

# Govt. Digvijay Autonomous P.G. College, Rajnandgaon (C.G.)

## DEPARTMENT OF CHEMISTRY



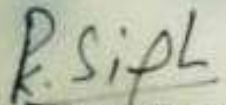
### Three Months Value-Added, Certificate Course "Advanced Techniques For Soil And Water Analysis"

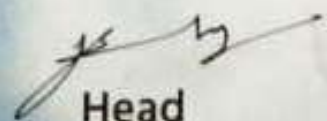


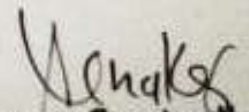
This is to certify that ALISHA ANSARI (41220201) of M.Sc. (final) Chemistry has successfully completed the requirements of 30 hours of three months value-added certificate course on "Advanced Techniques for Soil and Water Analysis" with A<sup>+</sup> grade, conducted from Feb 2022 To May 2022 organized by the Department Of Chemistry and sponsored by autonomous exam cell,

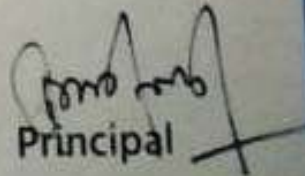
Govt. Digvijay Autonomous P.G. College, Rajnandgaon (C.G.).

**We extend our best wishes for his/her future endeavors.**

  
Course Co-ordinator

  
Head  
Department of chemistry

  
Exam Controller  
Autonomous Cell

  
Principal

# GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE, RAJNANDGAON (C.G.)

Event Date

October 20, 2021 to  
November 24, 2021



Event Time

15:00 to 17:00 IST.  
through Zoom App

## Value Added Course

On

## Scientific Document Preparation Using LATEX

Organized By

Department of Mathematics

Govt. Digvijay Autonomous P.G. College, Rajnandgaon

Sponsored By

Autonomous Cell

Govt. Digvijay Autonomous P.G. College, Rajnandgaon

**Patron**

**Dr. (Smt.) B.N. Meshram**

Principal

Govt. Digvijay Autonomous P.G. College,  
Rajnandgaon (C.G.)

**Course Coordinator**

**1. Dr. Hemant Kumar Sao**

Contact No. - 7748024264

Department of Mathematics

**2. Mrs. Kavita Sakure**

Contact No. - 8817329005

Department of Mathematics

**Convener**

**Dr. (Smt.) Shabnam Khan**

HOD

Department of Mathematics

**Co-Convener**

**Dr. K.K. Dewangan**

Asst. Professor

Department of Mathematics

Join us on –  
Google Meet/Zoom App  
& YouTube



Registration Link:

<https://docs.google.com/forms/d/e/1FAIpQLScT0d6bwadLdLyY6p8VzZNH4yBPEbf3-Z3NITfZ6228-TLsSQ/viewform>

## Objective

The documentation skills are inevitable in the field of science and technology. There are some standard norms by which scientific documents are being prepared. These norms can be easily met with documentation software LaTeX. It is rather a program written in plain text and can be formatted to the requirement. The program is compiled to get the output, usually in pdf format. Creating a table of contents, giving a proper citation, placing figures and tables at the right places, etc. are troublesome in many of the popular documentation tools. These things can be easily performed in LaTeX with the help of a command. Therefore, this course "Scientific Document Preparation using LaTeX" will be a valuable addition in student's career.

### Eminent Speaker's

**Dr. Rakesh Tiwari**

Assistant Professor

Department of Mathematics

Govt. V.Y.T. Autonomous P.G. College, Durg

**Dr. Dipti Thakur**

Assistant Professor

SoS in Mathematics

Pt. Ravishankar Shukla University, Raipur

**Dr. Samir Dashputre**

Assistant Professor

Department of Mathematics

Govt. College, Arjunda, Balod

**Dr. Anindita Chakraborti**

Associate Professor

Department of Applied Mathematics,

BIT, Durg

**Mr. Rajesh Patel**

Assistant Professor

Department of Applied Mathematics

BIT, Durg

### Note for the Participants

- Registration is mandatory and it's free.
- Registered participants will receive Zoom meet link through email/ What's App group
- All the relevant information will be sent through What's App group
- There will be 5 quizzes, participants' presentation and Final test in this course.
- Participants have to actively participate in presentation and score 40% in each quiz and final test for qualifying this course.
- Participants will be eligible for certificate if they fulfill all above criteria.

# मूल्य वर्धित पाठ्यक्रम

12/03/2022 से 20/04/2022 तक

दिनांक 12/03/2022 को संस्कृत विभाग में मूल्य वर्धित पाठ्यक्रम-कर्मकाण्ड तथा संस्कार प्रशिक्षण पाठ्यक्रम का उद्घाटन कार्यक्रम आयोजित किया गया। कार्यक्रम की अध्यक्षता प्राचार्य डॉ. के. एल. टांडेकर जी ने की। कार्यक्रम का प्रारंभ वैदिक मंत्रोच्चारण के साथ हुआ। डॉ. के. एल. टांडेकर जी ने अपने उद्बोधन में कहा कि विश्व की समस्त भाषाओं की जननी संस्कृत भाषा है। अतः भाषाओं के शुद्धोच्चारण एवं ज्ञान की दृष्टि से संस्कृत का ज्ञान आवश्यक है। उन्होंने कहा कि आज इस अवसर पर यह संकल्प ले कि संस्कृत के प्रचार-प्रसार हेतु सतत् प्रयत्नशील रहेंगे। संस्कृत की व्यवहारिक एवं व्यवसायिक उपयोगिता बढ़ाने का प्रयत्न किया जाना चाहिए। प्राचार्य जी ने कर्मकाण्ड प्रशिक्षण पाठ्यक्रम की महत्ता से विद्यार्थियों को अवगत कराया। कार्यक्रम मंच संचालन विभाग के सहायक प्राध्यापक श्री ललित प्रधान आर्य ने संस्कृत भाषा में किया। कार्यक्रम में विभाग की अध्यक्षा डॉ. दिव्या देशपांडे, गणित विभाग के प्राध्यापक डॉ. के. के. देवांगन तथा विभाग के अतिथि व्याख्याता डॉ. महेंद्र नगपुरे उपस्थित थे।



## कर्मकाण्ड एवं संस्कार प्रशिक्षण पाठ्यक्रम

पूर्णांक-100

लिखित 50+प्रायोगिक 50

इकाई 1- कर्मकाण्ड तथा संस्कार एवं पूजन विधि  
सामान्य परिचय 10+10

इकाई 2- पञ्चाङ्ग परिचय- तिथि, वार, करण, नक्षत्र,योग आदि 10+10


इकाई 3- नित्यकर्मविधि तथा स्त्रोतपाठ एवं वैदिकमन्त्राभ्यास 10+10

इकाई 4-देवता पूजन-रुद्राभिषेक, गणपति पूजन, दुर्गा पूजा विधान,  
सरस्वती पूजन तथा अन्य सामान्य देवी-देव पूजन विधान 10+10

इकाई 5 - व्रतपूजन- प्रमुख व्रतपूजन विधान तथा हवन पध्दति 10+10

संदर्भ ग्रंथ:-

- 1, नित्यकर्मपूजाप्रकाश, गीता प्रेस गोरखपुर
- 2, यज्ञ मीमांसा, चौखम्मा वाराणसी
- 3, वशिष्ठी हवन पध्दति
- 4, सर्वदेव पूजा पध्दति
- 5,षोडश संस्कार विधि
- 6, रुद्रष्टाध्यायी
- 7, स्तोत्ररत्नावली
- 8, कर्मकाण्डप्रदीपः
- 9, देव पञ्चाङ्ग
- 10, उपवास एवं उपासना
- 11, पूजा भास्कर एवं गोदान पध्दति

  
डॉ. दिव्या देशपाण्डे  
विभागाध्यक्ष -संस्कृत  
शास. दिग्विजय महाविद्यालय  
राजनांदगांव (छ.ग.)

