6 months	10+2	www.kcet.ac.in

HOW TO APPLY:

- Candidates can apply by clicking / touching on the above registration link.
- Last date for submission of application is 31/12/2021.
- No age limit for applying.
- Selection will be based on marks of qualifying exams.

For further enquiries, kindly contact 9448538518

കൂടുതൽ അറിവ് അന്വേഷിക്കാൻ മുകളിലുള്ള ലിങ്ക് ക്ലിക്ക് ചെയ്യുക. അപേക്ഷിക്കാനുള്ള അവസാന തീയതി 31/12/2021 ന്റെ ശേഷം അപേക്ഷിക്കേണ്ടതാണ്. തിരഞ്ഞെടുപ്പ് പരീക്ഷയുടെ അടിസ്ഥാനത്തിലാണ്.

<http://www.sdcollege.in>

PRINCIPAL





**Certificate programme in Goods and Services Tax,
2022-23**

List of students

1	Arjun Pareekshith
2	Arathy R
3	Asif Sinan
4	Ashamol
5	Anuja Raj
6	Athira Raj
7	Harikrishnan
8	Nandini Menon
9	Navaneeth Kumar
10	Karthik Madhukumar
11	Fathima S
12	Abhilash
13	Manu Krishna
14	Jashin John
15	Sruthy S.
16	Adarsh babu
17	Naveenkumar



**SYLLABUS SCHEDULE FOR UGC APPROVED NSQF CERTIFIED -
CERTIFICATE PROGRAMME**

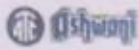
PROGRAMME: GOODS AND SERVICE TAX – ACCOUNTS ASSISTANT DURATION : 6 MONTHS

Paper Name	Learning outcome	Hours allotted
Introduction to GST	<p>Describe Goods & Services with their cross linkages Identify the Fundamental Concepts of GST Identify cases where CGST and SGST will work simultaneously Explain how IGST is levied Identify whether a transaction is taxable under CGST, IGST or SGST</p> <p>Identify the Incidence of Taxation Learn about Time of Supply of Goods Learn on Purpose of place of supply Define Location of supplier of goods Define the recipient with respect to supplies involving payment and supplies not involving payment</p>	<p>40 hours (15 hours of online training if required)</p>



<p>GST - Theory</p>	<p>Outline the PAN based Registration Process, its rules, and the Purpose of registration Explain single or separate registration for business vertical Identify whether registration should be done centrally or selectively in each state List the details to be furnished during registration Identify common mistakes made during registration Differentiate between Taxable Person vs. Registered Person Identify the Registration Timelines – Migrations Explain the benefits of registration Demonstrate form filling with case studies</p> <p>Define Input Credit Identify Input Tax Credit eligibility using case studies Explain the concept of reversal of VAT Define tax liability for Goods in Transit Define Consideration Value transactions having non-monetary consideration</p>	<p>45 hours (15 hours of online training if required)</p>
<p>GST – Practise</p>	<p>Maintain different types of ledgers Prepare documents such as Invoice, Credit Note and Debit Note. Identify the different types of returns and their applicability to the business- Monthly Returns, Quarterly Returns Navigate the GST Websites-GSTN, CBEC etc. File periodic returns online</p> <p>Identify the Types of Payment, Modes of Payment, Rules of Collection of Tax Prepare different Challans, CPIN & CIN Distinguish between TDS and TCS Identify cases for reversal of credit Calculate tax based on various Case studies Memorize the due dates for payment List the Penalties for late payments Demonstrate the process of online payment</p>	<p>45 hours (15 hours of online training if required)</p>





