



प्रो० रजनीश पाण्डे  
विभागाध्यक्ष  
अर्थशास्त्र विभाग

डी०एस०बी० परिसर,  
कुमाऊँ विश्वविद्यालय, नैनीताल

पत्रांक : अर्थ०/2022/44

दिनांक 23-07-2022

सेवा में,

कुलसचिव,  
कुमाऊँ विश्वविद्यालय,  
नैनीताल।

विषय:- स्किल तथा वोकेशनल कोर्स के सम्बन्ध में।

महोदय,

आपके कार्यालय से दिनांक 23-07-2022 को प्रातः 10:22 में हुई टेलीफोनिक वार्ता के क्रम में सूचित करना है कि अर्थशास्त्र विभाग, डी०एस०बी० परिसर, नैनीताल में वर्तमान समय में कोई भी स्किल तथा वोकेशनल कोर्स संचालित नहीं किये जा रहे हैं।

राष्ट्रीय शिक्षा नीति 2020 के तहत स्नातक स्तर पर बनाये गये पाठ्यक्रम में अर्थशास्त्र विषय में बी०ए० – प्रथम, द्वितीय, तृतीय एवं चतुर्थ सेमेस्टर में निम्न स्किल डेवलपमेंट कोर्स प्रस्तावित हैं –

बी०ए० सेमेस्टर

प्रथम

द्वितीय

तृतीय

चतुर्थ

स्किल डेवलपमेंट कोर्स का नाम

फील्ड सर्वे टेक्निक्स

मार्डन बैंकिंग टेक्निक्स

कोआपरेटिव स्किल्स

इन्टरप्रीन्युअरशिप स्किल्स

सादर।

भवदीय

प्रो० (रजनीश पाण्डे)

विभागाध्यक्ष

अर्थशास्त्र विभाग।

प्रतिलिपी :- निजी सचिव, कुलपति को माननीय कुलपति जी के सूचनार्थ।

प्रो० (रजनीश पाण्डे)

विभागाध्यक्ष

अर्थशास्त्र विभाग।

\*Note :- Paper [Basics of Computer Application in Economics] can be opted by students on availability of Specialized Staff and Infrastructure in the concerned department.

## SKILL DEVELOPMENT COURSE

B.A.-I Year	SEM 1	Field Survey Techniques	[ 3 CREDITS]
	SEM 2	Modern Banking Techniques	[ 3 CREDITS]
B.A.-II Year	SEM 3	Cooperative Skills	[ 3 CREDITS]
	SEM 4	Entrepreneurship Skills	[ 3 CREDITS]

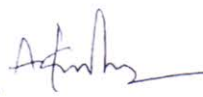
### Abbreviations :-

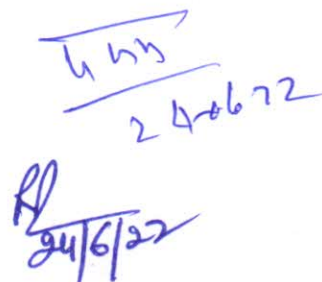
ECOMJ	-	Economics Major Core
ECOMJE	-	Economics Major Elective
ECORP	-	Economics Research Project
ECOMIE	-	Economics Minor Elective
ECOSDC	-	Economics Skill Development Course

S. Bahari



Kedilani  
24/06/2022



  
24/06/22

Subject: Political Science			
Course Code: PS101VM	Course Title: Issues of Rural Government	Year: I	Semester: I
<b>Course Outcomes:</b> After Completing this course the learner would be able to understand: <ul style="list-style-type: none"> <li>• The issues of rural development in India</li> <li>• Nature of different rural development programs.</li> <li>• Rural development planning and management etc.</li> </ul>			
Credits: 3		Core: Vocational	
Max. Marks: 100		Min. Passing Marks: 33	
Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0			
Unit	Topic	No. of Lectures	
Unit I	Rural Development: Indian Context Rural Development Programs	15	
Unit II	Rural Development Planning and Management Research Methods in Rural Development	15	
Unit III	Rural Health Care: Rural Social Development and Health Issues Water Sanitation	15	
Unit IV	Land Reforms and Rural Development	15	
Unit V	Entrepreneurship and Rural Development Components of Social Security	15	