कार्यालय-प्राचार्य, शासकीय दिग्विजय स्वशासी स्नातकोत्तर महाविद्यालय,  
राजनांदगांव (छ.ग)

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Email: [principal@digvijaycollege.com](mailto:principal@digvijaycollege.com)

☎ : & Fax 07744-225036

क्र/ GDCR 242/2022

राजनांदगांव दिनांक 26/03/2022

प्रति,

पण्डित सूरज पाण्डेय,  
वैदिक कर्मकांडी पण्डित  
राजनांदगांव(छ.ग)

विषय- वैल्यू एडेड कोर्स हेतु व्याख्यान बाबत।

विषयान्तर्गत निवेदन है कि, शासकीय दिग्विजय स्वशासी महाविद्यालय के संस्कृत विभाग द्वारा 'कर्मकांड एवं संस्कार' विषय पर मूल्य वर्धित पाठ्यक्रम प्रचलित है। इस पाठ्यक्रम में पंच दिवसीय व्याख्यानमाला हेतु दिनांक 29/03/2022 से 02/04/2022 तक आप सादर आमंत्रित हैं। आशा है आप अनुमति प्रदान कर अनुगृहीत करेंगे।

कार्यक्रम रूपरेखा-

क्र.	दिनांक	विषय
1	29/03/22	कर्मकाण्ड, संस्कार एवं पूजन विधि-सामान्य परिचय
2	30/03/22	पंचाङ्ग परिचय
3	31/03/22	नित्यकर्म विधि, स्तोत्र पाठ तथा वैदिक मंत्राभ्यास
4	01/04/22	देवता पूजन विधि
5	02/04/22	प्रमुख व्रतपूजन विधान तथा हवन पद्धति

समय-दोपहर 12 बजे

स्थान-संस्कृत विभाग

विभागाध्यक्ष (संस्कृत)

शासकीय दिग्विजय महाविद्यालय,  
राजनांदगांव



प्राचार्य

Principal

शासकीय दिग्विजय महाविद्यालय,  
Rainandgaon (C.G.)  
राजनांदगांव

olc

प्रति,

प्राचार्य

शा. दिग्विजय महाविद्यालय  
राजनांदगांव (म.प्र.)

विषय:- पुरस्कार एवं प्रमाण पत्र वितरण कार्यक्रम बाबत।

महोदय,


विषयान्तर्गत निवेदन है कि संस्कृत विभाग द्वारा आयोजित संस्कृत संभाषण कार्यशाला एवं कर्मकाण्ड प्रशिक्षण पाठ्यक्रम (वैल्यू एडेड डीग्री) का प्रमाण पत्र वितरण कार्यक्रम दिनांक 31/05/2022 को किया जाना प्रस्तावित है। अतः उपर्युक्त कार्यक्रम आयोजित करने हेतु अनुमति प्रदान करने की कृपा करें।


धन्यवाद

भवदीया

दिनांक -

30/5/2022

अनुमति सिद्धांत  


  
डॉ. दिव्य देशपांडे  
विभागाध्यक्ष (संस्कृत)

क्र	दफ्तर/ दफ्तराबा नाम	कक्षा	12/3/2022	14/3/2022	16/3/2022
1.	आकांशा भैराम	एम.ए. उत्तरक	Akanksha	Akanksha	Akanksha
2.	अंकिता	३३	A	अंकिता	अंकिता
3.	गतिमा	३३	A	A	A
4.	दीक्षा	३३	A	A	A
5.	मनीष कुमार वर्मा	३३	Munish	Munish	Munish
6.	अमन खोरी	३३	अमन	अमन	अमन
7.	अंकिता	३३	अंकिता	अंकिता	अंकिता
8.	अर्चना	३३	A	Archana	A
9.	चेवन कुमार	३३	Chavan	Chavan	Chavan
10.	यामिनी नायक	३३	yamininayak	yamininayak	yaminini
11.	दिलेश्वरी देवांगन	३३	Dileshwari	Dileshwari	Dileshwari
12.	चन्द्रकुला	३३	Chandkula	Chandkula	Chandkula
13.	मोनिका साहू	३३	Monika	A	monika
14.	हिनेश्वरी सिन्हा	३३	Himeshwari	Himeshwari	
15.	तारेश वर्मा	३३	Tarsh	Tarsh	
16.	चांदनी भार्गव	३३	A	A	A
17.	रितु सिन्हा	३३	Ritesinha	Ritesinha	A
18.	हेमलता	३३	Hemlata	Hemlata	A
19.	हृणाराम	३३	Hunararam	Hunararam	Hunararam
20.	उरुमलता	३३	A	A	A
21.	दुलारी	एम.ए. उत्तरक	Dulari	Dulari	A
22.	नेहा / तेजराज	३३	Neaha	Neaha	A
23.	लेग कुमार	३३	Leg	Leg	A
24.	आशा	३३	A	A	A
25.	युनेश्वरी	३३	A	A	A
26.	पुनम लाल	३३	Punam	Punam	Punam
27.	डा. प्रमोद लाल	३३	Prasad	Prasad	Prasad
28.	पुनम शाय	३३	Punam	Punam	Punam
29.	रितेश कुमार सिन्हा	३३	Ritesh	Ritesh	Ritesh





क्र	पत्र/ छात्रा नाम	कक्षा	26/3/22	29/3/22	30/3/22
1.	आकांशा भैराम	एम.ए. उत्तर	Akansha	A	A
2.	अंकिता	--	अंकिता	अंकिता	अंकिता
3.	गतिमा	--	A	A	अंकिता
4.	दीप्ता	--	<del>दीप्ता</del>	A	A
5.	मनीष कुमार वर्मा	--	Manish	Manish	Manish
6.	अमन जोशी	--	अमन	A	अमन
7.	अंकिता	--	अंकिता	अंकिता	अंकिता
8.	अर्चना	--	अर्चना	अर्चना	अर्चना
9.	चैतन कुमार	--	Chetan	Chetan	Chetan
10.	शामिनी नायडु	--	A	A	Shamini
11.	दिलेश्वरी देवांगन	--	Dileshwar	Dileshwar	Dileshwar
12.	चन्द्रकला	--	Chandkala	A	Chandkala
13.	मोनिक्का साहू	--	A	A	Monika
14.	दिनेश्वरी सिन्हा	--	Dineshwar	Dineshwar	Dineshwar
15.	तारेश वर्मा	--	Tarsh	A	Tarsh
16.	चांदनी भार्गव	--	A	A	A
17.	श्रुतु सिन्हा	--	Shrutika	A	A
18.	हेमलता	--	Hemlata	A	A
19.	हृषीराम	--	A	Krishna	Krishna
20.	उत्सुमलता	--	A	A	A
21.	दुलारी	एम.ए. डब	Dulari	A	A
22.	नेहा / तेजराज	<del>नेहा</del>	Neaha	A	A
23.	लेश कुमार	<del>लेश</del>	Lesh	A	A
24.	आशा	<del>आशा</del>	Asha	Asha	Asha
25.	युनेश्वरी	--	A	A	A
26.	पुरामतलाल	--	Purama	Purama	Purama
27.	डा. प्रमलाल	--	Churama	Churama	Churama
28.	पुनमशाय	--	<del>पुनम</del>	पुनम	पुनम
29.	दिनेश कुमार सिन्हा	--	Dinesh	Dinesh	Dinesh