REGISTER OF ATTENDANCE & FEES

NSRF GST 2

Name of the Institute

Sl. No.	Admission No.	NAMES	Days														
			1	2	3	4	5	6	7	8	9	10	11	12			
①		Ajaya Parakkshith GST/01/0622								a	a	a	a				
②		Arathy R GST/02/0622								a	a	a	a				
③		Asif Binan GST/03/0622								a	a	a	a				
④		Asha Mol GST/04/0622								a	a	a	a				
⑤		Anuja Raj GST/05/0622								a	a	a	a				
⑥		Athira Raj GST/06/0622								a	a	a	a				
⑦		Hari Krishnan GST/07/0622								a	a	a	a				
⑧		Nandini Menon P GST/08/0622								a	a	a	a				
⑨		Navneeth P Kumar GST/09/0622								a	a	a	a				
⑩		Karthik Madhukumar GST/10/0622								a	a	a	a				
⑪		Falkuma S. GST/11/0622								a	a	a	a				
⑫		Abilash GST/12/0622 (jond 8/6)								a	a	a	a				
⑬		Manu Krishna GST/13/0622 (")								a	a	a	a				
⑭ X		Jashin John (81.38968623) X															
⑮		Smrithy S. GST/14/0622															

Coordinator
Yadhu

Number present M
Daily E



Results

S No.	STUDENT UNIQUE ID	Name of the Candidate	Aadhar Number / Mobile Number	Total Theory	Total Practical	GROSS TOTAL	Final Result
1	SDC/NSQF/GST02/01	Athira Raj		45	75	120	Pass
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17	SDC/NSQF/GST01/17	Sreeparvathy J		35	75	110	Pass
18	SDC/NSQF/GST01/18	Sayed Ibrahim		35	70	105	Pass





PG & RESEARCH DEPARTMENT OF COMMERCE



Certificate Programme in MS Excel

Venue: Computer Lab
Time : 9:30am



MS EXCEL



CERTIFICATE PROGRAMME ON MICROSOFT EXCEL
MAY 2023

SYLLABUS

Create Worksheets and Workbooks	<ul style="list-style-type: none">• Creating new workbooks• Saving workbooks• Closing workbooks• Opening workbooks• Selecting cells• Import data• Add a worksheet to an existing workbook• Copy and move a worksheet
Navigate in Worksheets and Workbooks	<ul style="list-style-type: none">• Search for data within a workbook• Navigate to a named cell, range, or workbook element• Insert and remove hyperlinks



<p>Format Worksheets and Workbooks</p>	<ul style="list-style-type: none"> • Rename a worksheet • Change worksheet order and colour • Insert and delete columns or rows • Change workbook themes • Adjust row height and column width • Insert headers and footers
<p>Customise Options and Views for Worksheets and Workbooks</p>	<ul style="list-style-type: none"> • Hide or unhide worksheets • Hide or unhide rows and columns • Customise the Quick Access toolbar • Modify document properties • Display formulas
<p>Configure Worksheets and Workbooks for Distribution</p>	<ul style="list-style-type: none"> • Inspect a workbook for hidden properties or personal information • Inspect a workbook for accessibility and compatibility issues
<p>Apply Custom Data Formats and Validation</p>	<ul style="list-style-type: none"> • Create custom number formats • Populate cells by using advanced Fill Series options • Configure data validation



Apply Advanced Conditional Formatting	<ul style="list-style-type: none"> • Create custom conditional formatting rules • Create conditional formatting rules that use formulas • Manage conditional formatting rules
Data Filtering	<ul style="list-style-type: none"> • Using AutoFilters • Applying a custom AutoFilter • Creating advanced filters • Applying multiple criteria • Using complex criteria • Copying filtered results to a new location • Using database functions
Create and Modify Custom Workbook Elements	<ul style="list-style-type: none"> • Create and modify simple macros • Insert and configure form controls
Auditing Worksheets	<ul style="list-style-type: none"> • Tracing precedent and dependent cells • Tracing errors • Cell Validation
Create and Manage Tables	<ul style="list-style-type: none"> • Create an Excel table from a cell range • Convert a table to a cell range • Add or remove table rows and columns