**Suggested Reading:**

- 1) Environmental Law and Policy in India by Shyam Divan
- 2) Environmental Law by Dr. J.J Upadhyaya
- 3) Environmental Law and Policy by Aruna Venkat

**Suggested Online Link:**

- <https://ndl.iitkgp.ac.in/>
- <http://epgp.inflibnet.ac.in/>
- <http://egyankosh.ac.in/>
- <https://www.ncertbooks.guru/english-skills/>
- <https://epathshala.nic.in/>
- <https://www.digitalindia.gov.in/services>

- <https://rtionline.gov.in/>
- <https://www.india.gov.in/topics/law-justice>

**Suggested equivalent online courses:**

**This course can be opted as an elective by the students of following subjects:**

This course can be opted as an elective by the student of any subject.

**Suggested Continuous Evaluation (25 Marks):**

**Course Prerequisites:**

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Subject: Political Science			
Course Code:	Course Title: Study of Voting Pattern and Voting Behaviour	Year: I	Semester: II
<p><b>Course Outcomes:</b> Voting behavior is a form of electoral behavior. Understanding voter's behavior can explain how and why decisions were made either by public decision makers, which has been central concern for political scientists. Political science student students study ways in which affective influence may help voters make more informed voting choices, with some proposing that affect may explain how to electorate makes informed political choices, with some proposing that affect may explain how the electorate makes informed political choices in spite of low overall levels of political attentiveness and sophistication.</p>			
<b>Credits: 3</b>		<b>Core: Vocational</b>	
<b>Max. Marks: 100</b>		<b>Min. Passing Marks: 33</b>	
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0</b>			
Unit	Topic	No. of Lectures	
Unit I	Nature of Political Democracy in India	10	
Unit II	People's Representation Act	10	
Unit III	Role of Caste and Religion in Electoral Politics	10	
Unit IV	Analyzing Voting Pattern with field survey	20	

**Suggested Reading:**

- 1- How India votes and what it means by Pradeep Gupta
- 2- The Game of Votes by Farhat Basir Khan
- 3- Measuring Voting Behaviour In India by Sanjay Kumar and Praveen Rai

**Suggested Online Link:**

1. <https://www.digitalindia.gov.in/services>
2. <https://rtionline.gov.in/>
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**This course can be opted as an elective by the students of following subjects:**

This course can be opted as an elective by the student of any subject.

**Suggested Continuous Evaluation (25 Marks):**

**Course Prerequisites:**

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**Subject: Political Science**

Course Code: PS201VC	<b>Course Title: Issues of Urban Government</b>	Year: II	Semester: III
<b>Course Outcomes:</b> After Completing this course the learner would be able to understand: <ul style="list-style-type: none"><li>• The issues of urban development in India</li><li>• Nature of different urban development programs.</li><li>• Urban development planning and management etc.</li></ul>			
<b>Credits: 3</b>		<b>Core: Vocational</b>	
<b>Max. Marks: 100</b>		<b>Min. Passing Marks: 33</b>	
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0</b>			
Unit	Topic	No. of Lectures	
Unit I	Introduction to Urban Government Issues and Challenges in Urban Planning and Development	15	
Unit II	Dynamics of Urban Planning and Development Monitoring and Evaluation of Projects and Programmes	15	
Unit III	Development Issues and Perspectives Urban Governance and Finance	15	
Unit IV	Transportation Planning Infrastructure, Network and Services	15	
Unit V	Climatic Change, Human Settlements and Urban Design	15	

**Suggested Reading:**

- 1- Urban Local Self Government in India by R.N.Prasad
- 2- Urban Local Government in India by Pankaj Singh
- 3- Urban Government and Politics in India Supersession of Muncipal Bodies by L.N.P.Mohanty
- 4- Urban Local Self-Government in India by R.N.Prasads

**Suggested Online Link:**

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  - <http://epgp.inflibnet.ac.in/>
  - <http://egyankosh.ac.in/>
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- <https://www.digitalindia.gov.in/services>
- <https://rtionline.gov.in/>
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**Suggested equivalent online courses:**

**This course can be opted as an elective by the students of following subjects:**

This course can be opted as an elective by the student of any subject.