क्र	दफ्त/ दफ्तर का नाम	कक्षा	01/10/2022	01/11/22	11/11/22
1.	आकांशा भैराम	एम.ए. उत्तर	A	A	अंकिता
2.	अंकिता	--	A	A	
3.	गतिमा	--	<del>अंकिता</del>	A	A
4.	दीक्षा	--	<del>अंकिता</del>	A	A
5.	मनीष कुमार वर्मा	--	<del>अंकिता</del>	A	A
6.	अन्नन जोरी	--	<del>अंकिता</del>	A	A
7.	अंकिता	--	<del>अंकिता</del>	A	A
8.	अर्चना	--	<del>अंकिता</del>	अंकिता	अंकिता
9.	चैतन कुमार	--	<del>अंकिता</del>	Dehema	Dehema
10.	यामिनी नायक	--	yamini	A	A
11.	दिलेश्वरी देवांगन	--	Dilleshwari	Dilleshwari	Dilleshwari
12.	चन्द्रकुला	--	Chudra	A	A
13.	मोनिका साहू	--	A	Monika	A
14.	दिनेश्वरी सिन्हा	--	Dineshwar	Dineshwar	A
15.	तारेश वर्मा	--	Tar	A	A
16.	चांदनी भार्गव	--	Chandni	Chandni	Chandni
17.	श्रुति सिन्हा	--	Shruti	A	A
18.	हेमलता	--	Hemlata	A	A
19.	कृष्णाराम	--	Krishna	Krishna	Krishna
20.	कुसुमलता	--	Kusum	Kusum	Kusum
21.	दुलारी	एम.ए. इव	A	A	A
22.	नेहा / तेजराज	<del>एम.ए. इव</del>	A	A	A
23.	लेश कुमार	<del>एम.ए. इव</del>	A	A	A
24.	आशा	<del>एम.ए. इव</del>	Asa	Asa	Asa
25.	युनेश्वरी	--	A	A	A
26.	पुरामन लाल	--	Puraman	Puraman	Puraman
27.	डा. प्रमन लाल	--	Churaman	churaman	churaman
28.	पूनम शाय	--	A	पूनम शाय	A
29.	दिनेश कुमार सिन्हा	--	A	दिनेश कुमार सिन्हा	A



क्र	दात्र/दात्रा का नाम	शुद्धा	12/3/2022	14/3/2022	16/3/2022
30.	मोहन कुमार	एम.ए.पूर्वार्द्ध	A	A	A
31.	पम्मी	-11-	A	A	A
32.	तारिका वर्मा	-11-	Tarika	Tarika	Tarika
33.	नेहा/सुमनदाज	-11-	Neha	Neha	Neha
34.	अनुव कुमार बिजौरी	-11-	Anuv	Anuv	Anuv
35.	मनमोहन	-11-	Mamohan	Mamohan	Mamohan
36.	रुचि साहू	-11-	Ruchi	Ruchi	Ruchi
37.	गुंजा	-11-	Gunja	Gunja	Gunja
38.	केशव कुमार चंडेल	-11-	Keshu	Keshu	Keshu
39.	नेमन कुमार	-11-	Neman	Neman	Neman
40.	लीलाधर	-11-	Lila	Lila	Lila
41.	धनंजय कुमार	-11-	Dhananjay	Dhananjay	Dhananjay
42.	भावना	-11-	Bhavna	Bhavna	Bhavna
43.	पवनलाल	-11-	Pavan	Pavan	Pavan
44.	नन्दनी	-11-	Nandini	Nandini	Nandini
45.	दुर्गेश कुमार	-11-	Durgesh	Durgesh	Durgesh



3	दात्र/दात्रा डी नाम	कुटा	26.03/22	29/3/22	30/3/22
30.	मोहन कुमार	एम.ए. पूर्विक	मोहन कुमार	A	A
31.	पम्मी	-  -	पम्मी	A	A
32.	तारिडा वर्मा	-  -	Tarika	Tarika	Tarika
33.	नेहा/सुमनदाप	-  -	Neha	A	Neha
34.	अनुव कुमार बिपाठी	-  -	Anuv	Anuv	Anuv
35.	मनमोहन	-  -	Mamohan	A	A
36.	रुचि साहु	-  -	Ruchi	Ruchi	A
37.	गुंजा	-  -	Gunja	Gunja	Gunja
38.	केशव कुमार चेंडेल	-  -	Keshav	A	A
39.	नेमन कुमार	-  -	Neman	Neman	A
40.	लीलाधर	-  -	Liladh	A	A
41.	धनंजय कुमार	-  -	Dhananjay	Dhananjay	Dhananjay
42.	भावना	-  -	Bhavna	A	A
43.	एवतलाल	-  -	Evatalal	A	A
44.	नन्दनी	-  -	Nandani	A	A
45.	दुर्गेशा कुमार	-  -	Durgesh	A	A





क्र	दात्र/दात्रा का नाम	शुद्ध	9/4/2022	11/4/22	12/4/22
30.	मोहन कुमार	एम.ए.पूर्वाह्न	A	A	A
31.	पम्मी	-11-	A	A	A
32.	तारिका वर्मा	-11-	Tarika	Tarika	Tarika
33.	नेहा/सुमनदाज	-11-	Neeta	Neeta	Neeta
34.	अनुव कुमार बिपाठी	-11-	Anuv	Anuv	Anuv
35.	मनमोहन	11	A	A	A
36.	रुचि साहू	-11-	A	A	Ruchi
37.	गुंजा	-11-	Gunja	Gunja	Gunja
38.	केशव कुमार चंडेल	-11-	Keshav	Keshav	Keshav
39.	नेमन कुमार	-11-	A	A	A
40.	लीलाचर	-11-	A	A	A
41.	धनंजय कुमार	-11-	A	A	A
42.	भावना	-11-	A	A	A
43.	एवतलाल	-11-	A	A	A
44.	नन्दनी	-11-	A	A	A
45.	दुर्गेशा कुमार	-11-	A	A	A



क्र.	नाम	पिता का नाम	हस्ताक्षर	टिप्पणी
1.	अंजलिता	स्व. विष्णु लक्ष्मण	अंजलिता	
2.	डिलेश्वरी देवांगन	श्री वाश्याम देवांगन	डिलेश्वरी देवांगन	
3.	संजिवा देवांगन	श्री रामचंद्र देवांगन	संजिवा	
4.	दीक्षा पाल	श्री. धनुष लाल	दीक्षा	
5.	मोनिशु	स्व. नारद दाल	मोनिशु	
6.	जाकांछा नेत्राम	स्व. रामदास	जाकांछा	
7.	वत्सु सिन्हा	श्री धनश्याम सिन्हा	वत्सु सिन्हा	
8.	हेमलता सिन्हा	श्री विरेन्द्र कुमार	Hemlata	
9.	दिनेश्वरी सिन्हा	श्री रमेश्वर सिन्हा	Dineshwari Sinha	
10.	अमन खोरी	श्री महलाल खोरी	अमन	
11.	चन्द्रकला	श्री अजय सिंह	चन्द्रकला	
(12)	गतिमा	श्री विरामन लाल	गतिमा	
(13)	चेतन कुमार	श्री प्रथम लाल खाड़	चेतन	
14.	नारेश वर्मा	श्री दुष्यंत वर्मा	Narish	
15.	कल्याण राम	श्री मान चंद्र	Kalyan	
16.	यामिनी नायक	श्री चंद्रमनायक	Yamini Nayak	
17.	अर्चना वैष्णव	विद्येश दाल	Archana	
18.	मनमोहन विवारी	श्री मनमोहन विवारी	Manamohan Vivari	
19.	दिनेश कुमार सिन्हा	श्री मन चंचराम सिन्हा	Dinesh	
20.	दुर्गा कुमार	श्री विमल चंद्र	Durga	
21.	शमन लाल	श्री उमदी राम	Shaman	
22.	चुरामन लाल	श्री मान लाल सिंह	Churaman Lal	
23.	मोहन कुमार	श्री. बालकृष्ण	Mohan Kumar	
24.	एव न लाल	श्री. चम्पू राम	Evam Lal	
25.	नेमन कुमार	श्री गिरधराम	Neman Kumar	
26.	सुधा कुमार	श्री गान्धी चंद्र	Sudha	
27.	केशव कुमार	श्री राजेंद्र दास	Keshav	
28.	हानजय	स्व. दास	Hanjay	

क्र.	नाम	पिता का नाम	र-ताक्षर	रिमाक
29	नेहा	तेजपराम	<del>Tejparam</del>	
30	कुलारा	सुरजमान देवमुख	<u>Dulara</u>	
31	नेहा	सुमन कश्यप	<u>Neharshy</u>	
32	भाबा	कलाराम उर	<u>Ambar</u>	
33	पम्मी	मिलु दास	<u>PMMI</u>	
34	तारिका वर्मा	जोधरलाल वर्मा	<u>Tarika</u>	
35	रुचि नाइ	मिलन रनाइ	<u>Ruchi</u>	
36	सुनेरवरी वर्मा	शैलराम वर्मा	<u>Suneer</u>	
37	भावना	शिवचरण कुंजाम	<u>Bhavna</u>	
38	रुंवा	जान्तलाल खाडू	<u>Runwa</u>	
39	पूनमसाय	सुन्दरसिंह	<u>Poonmsay</u>	
40	मनीष कुमार	हरवन सिंह वर्मा	<u>Manish V</u>	
41	अतल त्रिपाठी	प्रिजलेंद्र प्रसाद त्रिपाठी	<u>Atul</u>	
42	चाँदनी	श्री. शशिप्रसाद साववि	<u>Chandni</u>	
43	कसुमलता साह	जीर्णवल साह	<u>Kasumalata</u>	
44	नन्दनी पटेल	श्री अरवनी पटेल	<u>Nanduni</u>	
45	वीनाबल	भेदतकर राम साह	<u>Veena</u>	