Manage Table Styles and Options	<ul style="list-style-type: none"> • Apply styles to tables • Configure table-style options • Insert total rows
Filter and Sort a Table	<ul style="list-style-type: none"> • Filter records • Sort data by multiple columns • Change sort order • Remove duplicate records
Summarise Data by using Functions	<ul style="list-style-type: none"> • Perform calculations by using the SUM function • Perform calculations by using MIN and MAX functions • Perform calculations by using the COUNT function • Perform calculations by using the AVERAGE function
Perform Conditional Operations by using Functions	<ul style="list-style-type: none"> • Perform logical operations by using the IF, SUMIF and AVERAGEIF functions • Perform statistical operations by using the COUNTIF function
Format and Modify Text by using Functions	<ul style="list-style-type: none"> • Format text by using RIGHT, LEFT, and MID functions • Format text by using UPPER, LOWER, and PROPER functions • Format text by using the CONCATENATE function



Create Charts	<ul style="list-style-type: none"> • Create a new chart • Add additional data series • Switch between rows and columns in the source data • Analyze data
Format Charts	<ul style="list-style-type: none"> • Resize charts • Add and modify chart elements • Apply chart layouts and styles • Move charts to a chart sheet
Insert and Format Objects	<ul style="list-style-type: none"> • Insert text boxes and shapes • Insert images • Format charts • Modify object properties • Add alternative text to objects for accessibility
Apply Custom Data Formats and Validation	<ul style="list-style-type: none"> • Create custom number formats • Learn how to use the Flash fill function • Populate cells by using advanced Fill Series options • Configure data validation



Apply Advanced Conditional Formatting and Filtering	<ul style="list-style-type: none"> • Create custom conditional formatting rules • Create conditional formatting rules that use formulas • Manage conditional formatting rules
Create and Modify Custom Workbook Elements	<ul style="list-style-type: none"> • Create custom colour formats • Create and modify cell styles • Create and modify custom themes • Create and modify simple macros • Insert and configure form controls
Prepare a Workbook for Internationalization	<ul style="list-style-type: none"> • Display data in multiple international formats • Apply international currency formats • Manage multiple options for Body and Heading fonts
Apply Functions in Formulas	<ul style="list-style-type: none"> • Perform logical operations by using AND, OR, and NOT functions • Perform logical operations by using nested functions • Perform statistical operations by using SUMIFS, AVERAGEIFS, and COUNTIFS functions
Look up data by using Functions	<ul style="list-style-type: none"> • Look up data by using the VLOOKUP function • Look up data by using the HLOOKUP function




Apply Advanced Date and Time Functions	<ul style="list-style-type: none"> • Reference the date and time by using the NOW and TODAY functions • Serialize numbers by using date and time functions
Perform Data Analysis and Business Intelligence	<ul style="list-style-type: none"> • Import, transform, combine, display, and connect to data • Consolidate data • Perform what-if analysis by using Goal Seek and Scenario Manager • Calculate data by using financial functions
Troubleshoot Formulas	<ul style="list-style-type: none"> • Trace precedence and dependence • Monitor cells and formulas by using the Watch Window
Define Named Ranges and Objects	<ul style="list-style-type: none"> • Name cells • Name data ranges • Name tables • Manage named ranges and objects





Create and Manage PivotTables	<ul style="list-style-type: none"> • Create PivotTables • Modify field selections and options • Create slicers • Group PivotTable data • Add calculated fields • Format data
Create and Manage Pivot Charts	<ul style="list-style-type: none"> • Create PivotCharts • Manipulate options in existing PivotCharts • Apply styles to PivotCharts • Drill down into PivotChart details



TOPICS TO BE COVERED

 Theoretical Background, Classical Mechanics, Quantum Mechanics, and Advanced Quantum Calculations

 Structural Elucidation, Thermochemistry, Spectral characterization, Non-linear Optical Properties, Advanced Computational Analysis.