**Suggested Continuous Evaluation (25 Marks):**

**Course Prerequisites:**

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**Subject: Political Science**

Course Code: PS202VM	<b>Course Title: Public Policy</b>	Year: II	Semester: IV
<b>Course Outcomes:</b> After Completing this course the learner would be able to understand: <ul style="list-style-type: none"><li>• Political Process as well as Policy formulation</li><li>• The difficulties in implementation of Programs and Policies</li><li>• Interface between public policy and administration in India</li><li>• Criteria and Agencies for Policy Evaluation in India</li></ul>			
<b>Credits: 3</b>		<b>Core: Vocational</b>	
<b>Max. Marks: 100</b>		<b>Min. Passing Marks: 33</b>	
<b>Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0</b>			
Unit	Topic	No. of Lectures	
Unit I	Definition, Scope, Types & Significance of the Public Policy, Public Policy as an Emerging field of Study Major Determinants: Political Parties, Interest Groups, Pressure Groups, Mass Media, Non-Governmental Organization, Government Agencies, International Agencies NITI Aayog, Legislature, Executive, Judiciary, Bureaucracy, Techniques of Policy Implementation	15	
Unit II	Policy Making Process in India, Role of Parliament,	10	
Unit II	Policy Evaluation: Concept, Criteria and Agencies	10	
Unit III	Policy Intervention- Case Studies/Mock parliament: Panchayati Raj, NEP, MNREGA, Environmental Policies, Welfare Plans for Women & Weaker Sections, Feedback from Stake Holders.	15	

**Suggested Reading:**

1. Arora R.K. & Goyal R. 'Indian Public Administration', VishwaPrakashan 2008 New Delhi
2. Basu Rumki (ed.2015) 'Democracy and Good Governance: Reinventing the Public Service Delivery System in India' Bloomsbury, New Delhi
3. Basu Rumki (2015) 'Public Administration in India Mandates, Performance and Future Perspectives', Sterling Publishers, NewDelhi
4. Chakrabarty Bidyut & Chand Prakash (2017) 'Public Administration: From Government to Governance' Orient Blackswan Pvt. Ltd.Hyderabad
5. Chakrabarty Bidyut& Chand Prakash (2017) 'Public Administration in a Globalizing World: Theories & Practices' SAGE, NewDelhi

6. Jayal, N.G (1999) 'Democracy and The State: Welfare, Secular and Development in Contemporary India', Oxford, Oxford University Press, New Delhi
7. Sharma M.P., &Sadan B.L. 'LokPrashasan: SiddhantevamVyavhar' Kitab Mahal, Allahabad
8. Singh H. & Singh M. 'Public Administration in India, Theory and Practice', Sterling Publication 1990 New Delhi

**Suggested Online Link:**

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**Suggested equivalent online courses:**

**This course can be opted as an elective by the students of following subjects:**

This course can be opted as an elective by the student of any subject.

**Suggested Continuous Evaluation (25 Marks):**

**Course Prerequisites:**

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## VOCATIONAL/SKILL DEVELOPMENT COURSES #

### LIST OF ALL THE PAPERS IN FIRST 04 SEMESTERS - Music Instrumental (Sitar)

YEAR	SEMESTER	COURSE CODE	PAPER TITLE	THEORY/PRACTICAL	CREDITS
FIRST	1 ST	MS-SV101P	BASIC KNOWLEDGE OF THE INSTRUMENT "SITAR"	PRACTICAL	3
FIRST	2 ND	MS-SV102P	ADVANCED KNOWLEDGE OF THE INSTRUMENT "SITAR"	PRACTICAL	3
SECOND	3 RD	MS-SV103P	BASIC KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN "SITAR"	PRACTICAL	3
SECOND	4 TH	MS-SV104P	ADVANCED KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN "SITAR"	PRACTICAL	3




# Note: Admission in the Skill Development/Vocational Courses for the students from 1st to 4th Semester shall strictly depend upon the number of available seats (Merit Wise) as suggested by the Faculty Members of the Subject Specialization according to the availability of musical instruments & seating capacity.