# GOVT. DIGVIJAY AUTONOMOUS PG COLLEGE

Distt. - Rajnandgaon (C.G)



Value Added Course on "Criminology"

16 Febuary to 16 March 2022

## Certificate

This is to certify that Mr./Mrs/Miss/Prof DOLLY RAJPOOT, M.A. (SOCIOLOGY)..... from GOVT. DIGVIJAY COLLEGE, RAJNANDGAON has participated / given lecture in one month certificate course on "**Criminology**" Conducted by Sociology and M.S.W. department, Govt. Digvijay Autonomous P.G. College, Rajnadgaon (C.G.)

Patron

Dr. K.L. Tandekar  
Principal

Govt. Digvijay Auto. PG College  
Rajnandgaon (C.G.)

Convenor

Dr. A.K. Mandavi  
H.O.D. Sociology

Govt. Digvijay Auto. PG College  
Rajnandgaon (C.G.)

Convenor

Mrs. Lalita Sahu  
H.O.D. M.S.W.

Govt. Digvijay Auto. PG College  
Rajnandgaon (C.G.)

**GOVT. DIGVIJAY AUTONOMOUS PG COLLEGE, RAJNANDGAON (C.G.)**



**Value Added Course on  
EMPLOYMENT PROSPECTS IN INSURANCE SECTOR  
03 March to 29 March 2022**

*Certificate*

This is to certify that Mr./Mrs./Miss./Prof. .... from  
..... has participated / given lecture in 20 days. certificate course on  
*“Employment Prospects in Insurance Sector”* Conducted by Economics and  
Commerce department, Govt. Digvijay Autonomous P.G. College, Rajnandgaon (C.G.)

*Patron*

Dr. K.L. Tandekar  
Principal

*Convenor*

Dr. D.P. Kurre  
H.O.D. Economics

*Convenor*

Dr. H.S. Bhatia  
H.O.D. Commerce

शासकीय दिग्विजय स्वशासी स्नातकोत्तर महाविद्यालय  
राजनांदगांव (छत्तीसगढ़)



Value Added Course (मूल्य वर्धित पाठ्यक्रम)  
बीमा क्षेत्र में रोजगार की संभावनाएं  
(03.03.2022 to 28.03.2022)

आयोजक  
वाणिज्य एवं अर्थशास्त्र विभाग



संयोजक  
डॉ. एच. एस. भाटिया  
विभागाध्यक्ष वाणिज्य



संरक्षक  
डॉ. के.एल. टांडेकर  
प्राचार्य  
शा. दिग्विजय स्व. स्नातकोत्तर महाविद्यालय  
राजनांदगांव छत्तीसगढ़



संयोजक  
डॉ. डी. पी. कुरी  
विभागाध्यक्ष अर्थशास्त्र





# GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE

RAJNANDGAON (C.G.)

Affiliated to Hemchand Yadav Vishwavidyalaya, Durg (C.G.)

## CERTIFICATE IN ADD - ON COURSE

Roll No. .... 214258..

Enrollment No. HJ/SOL/2000124

This is to certify that Ku./Smt./Soni MUKTA JAIN

Class B o A e I has successfully completed Add - On Certificate

Course in CREATIVE WRITING AND SPOKEN ENGLISH with

Grade/Credit 19.48/20 in the year 2021

  
Controller  
Autonomous Exams

GOVT. DIGVIJAY COLLEGE

Date : 10 AUG 2021

  
Principal

GOVT. DIGVIJAY COLLEGE



**Govt. Digvijay Auto. P.G. College**

**Rajnandgaon**

**Department Of English**

**Syllabus : 2020-21**

**ADD-ON COURSE**

**IN**

**SPOKEN ENGLISH AND CREATIVE WRITING**

Prog. code - ACSEN - 01

ADD-ON COURSE

THREE YEAR COURSE IN SPOKEN ENGLISH AND CREATIVE WRITING

FIRST YEAR- CERTIFICATE COURSE

Total: 100+100

SENGT- 101



Paper I

100 marks

**Unit I:**

15

Meeting People, My Family, Asking Questions, Colours around You, Holiday Getaways, Home Sweet Home

Need for English Communication, Pronunciation of Consonant Sounds, Intonation & Modulation (Facial Expressions), Vocabulary List

**Unit II:**

15

It's My Life, Food for Thought, Making Friends, Buying Things, At the Park, Home Improvement, Pronunciation of Vowel Sounds

**Unit III:**

15

The Calendar, Time Gone by, Know Your Planet, What Did You Do? Going Places, Do's & Don'ts. Nouns, Pronouns, Verbs, Adverbs, Articles, Adjectives- their uses.

**Unit IV:**

15

Parts of the Body, Better Than the Best, A Look into the Future, How Do You Feel?, Leisure Time, Who's This? Subject Verb Agreement, Vocabulary List, Preposition, Conjunction, Interjection.

**Unit V**

(A) General Principles of Writing:

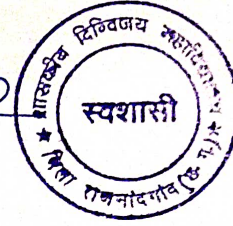
30

Birth of Writing, Types of Writing, Substance of Writing, Techniques to Achieve Lucidity & Direction in Writing, Authenticity in Writing.

(B) Literary Genres: Poetry, Prose, Drama, Fiction, Short Stories, One-Act Play, Biography, Autobiography.

10

SENGT-102  
Paper II



100 marks

<b>Internal Assessment</b> –Continuous Internal Assessment through Practice in Language Lab	50
<b>External Assessment:</b> Final Practical Exam in Language Lab (2 Hours)	50

**LIST OF REFERNCE BOOKS**

**CREATIVE WRITING**

1. "The art of Fiction: Notes on Craft for young writers."- John Gardiner
2. "From Where your Dream; The Process of Writing Fiction"- Robert Olen Butter.
3. "The Story of Writing"- Donald Jackson.
4. "What to Tell and How to Tell it"-Edna Lyman.
5. "Writer's Workshop: Techniques in Creative Writing"-Barry Maybury

**SPOKEN ENGLISH**

1. "English in situations" by R.O. Neill (OUP).
2. "What to say when" Ed: Vioin Huggins (BBO London).
3. "Improve your English: English in Everyday Life"- Stephen Brown and Ceil Lucas

APPROVED BY THE BOARD OF STUDIES ON ...03...09.2020

NAME	IN THE CAPACITY OF	SIGNATURE
Dr. Anlta Shankar	Chairman	Anlta
Dr. Mercy George	Subject Expert (V C Nominee)	Virtual consent received
Dr. G A Ghanshayam	Subject Expert (Principal Nominee)	
Dr. Rashmi Dubey	Subject Expert (Principal Nominee)	
Dr. Aaftaab Aman	Advisor (Syllabus Committee)	
Mr. Chandan Soni	Meritorious Ex Student	

ACSEN - 02

SECOND YEAR- DIPLOMA COURSE

Total -100+100

Paper I

SENGT- 201



100marks

15

Unit I:

Communication:

Types of Communication, Elements of Communication, Process of Communication.