 Familiarising and Hands-on training on Softwares for Computational Calculations.

RESOURCE PERSONS

Research Associates & Postdoc Fellows with expertise in this area

CO-ORDINATOR

Smt. Manju V
Assistant Professor
Department of Physics
SANATANA DHARMA COLLEGE

CONVENOR

Dr. S. Lekshmi, Head
Department of Physics
SANATANA DHARMA COLLEGE

Contact:

+91-9447906025

ABOUT THE COURSE

P.G. Department of Physics & Research Centre, Sanatana Dharma College, Alappuzha is organizing a 4-month online certificate course on "**Density Functional Theory and its Applications**".

BACKGROUND

The branch of Computational chemistry is identified to be one of the nascent applications of technological growth. Within this branch, different algorithms are introduced by incorporating aspects of theoretical chemistry for identifying and predicting chemical properties of compounds. On analyzing the results obtained from computational chemistry, it was fascinating to note that the theoretical results provide information with the same quality of the data obtained by conducting experiments.

Density functional theory (DFT) is a quantum mechanical approach used to investigate the structure (principally the ground state) of many-body systems, in particular atoms, molecules, and the condensed phases.

WHO CAN PARTICIPATE

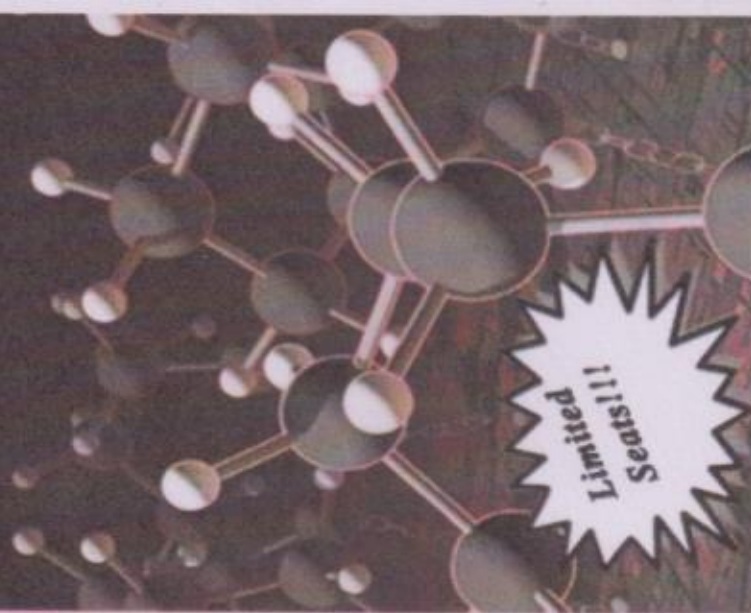
Faculty members and research scholars, Post-Graduate and Graduate students in Physics, Chemistry, Botany, Biotechnology, Material Science and Engineering.

ADDITIONAL INFORMATION

Weekly two classes. Sessions will be delivered through **google meet** according to the schedule. Assignments will be provided to supplement the theory session. Participants need laptop/PC for hands-on sessions.



Post Graduate Department
of Physics & Research Centre
Sanatana Dharma College
Alappuzha, Kerala



Limited
Seats!!!

A course on

**Density Functional Theory
&**

Its Applications

18/11/2021





Density Functional Theory 2022-23 List of students

1	Anagha K.V
2	Anjima P.V
3	Bhavuabuv
4	Sangeetha K.
5	Ananthu T.P.
6	Rohit R.
7	Elizabeth Johnson
8	Raji R. Krishnan
9	Alice Noble
10	Amritha Krishnan
11	Gulafshanioni
12	Hemanth
13	Hridhya Krishnan
14	Indujalekshmi J
15	Prakash K.C.
16	Sariga
17	Sreeram Jayan
18	Anju Joseph
19	Deepthi N Rajendran
20	Arjun K J
21	Mary Varghese
22	Ravishankar H S
23	Resmi V.K
24	Manju V.