SKILL DEVELOPMENT / VOCATIONAL COURSE - U.G.		Year: First	Semester: First
Subject: Music Instrumental (Veena, Sarod, Sitar, Israj, Guitar, Violin & Flute )			
Course Code: MS-SV101P		Course Title: BASIC KNOWLEDGE OF THE INSTRUMENT "SITAR"	
<p><b>Course outcome:</b> The student will know the fundamentals of holding of the Sitar, the right posture for sitting and the correct placement of the hands on the instrument for playing. They will learn the practical fundamentals of playing of instrument in terms of some bol patterns exercise, alankars-paltas of left-right hand and basic playing of jhala. The students will become well versed with the techniques of playing Sitar. Having learnt the Notation system in the theory, the student will be able to read and learn the compositions in the prescribed ragas and taal. They will possess a fairly good idea of how Maseetkhani and Razakhani gat with tans and jhaala in a Raga is to be performed after learning the basic ragas and their gats. They'll understand the concept of laya and layakri through some basic talas.</p>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75 = 100 (External + Internal)		Min. Passing Marks: 33	
Unit	Topics	No. of Lectures	
I	Basic structural knowledge of the instrument - Sitar	05	
II	Ability to play 15 Alankars/Taans/Todas in the Raga Yaman	05	
III	Ability to play one Razakhani Gat in the Raga Yaman	10	
IV	Ability to play Jod & Jhallah in the Raga Yaman	05	
V	Ability to play Jhallah in the Raga Yaman	05	
VI	Ability to demonstrate & recite Taal Teentaal on hands	05	
VII	Elementary knowledge of the various Gharanas of Sitar	05	
VIII	Basic knowledge of the strings & it's arrangement in Sitar	05	
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Bavra, Dr. Jogindra Singh, Bhartiya Sangeet ki Utpatti Evam Vikas, Publisher: ABS Publishers, Jalandhar.</li> <li>2. Chaudhary, Pt. Debu, Sitar and its Technique, Publisher: Avon Book Company, Delhi.</li> <li>3. Chaudhary, Dr. Subash Rani, Sangeet ke Pramukh Shastriya Sidhanth, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>4. Kaur, Dr. Bhagwant, Paramparagat Hindustani Saidhantik Sangeet, Publisher: Kanishka</li> </ol>			

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Publishers and Distributors, New Delhi.

5. Mishra, Dr. Lalmani, **Bhartiya Sangeet Vadya**, Publisher: Bhartiya Gyanpeeth, New Delhi.
6. Nahar, Prof. Sahitya Kumar, **Tantri Naad Swaranjali**, Publisher: Kanishka Publishers and Distributors, New Delhi.
7. Pranjape, Dr. Sharachandra Sridhar, **Sangeet Bodh**, Publisher: MP Hindi Grantha Academy, Bhopal.
8. Rai, Dr. S Sudip, **Jahan-E-Sitar**, Publisher: Kanishka Publishers and Distributors, New Delhi.
9. Shah, Prof. Rajesh, **Sitar Vigyan (Shastra evam prayog)**, Publisher: Kala Prakashan, Varanasi.
10. Sharma, Bhagvad Sharan, **Bhartiya Sangeet ka Itihas**, Publisher: Sangeet Karyalaya, Hathras.
11. Sharma, Dr. Swatantra Bala, **Bhartiya Sangeet ka Etihasic Visleshan**, Publisher: Pratibha Prakashan, New Delhi.
12. Sharma, Dr. Swatantra Bala, **Bhartiya Sangeet ka Vigyanik Vishleshan**, Publisher: Pratibha Prakashan, New Delhi.
13. Singh, Dr. Usha, **Sangeet Shataiyu**, Publisher: Sahitya Sangam, Allahabad.
14. Singh, Prof. Lalit Kishore, **Dhvani aur Sangeet**, Publisher: Bhartiya Gyanpeeth, New Delhi.
15. Sinha, Dr. Jyoti, **Sangeet Saransh**, Publisher: Omega Publications, New Delhi.
16. Srivastav, Dr. Nancy, **Sitar Vadan (Pravidhi evam Shaili Sangrah)**, Publisher: Kanishka Publishers and Distributors, New Delhi.
17. Srivastava, Prof. Harischandra, **Raag Parichay vol. 1 & 2**, Publisher: Sangeet Sadan Prakashan, Allahabad.
18. Srivastava, Prof. Harischandra, **Raag Parichay vol. 3 & 4**, Publisher: Sangeet Sadan, Allahabad.
19. Taak, Dr. Tez Singh, **Sangeet Jigyasa aur Samadhan**, Publisher: Bakran Aalmi Foundation Sankalp, Lucknow.
20. Tiwary, Dr. Kiran, **Sangeet evam Manovigyan**, Publisher: Kanishka Publishers and Distributors, New Delhi.
21. Vasant, **Sangeet Visharad**, Publisher: Sangeet Karyalaya, Hathras.