Unit II:

15

Tense (Present, Past & Future)

Introductory Speeches, Thanks Giving Speeches, Useful Vocabulary for Formal & Informal Letters

Unit III:

15

Simple, Compound & Complex Sentence, Modals

Offering Encouragement to Somebody

Unit IV:

15

Direct & Indirect Speech, Active & Passive Voice

Congratulations & Good Wishes

Unit V

Basic Elements of Short Stories

20

Children Literature (The Jungle Book, Snow White, Alice in Wonderland)

20

SENGT-2020

Paper II



100 marks

Internal Assessment:	Continuous Internal Assessment through Practice in Language Lab	50
External Assessment:	Final Practical Exam in Language Lab (2 hours)	50

### LIST OF REFERNCE BOOKS

#### CREATIVE WRITING

1. "Short Story Techniques"- John Baland
2. "Adventure, Mystery and Romance"- John Cawetti
3. "Writing Fiction: A Guide to Narrative Craft"- Janet
4. " The Craft of Children's Writing"- Judith Newman
5. Becoming a Writer"- Dorothea Brande

#### SPOKEN ENGLISH

1. "Improve your English: English in the Work Place"- Stephen Brown and Ceil Lucas.
2. "Success with English: The Penguin Courses"- Alexander Baird.
3. "English Language Learning Programme"- Prakash Books.
4. "LongMan Student Grammar of Spoken and Written English"- Douglas Biber, Susan Conrad and Geoffrey Leech.

APPROVED BY THE BOARD OF STUDIES ON ...03.09.2020

NAME	IN THE CAPACITY OF	SIGNATURE
Dr. Anita Shankar	Chairman	ANITA
Dr. Mercy George	Subject Expert (V C Nominee)	} Virtual Consent- received.
Dr. G A Ghanshayam	Subject Expert (Principal Nominee)	
Dr. Rashmi Dubey	Subject Expert (Principal Nominee)	
Dr. Aaftaab Aman	Advisor (Syllabus Committee)	
Mr. Chandan Soni	Meritorious Ex Student	

ACSEN-03

THIRD YEAR- ADVANCED DIPLOMA COURSE

Total-100+100

Paper-I

SENGT-301



100 marks

**Unit I:**

Transformation of Sentences; Synthesis of Sentences, Register and Style

15

**Unit II:**

Facing Group Discussions, Interviews; Preparing good Resume and presenting it before the Interview Team, Role of language in Personality Development

15

**Unit III:**

Public Speaking & Presentation, Use of Idioms in Spoken English, Introduction to Speech

15

**Unit IV:**

How to Pronounce Correctly, Mastering Spoken English, Effective Oral Communication.

15

**Unit V: (A) Writing for Media, Radio and Television**

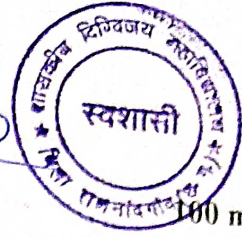
20

Principles & Methods of Effective Writing, Radio and its Potential, Radio talks, Interviews and Discussions, Television and its Potential, Advertising and Media, Newspaper Reports

**(B) Basic Elements of Poetry (Themes, Structures, Imagery, Symbols, Language, Rhythm),**  
Appreciating Indian Writings in English (Jayant Mahapatra, APJ Kalam's Ignited Minds, R.K. Narayan's Swami & Friends)

20

SENGT-302  
Paper II



Internal Assessment: Continuous Internal Assessment through Practice in Language Lab	50
Project Work	50

### LIST OF REFERNCE BOOKS

#### CREATIVE WRITING

1. "Understanding Poetry"-Brooks, Cleanth and Warren Penn
2. "The Making of a Poem"- Ted Hughes
3. "The Poetic Image"- Day C. Lewis
4. "Radio Power"- Julian Hale
5. "Writing for Television"-Sir Basil Barlett

#### SPOKEN ENGLISH

1. "Spoken English learned Quickly"-Lynn Lundquist
2. "Fluent English"- Living Language.
3. "English Language Learning Programme"- Prakash Books.

APPROVED BY THE BOARD OF STUDIES ON ...03.09.2020

NAME	IN THE CAPACITY OF	SIGNATURE
Dr. Anita Shankar	Chairman	Anita
Dr. Mercy George	Subject Expert (V C Nominee)	} Virtual Consent received.
Dr. G A Ghanshayam	Subject Expert (Principal Nominee)	
Dr. Rashmi Dubey	Subject Expert (Principal Nominee)	
Dr. Aaftaab Aman	Advisor (Syllabus Committee)	
Mr. Chandan Soni	Meritorious Ex Student	





## DEPARTMENT OF CHEMISTRY

GOVT. DIGVIJAY AUTONOMOUS PG

COLLEGE, RAJNANDGAON (C.G.)

B. Sc.

ACFSQC-01

ACFSQC-02

ACFSQC-03

Subject- Food Science & Quality

Control

Session : 2021-22

Programme Duration : 3 year

B. Sc. I yr (Certificate)

Name of the Paper : BASIC NUTRITION (Paper- I)

Examination System : Annual System

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10/8/21  
K. S. S. S.  
10-8-21  
[Signature]



## PROGRAM OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## PROGRAM SPECIFIC OUTCOME

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

### First Year : Certificate

#### PAPER – I : BASIC NUTRITION

- Students will learn about source, function of foods, nutrients, malnutrition, inter-relationship between nutrition and health, good health, food guide, etc.
- Students will understand about water, minerals, Carbohydrates.
- Students will learn about lipids and vitamins.
- Enzymes nomenclature, specificity, etc and energy will be discussed.
- Amino Acids, Peptides and Proteins

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10-8-27

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**Vocational / Add-on Course**

**Syllabus for B.Sc. Part-I**

<b>Theory Paper</b>	<b>Title of Paper</b>	<b>Duration</b>	<b>Max. Marks</b>	<b>Min. Marks</b>	<b>Credits</b>
<b>Paper-I</b>	<b>Basic Nutrition</b>	<b>3hr</b>	<b>75</b>	<b>25</b>	<b>6</b>
<b>Paper-II</b>	<b>Food Microbiology sanitation &amp; Hygiene</b>	<b>3hr</b>	<b>75</b>	<b>25</b>	<b>6</b>
<b>Practical</b>		<b>4hr</b>	<b>50</b>	<b>17</b>	<b>8</b>

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10-8-27

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Department of Chemistry  
Govt. Digvijay PG Autonomous College Rajnandgaon  
Session – 2021-22

## FOOD SCIENCE & QUALITY CONTROL

Add-On Course - Food quality control  
Eligibility for B.Sc. students along with B.Sc. Part – I

PAPER-I  
Basic Nutrition

FSQCT-101

First Year : Certificate Course  
Theory Paper – I : Basic Nutrition  
Each Unit has 1.2 Credits

MM: 75

### Paper – I BASIC NUTRITION

#### Unit I : Introduction to Nutrition

Food as a source of nutrients, function of foods, definition of nutrition, nutrients, adequate, optimum and good nutrition, mal- nutrition, inter-relationship between nutrition and health, visible symptoms of good health, food guide, use of food in body, digestion, absorption, transport, utilization of nutrients in the body.

**Unit II : (a) Water** : As a nutrient, function source, requirement, water balance, effect of deficiency.

**(b) Minerals** : Calcium, iron, iodine, fluorine, sodium, potassium deficiency.

**(c) Carbohydrates**: Definition, classification, property, food sources, function, storage in body, test of carbohydrates.

**Unit III : (a) Lipids** : Nomenclature, classification, physical aspects, emulsions and emulsifier, chemistry of fat and oil processing.

**(b) Vitamins** : Classification, units of measurement, sources, functions and deficiencies about vitamin A, D, E,

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ascorbic acid, riboflavin, niacin, vitamin B6, B12, folic acid.

**Unit IV : (a) Enzymes :** Nomenclature, specificity, kinetics, factors influencing enzyme activity, controlling enzyme action.

**(b) Energy :** Unit of energy, energy value of food. The body needs for energy, B.M.R. activity.

### Unit V : Amino Acids, Peptides and Proteins

Nomenclature, Classification, essential and non-essential amino acids, sources of amino acids and proteins, protein deficiency.

### References

1. Guthrie, Hele, Andrews, Introductory Nutrition, 6<sup>th</sup> Ed. Loves, Times Mirror/Mosby College, 1988.
2. Mudambi S.R., Rajgopal M.V., Fundamental of Foods and Nutrition, 2<sup>nd</sup> Ed., Wiley Eastern Ltd. 1990.
3. Swaminathan S., Advanced text book of Food Nutrition Vol II, 2<sup>nd</sup> Ed., 1985.
4. Willson, E. Principle of Nutrition, 4<sup>th</sup> Ed., New York, John Wiley & Sons, 1979.