Density Functional Theory and Its Applications

Module 1: Theoretical background:

Computational calculations, ab-initio methods of calculation; semi empirical method, Hartree fock method, Density function theory, different levels of theories, basis sets.

Module 2: Structural Characterization:

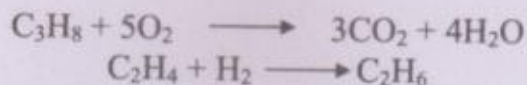
Potential energy surface & geometry optimization (*saddle point, local minima, global minima*), correlating experimental and theoretical parameters (bond length and bond angle), frontier molecular orbital analysis, natural bond orbital analysis, Molecular electrostatic potential (MEP and ESP plots) Practice set of molecules; NH₃, CO₂, H₂O, CH₄. Assignment; any molecule that candidate selects.

Module 3: Spectral Characterization:

Frequency calculations, IR spectra, Raman spectra, UV - visible spectra, NMR spectra, correlating experimental and theoretical spectrum. Practice set of molecules; NH₃, CO₂, H₂O, CH₄. Assignment on the selected molecule.

Module 4: Thermochemistry:

Enthalpy, entropy, Gibbs free energy, Practice set of molecules; NH₃, CO₂, H₂O, CH₄. Assignment on the selected molecule. Thermodynamic feasibility of reactions, global descriptive parameters, Practice set on the following reactions.



Assignment on the any selected reaction.

Module 5: Nonlinear Optical Properties:

Dipole moment, polarizability, hyperpolarizability, comparing the values of polarizability and hyperpolarizabilities of molecules with one of the prototypical molecules; Urea. Practice set on one organic molecule. Assignment on the any selected reaction.

Module 6: Advanced Computational Calculations:

ONIOM calculations, calculations with polymers, excipient drug interactions using ONIOM, rotation of side chains of a molecule, activation energy for non-Johari Goldstein relaxation, calculations with heavy metal complexes.

NB: (4-month duration course, having weekly 2 classes, Rs/-2000 per month)



Sl.No:	Module	Hours
1	Theoretical background	4
2	Structural Characterization	6
3	Spectral Characterization	6
4	Thermochemistry	6
5	Nonlinear Optical Properties	4
6	Advanced Computational Calculations	6



DENSITY FUNCTIONAL THEORY AND ITS APPLICATIONS

November 2021 - February 2022

ATTENDANCE REPORT



SL NO	NAME OF THE PARTICIPANT	CATEGORY	18-11-2021	21-11-2021	22-11-2021	23-11-2021	25-11-2021	26-11-2021	27-11-2021	28-11-2021
			Inaugural Ceremony	Software Installation	Software Installation	Software Installation				
1	ANAGHA K V	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
2	ANJIMA P V	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
3	BHAVIJA B V	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
4	SANGEETHA K	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
5	ANANDHU TP	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
6	ROHITH R	STUDENT	PRESENT	PRESENT	PRESENT	ABSENT	PRESENT	PRESENT	PRESENT	PRESENT
7	ELIZABETH. JOHNSON	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
8	RAJI R KRISHNAN	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
9	AUCE NOBLE	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
10	AMRITHA KRISHNAN	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
11	GULAFSHAN IONI	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
12	HEMANTH	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
13	HRIDYA KRISHNAN	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
14	INDUJALEKMI J	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	ABSENT	PRESENT
15	PRAKASHA K C	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
16	SARIGA	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
17	SREERAM JAYAN	STUDENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
18	ANJU JOSEPH	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
20	DEEPTHY N RAJENDRAN	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
21	ARJUN KI	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
22	MARY VARGHESE	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
23	RAVISHANKER HS	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
24	RESMI VK	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
25	MANJU V	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	ABSENT
26	DR SREEJA	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT
27	DR LEKSHMI S	FACULTY	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT	PRESENT