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## **DEPARTMENT OF CHEMISTRY**

**GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)**

**B. Sc.**

**Subject: Food Science & Quality  
Control**

**Session : 2021-22**

**Programme Duration : 3 year**

**B. Sc. I yr (Certificate)**

**Name of the Paper: FOOD MICROBIOLOGY, SANITATION &  
HYGIENE (Paper- II)**

**Examination System: Annual System System**

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## PROGRAM OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## PROGRAM SPECIFIC OUTCOME

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

### Paper – II : FOOD MICROBIOLOGY, SANITATION & HYGIENE

- Students will learn about microbiology, morphology of micro-organisms, control of micro-organisms, effect of environmental factors, etc.
- Microbiology of different food spoilage and contamination, sources, types, effects, environmental microbiology, water, air, soil & sewage
- Microbial intoxication and infections, symptoms & methods of control, beneficial effects, microbiological standards, food safety.
- The relation of micro-organisms to sanitation, effect of micro-organisms on foods borne illness.
- Importance of personal hygiene of food handler, safety in food procurement, cleaning methods, sanitation, waste product handling, etc.

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*10-8-21*

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## FOOD SCIENCE & QUALITY CONTROL

Add-On Course - Food Science & quality control

Eligibility for B.Sc. students along with B.Sc. Part - I

PAPER-II **FSQCT-102**

## FOOD MICROBIOLOGY, SANITATION & HYGIENE

First Year : Certificate Course  
Theory Paper - II : Food Microbiology, Sanitation & Hygiene  
Each Unit has 1.2 Credits

MM: 75

### Paper - II

## FOOD MICROBIOLOGY, SANITATION & HYGIENE

### Unit I

1. Introduction to Microbiology & its relevance to everyday life. General morphology of micro-organisms. General characteristics of bacteria, fungi, virus, protozoa, algae.
2. Control of micro-organisms, effect of environmental factors on growth of micro-organism, pH, water activity, oxygen availability, temperature and others.

### Unit II

1. Microbiology of different food spoilage and contamination, sources, types, effects on the following : (a) Cereals & cereal products, (b) Sugar & Sugar products, (c) vegetables & fruit, (d) meat & meat products, (e) fish & other sea foods, (f) egg & poultry, (g) milk & milk products, (h) canned food.
2. Environmental microbiology, water, air, soil & sewage

### Unit III

1. Microbial intoxication and infections : Sources of contamination of foods. Toxin production & physiological actions. Sources of infection of foods by pathogenic organisms : symptoms & methods of control.
2. Beneficial effects of micro-organisms
3. Relevance of microbiological standards, food safety.

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## Unit IV

1. The relation of micro-organisms to sanitation, effect of micro-organisms on foods borne illness : Bacteria, virus, moulds, yeast & parasites.
2. Other food hazards : Chemicals, antibiotics, hormones
3. Metal contamination : Poisonous foods
4. Foods contamination : Sources & transmission, water, air, sewage & soil as reservoir of infection & work of spread.

## Unit V

1. Importance of personal hygiene of food handler : Habits, clothes, illness, education of food handling in handling and serving food.
2. Safety in food procurement, storage handling and preparation control of spoilage- safety of left to left, own food.
3. Cleaning methods : Sterilization and disinfections : products & methods, use of detergents, heat, chemical test for sanitizer strength.
4. Sanitation, kitchen design, equipments and system : structure & layout of food premises, maintaining clean environment, selecting & installing, cleaning equipment.
5. Waste product handling : Planning for waste disposal.

## References

1. Frazier, W.C. Food Microbiology, 4<sup>th</sup> Ed. McGraw Hill, New York, 1988.
2. Kawata K. Environmental sanitation in India, Lucknow Pub. House, 1963.
3. Pelezar H.J. and Rober D. Microbiology, 2<sup>nd</sup> Ed. McGraw Hill, New York, 1968.
4. Banwart G.T. Basic Food Microbiology, CBS Pub, New Delhi, 1987.
5. Jay J.H. Modern Food Microbiolgy, CBS Pub, New Delhi.

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## **DEPARTMENT OF CHEMISTRY**

**GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)**

**B. Sc.**

**Subject : Food Science & Quality Control**

**Session : 2021-22**

**Programme Duration : 3 year**

**B. Sc. I (Certificate)**

**Name of the Paper : Practical Exam**

**Examination System : Annual System**

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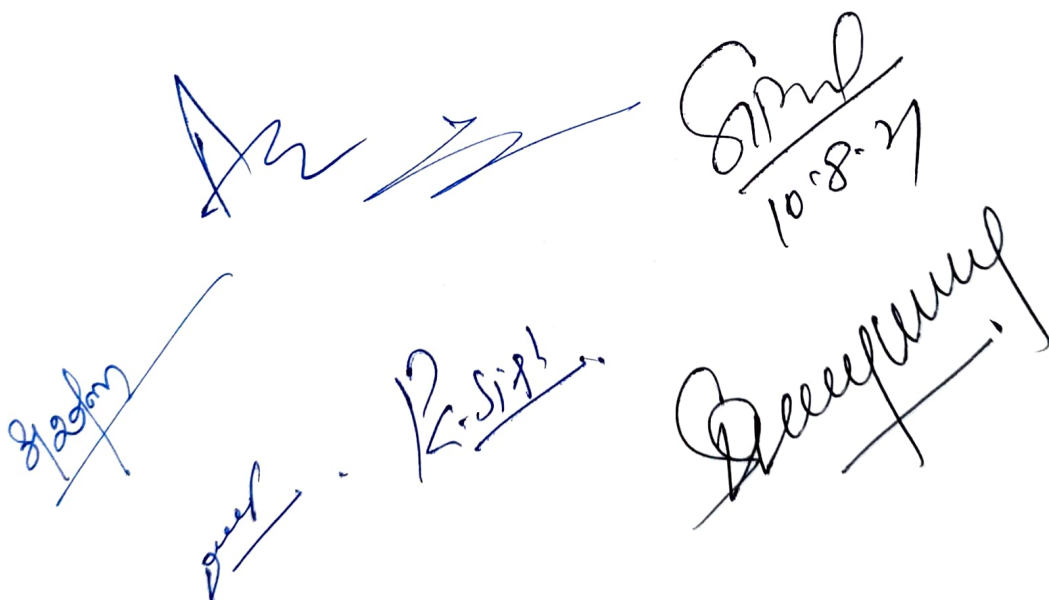
*Dr. R. S. P.*

## PROGRAM OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## PROGRAM SPECIFIC OUTCOME

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

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## FOOD SCIENCE and QUALITY CONTROL

Add-On Course - Food Science & quality control  
Eligibility for B.Sc. students along with B.Sc. Part - I

First Year : Certificate FSQCP-103

**Details of Practical/Experiments/Field Work/Training/Sessionals MM: 50**

(Concerned with two theory papers)

(08-Credits)

- |                                |          |
|--------------------------------|----------|
| 1. Practical/Experimental Work | 25 marks |
| 2. Sessional work              | 10 marks |
| 3. Field work & training       | 10 marks |
| 4. Viva                        | 5 marks  |

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Below it, the word "Done" is written in blue ink.  
In the center, there is a signature that appears to be "R. Singh".  
On the right, there is a date "10/8/21" written in blue ink.  
Below the date, there is a large, stylized signature in blue ink that appears to be "Rajesh Singh".



# DEPARTMENT OF CHEMISTRY

GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)

B. Sc.

Subject : CHEMISTRY

Session : 2021-22

ACFSQC-02

Programme Duration : 3 year

B. Sc. II yr (Diploma)

Name of the Paper : FOOD PRESERVATION, SENSORY  
EVALUATION & FOOD PACKAGING  
(Paper- I)

Examination System : Annual System

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## PROGRAM OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## PROGRAM SPECIFIC OUTCOME





The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

### Second Year : Diploma Course

#### PAPER-I : FOOD PRESERVATION, SENSORY EVALUATION & FOOD PACKAGING

- Students will learn about basic concept of food preservation.
- Students will learn about Spoilage of food, nutritive value of preserved food
- Students will learn about palatability of food, measurement, sensory analysis, etc.
- Factors influencing sensory measurements, types of test, objective methods of evaluation, etc.
- Importance of packaging, various package forms, packaging materials, methods and performances, etc.

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# Food Science and Quality Control

## Vocational / Add-on Course

### Syllabus for B.Sc. Part-II

Theory Paper	Title of Paper	Duration	Max. Marks	Min. Marks	Credits
Paper-I	Food Preservation sensory evaluation and Food packaging	3hr	75	25	6
Paper-II	Post Harvest technology	3hr	75	25	6
Practical		4hr	50	17	8

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Department of Chemistry  
Govt. Digvijay PG Autonomous College Rajnandgaon  
Session – 2021-22

**FOOD SCIENCE & QUALITY CONTROL**

Add-On Course - Food quality control

Eligibility for B.Sc. students along with B.Sc. Part – II

PAPER-I

FSQCT-201

**FOOD PRESERVATION, SENSORY EVALUATION**

&

**FOOD PACKAGING**

**Unit I**

**Total Marks: 75**

1. Basic concept of food preservation
2. Preservation at home and community level
3. Principles of food preservation

**Unit II**

1. Spoilage of food
2. Temporary & permanent methods of food
3. Nutritive value of preserved food

**Unit III**

1. Palatability of food and the measurement of its accepted sensory testing
2. Sensory analysis
3. Sensory characteristics of food

**Unit IV**

1. Factors influencing sensory measurements
2. Altitude, motivation, psychological errors adaption
3. Types of test (Laboratory)

10-8-21



4. Objective methods of evaluation – Density, volume, tenderness, tension, viscosity, weight, moisture loss, etc.

## Unit V

1. Importance of packaging
2. Various package forms – Products, tubes, tetrapacks, cans, bottles.
3. Packaging materials
4. Packaging methods and performances
5. Evaluation of packaging

## References

1. Food Science & Quality Control, S. Shrivastava
2. Preservation of fruits & vegetables, Girdhari Lal, Siddappa and G.L. Tondon
3. Food Preservation, Sundar Lal Sharma
4. Food Processing & Presevation, G. Subbulakshmi, Shobha A. Udipi
5. Food: Facts & Principles, N. Shakuntla, M. Sadakrishnaswami
6. Packaging Management, Briston & Neil, Gower Press
7. Food & Packaging Interactions, Hotchickess, American Chemical Society

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**DEPARTMENT OF CHEMISTRY**

**GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)**

**B. Sc.**

**Subject : Food Science & Quality Control**

**Session : 2021-22**

**Programme Duration : 3 year**

**B. Sc. II yr (Diploma)**

**Name of the Paper : POST HARVEST TECHNOLOGY &  
ANALYTICAL INSTRUMENTATION (Paper- II)**

**Examination System : Annual System**

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## PROGRAM OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## PROGRAM SPECIFIC OUTCOME

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

### PAPER-II : POST HARVEST TECHNOLOGY & ANALYTICAL INSTRUMENTATION

- Students will learn about principles of food processing, processing technology, enrichment & fortification of food.
- Sprouting & fermentation, additives, preservatives, quality Control in food industry, etc.
- Basics of instrumentation like colorimetry, photometry, chromatography, electrophoresis.
- Principles & applications of different techniques used in food & nutrition research

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PAPER-II  
POST HARVEST TECHNOLOGY

FSQCT-202

&  
ANALYTICAL INSTRUMENTATION

**Unit I**

**Total Marks : 75**

1. Principles of food processing (a) Physical & (b) Chemical
2. Processing technology of cereals, legumes, oil seeds, fruits, vegetables, milk & milk products, meat, fish & poultry
3. Enrichment & fortification of food

**Unit II**

1. Sprouting & fermentation
2. Additives
3. Preservatives
4. Quality Control in food industry, methods of evaluation & control of various aspects of quality of raw material, manufacturing process, the testing of finished products

**Unit III**

1. Basics of instrumentation – Physical, chemical principles and methodology
2. Colorimetry, photometer

**Unit IV**

1. Chromatography – principles & techniques (thin layer, gas, liquid & high performance liquid chromatography)

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2. Electrophoresis – Principle & applications, paper, moving boundary (agar & beta carotene).

## Unit V

1. Principles & applications of different techniques used in food & nutrition research
2. Spectrophotometry – phosphorus, ascorbic acid
3. Fluorimetry – Thiamin, Riboflavin
4. Radioactive trace techniques

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# DEPARTMENT OF CHEMISTRY

GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)

**B. Sc.**

**Subject : Food Science & Quality Control**

**Session : 2021-22**

**Programme Duration : 3 year**

**B. Sc. II yr (Diploma)**

**Name of the Paper : Practical Work**

**Examination System : Annual System**

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## **COURSE OBJECTIVES:-**

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## **COURSE OUTCOMES**

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

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## FOOD SCIENCE & QUALITY CONTROL

Add-On Course - Food Science & quality control  
Eligibility for B.Sc. students along with B.Sc. Part - II

Laboratory Course FSQCP-203

Details of Practical/Experiments/Field Work/Training/Sessionals M M: 50

1. Visit to food preservation centre
2. Preparation of jam, jelly, marmalades
3. Preparation of sherbet, squash and cordials
4. Preparation of sauce and ketchups
5. Preparation by dehydration methods of chips, papad, badi
6. Sensory testing of food - visual perception, colour, odour, smell, flavor, texture & taste
7. Survey of recent marketed packaging materials
8. Quality testing of packaging materials

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**DEPARTMENT OF CHEMISTRY**

**GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)**

**B. Sc.**

**Subject : Food Science & Quality Control**

**Session : 2021-22**

ACFSQC - 03

Programme Duration : 3 year

**B. Sc. III (Advanced Diploma)**

Name of the Paper : FOOD ANALYSIS AND FOOD  
TOXICOLOGY(Paper-I)

Examination System : Annual System

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## COURSE OBJECTIVE

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## Third Year : Advanced Diploma

### PAPER - I : FOOD ANALYSIS AND FOOD TOXICOLOGY

- Enable students to develop new food products and entrepreneurial abilities.
- Food composition, emulsifiers, antioxidants, enzymes, etc and sampling technique.
- General chemical methods of analysis of carbohydrate, fat, protein, etc.
- Toxicology, food contamination, toxins, chemical preservatives, pesticides, etc.
- Food borne illness, microbial & parasitic food poisoning, parasites, etc.

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A date: 10-8-27  
A signature: Praveen Kumar

**Food Science and Quality Control**

**Vocational / Add-on Course**

**Syllabus for B.Sc. Part-III**

Theory Paper	Title of Paper	Duration	Max. Marks	Min. Marks	Credits
Paper-I	Food Analysis and Food Toxicology	3hr	75	25	6
Paper-II	Food Manufacturing Adulteration And Testing	3hr	75	25	6
Practical		4hr	50	17	8

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Dr. P.



**Department of Chemistry**  
**Govt. Digvijay PG Autonomous College Rajnandgaon**  
**Session – 2021-22**

Add-On Course - Food Science & quality control  
Eligibility for B.Sc. students along with B.Sc. Part – III

**Paper – I** FSQCT-301  
**Food Analysis and Food Toxicology**

**Total Marks: 75**

**UNIT - I**

1. Food composition & Factors affecting : carbohydrates, proteins, fats & oil, and natural emulsifiers, organic acids, oxidants, antioxidants, enzymes, pigment and colours, flavours, vitamins, & minerals, natural toxicants water.
2. Sampling techniques : preparation of sample physical methods – lactometry , refractometry, polarimetry, viscosity, surface tension.

**UNIT – II**

3. General chemical methods of analysis
  - a. Total carbohydrate- mono, disaccharides, starch and gum, crude = fiber and dietary fibre.
  - b. Total fat and different types of lipids.
  - c. Total protein – (micro Kjeldahl methods, biuret methods, lawry,s methods) non protein and specific protein.
  - d. Macro & micro nutrients – Na, K, P, Ca, Mg, Fe, Zn, Vitamins.

**UNIT -III**

1. Toxicology – introduction, importance and scope.
2. (i) food contamination
  - (ii) Naturally occurring toxins in various foods.  
Substance – animal & plant foods.
  - (iii) substances intentionally added to food – antioxidants colours, stabilizers
3. Residual chemicals utilized in food production & processing.
  - (i) chemical preservatives.
  - (ii) Pesticides
  - (iii) Heavy metals.
  - (iv) Hormones in foods.

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## UNIT - IV

4. Food borne illness – microbial & parasitic food poisoning
  - (i) Bacterial intoxication – Staphylococcal botulism
  - (ii) Bacterial infections – Salmonellosis , clostridium, E coli infection
  - (iii) Non- Bacterial- Mycotoxins.
  - (iv) Parasites - trichinosis, Amoebic dysentery Tapeworm.

## UNIT - V

5. (i) Introduction :-
  - (a) Application of irradiation in food preservation
  - (b) Effects of irradiation
- (ii) Heat Treatments –
  - (a) Changes during thermal processing and effects on food quality and nutrients.
6. Carcinogens
  - (i) Definition and classification
  - (ii) Dietary factors.
7. Genetically Engineered foods : Definition, Application of gene technology safety.

## REFERENCE :

1. Principles & techniques of practical biochemistry Williams and K. Wiston, Edward Arnold pub.
2. Trace Analysis and Technological Development Ed. M.S. Das.
3. Microbiological Assay- an introduction to Quantitat principles & Evaluation. Bowitt W Academic Press 1977
4. Nutritional and toxicological Aspects of food processing edt. Walker and E. Quattrucci Tayloss & Francis New York 1980.
5. Manual of Food Quality Control Addition Contamixents Techniques 1980.
6. The Chemical Analysis of food & food products By Morris B. Jacobs, 3<sup>rd</sup> Ed. Roberte Kriger.
7. Toxicological Aspects of food Edt. K.Lava miller E. Isevier Applied Science London & New York.

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**GOVT. DIGVIJAY AUTONOMOUS PG  
COLLEGE, RAJNANDGAON (C.G.)**

**B. Sc.**

**Subject : Food Science & Quality Control**

**Session : 2021-22**

**Programme Duration : 3 year**

**B. Sc. III (Advanced Diploma)**

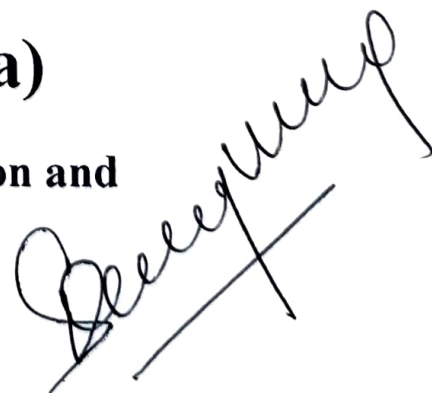
**Name of the Paper : Food Manufacturing Adulteration and  
Testing**

**Examination System : Annual System**





  
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## COURSE OBJECTIVE

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## COURSE OUTCOMES

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

## Third Year : Advanced Diploma

### Paper-II : Food Manufacturing Adulteration And Testing

- Students will learn about market research, consumer research, food consumption pattern, etc.
- Trends in social change, food situation in India and outside, prospects of food processing for export , product developing, etc.
- Food laws, states and Municipal laws, food Standard.
- Food Adulteration.
- Entrepreneurship, food laws, transporting –types/mode.

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10-1-21  
S. S. Singh



**Department of Chemistry**  
**Govt. Digvijay PG Autonomous College Rajnandgaon**  
**Session – 2021-22**

Add-On Course - Food Science & quality control  
Eligibility for B.Sc. students along with B.Sc. Part – III

**Paper – II** *FSQCT-302*  
**Food Manufacturing Adulteration and Testing**

**Total Marks: 75**

**Unit-I**

Market Research → Concept of market , type of market , Scope of market research , importance of market research , production of market research.  
Consumer Research → Consumer – meaning and definition consumer responsibility , consumer products , consumer behavior , importance of consumer research.  
Food consumption pattern and the various factors affecting this pattern-  
economical , social , psychological and physiological.

**Unit- II**

Trends in social change and its role in diet pattern . Food situation in india and outside.  
Tapping the un-conventional post harvest losses.  
Prospects of food processing for export . Traditional food status and need for revival in the context of westernized untraditional foods.  
Product developing → primary and secondary processing , types of food products eg- quick cooking , fast food , convenience food.

**Unit - III**

Food laws → states and Municipal laws , voluntary , Mandatory , National and international , Role of voluntary agencies and legal aspects of consumer protection. Food Standard → Indian and international.

**Unit - IV**

Food Adulteration → Composition and quality criteria for the following – milk & milk products , flesh foods Food against flours , fruit & vegetable products , Oil & fats , Spices & condiments , Beverages-alcoholic & non alcoholic canned foods.

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10-8-21  
*R. S. Singh*



## Unit-V

Enterpreneurship , plant , location , investment  
Food laws , equipment and space  
Costing of produc  
Advertising and markrting.  
Large scale preparation of consumer products  
Transporting -tyes/mode.

## REFERENCE:

1. Ritson , C.Gofton L.me Kenzie J.The Food Consumer John Willey & Sons-  
New York ,1986
2. Association of food scientists & food technologist's proceeding of second  
international food science- foodscience & technological &Food convention  
(Indian Trends in food science & technology) IFCON—88 & 18-12-  
1988(FTR) Mysore.
3. Bender , Pe, Kromer , A.Kahan ,G Systems Analysis for food Induistry AVI  
pul Co , Connecticut 1976.
4. Prevention of food adulterntion Act 1988
5. ISI publication
6. Pearsond Chemical analysis of Food-Egan kiv and sawyer.
7. Methods in food analysis –Jacob.
8. Handbook of analysis and quality control for fruits & vegetable products
9. Chemical methods of food analysis – Jacob.
10. Standard Methods for examination of dairy products – E.M. Master.

  
A collection of handwritten signatures and dates in blue ink. On the left, there is a signature that appears to be 'S. S. S.' with a large flourish. Below it is another signature that looks like 'S. S. S.' with a horizontal line through it. In the center, there is a signature 'K. S. S.' with a horizontal line through it, and below that, the word 'D. S.' with a horizontal line through it. On the right, there is a date '10-8-77' written under a horizontal line, and below that, a signature that looks like 'S. S. S.' with a horizontal line through it.

## **COURSE OBJECTIVE**

The purpose of the Add-on course on Food Science & Quality Control program at Govt. Digvijay PG Autonomous college is to provide the key knowledge, base and laboratory resources to prepare students for achieving their career goals as professionals in the field of chemistry, biological chemistry and related fields. They will be able to work as chemists and food analysts in different laboratories.

## **COURSE OUTCOMES**

- Students will have a basic knowledge of fundamentals and application of food science & quality control.
- Students will be able to record and analyze the results of experiments.
- Students will be skilled in problem solving, critical thinking and analytical.
- Students will become aware of the ethical behavior in issues in this field.

*[Handwritten signature]*  
S. S. S.

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10-8-21  
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R. S. S.



**Department of Chemistry**  
**Govt. Digvijay PG Autonomous College Rajnandgaon**  
**Session – 2021-22**

Add-On Course - Food Science & quality control  
Eligibility for B.Sc. students along with B.Sc. Part – III

**Practical Exam** *FSQCP-303*  
**MM: 50**

1. Analysis of Food and Testing of Adulteration in Food analysis of food simple Physical & Chemical Test.
2. To analyse protins, mineral and vitamins by colorimeter.
3. To analyse proteins by electrophoresis.
4. To analyse facts and vitamins by paper and thin layer chromatography.
5. To analyse facts gravimetrically.
6. To analyse facts by volumetric methods.
  - a. Testing food Adulteration-:
    7. Milk and Milk products.
    8. Oil & Fats
    9. Canned foods
    10. Fruits & vegetable products.
    11. Spices and condiments.
    12. Flours.
- a. Student will be taken to different types of food manufacturing units and food service establishments.
- b. Project report to be submitted.

*29/03/21*  
*10/08/21*

*[Signature]*

*Rishabh*

*6/10/21*  
*10-8-21*

*[Signature]*