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

**Suggested Continuous Evaluation Methods:** Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students.

Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

Suggested equivalent online courses: SWAYAM, MOOCS.

<http://heecontent.upsdc.gov.in>

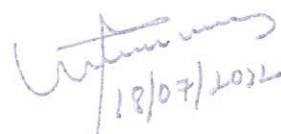
Further Suggestions:



*Vishwanath*  
18/07/2022

SKILL DEVELOPMENT / VOCATIONAL COURSE - U.G.		Year: First	Semester: Second
<b>Subject: Music Instrumental (Veena, Sarod, Sitar, Israj, Guitar, Violin &amp; Flute )</b>			
Course Code: MS-SV102P		Course Title: ADVANCED KNOWLEDGE OF THE INSTRUMENT "SITAR"	
<p><b>Course outcome:</b> The student will know the fundamentals of holding of the Sitar, the right posture for sitting and the correct placement of the hands on the instrument for playing. They will learn the practical fundamentals of playing of instrument in terms of some bol patterns exercise, alankars-paltas of left-right hand and basic playing of jhala. The students will become well versed with the techniques of playing Sitar. Having learnt the Notation system in the theory, the student will be able to read and learn the compositions in the prescribed ragas and taalās. They will possess a fairly good idea of how Maseetkhani and Razakhani gat with tans and jhaala in a Raga is to be performed after learning the basic ragas and their gats. They'll understand the concept of laya and layakri through some basic talas.</p>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75 = 100 (External + Internal)		Min. Passing Marks: 33	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures</b>	
I	Detailed study of Raga Bhopali	05	
II	Ability to play 15 Alankars/Taans/Todas in the Raga Bhopali	05	
III	Ability to play one Razakhani Gat in the Raga Bhopali	10	
IV	Ability to play Jod & Jhallah in the Raga Bhopali	05	
V	Ability to play Jhallah in the Raga Bhopali	05	
VI	Ability to demonstrate & recite Taal Ektaal on hands	05	
VII	Detailed Study of the Imdadkhani Gharana of Sitar & it's torchbearers.	05	
VIII	Basic knowledge of tuning the instrument "Sitar"	05	
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Bavra, Dr. Jogindra Singh, Bhartiya Sangeet ki Utpatti Evam Vikas, Publisher: ABS Publishers, Jalandhar.</li> <li>2. Chaudhary, Pt. Debu, Sitar and its Technique, Publisher: Avon Book Company, Delhi.</li> <li>3. Chaudhary, Dr. Subash Rani, Sangeet ke Pramukh Shastriya Sidhanth, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>4. Kaur, Dr. Bhagwant, Paramparagat Hindustani Saidhantik Sangeet, Publisher: Kanishka</li> </ol>			



  
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**Suggested Continuous Evaluation Methods:** Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students.  
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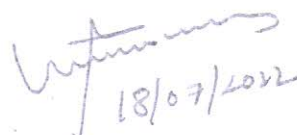
Suggested equivalent online courses: SWAYAM, MOOCS.  
<http://heecontent.upsdc.gov.in>

Further Suggestions:



SKILL DEVELOPMENT / VOCATIONAL COURSE - U.G.		Year: Second	Semester: Third
<b>Subject: Music Instrumental (Veena, Sarod, Sitar, Israj, Guitar, Violin &amp; Flute )</b>			
Course Code: MS-SV103P		Course Title: BASIC KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN "SITAR"	
<p><b>Course outcome:</b> The student will know the fundamentals of holding of the Sitar, the right posture for sitting and the correct placement of the hands on the instrument for playing. They will learn the practical fundamentals of playing of instrument in terms of some bol patterns exercise, alankars-paltas of left-right hand and basic playing of jhala. The students will become well versed with the techniques of playing Sitar. Having learnt the Notation system in the theory, the student will be able to read and learn the compositions in the prescribed ragas and taal. They will possess a fairly good idea of how Maseetkhani and Razakhani gat with tans and jhaala in a Raga is to be performed after learning the basic ragas and their gats. They'll understand the concept of laya and layakri through some basic talas.</p>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75 = 100 (External + Internal)		Min. Passing Marks: 33	
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures</b>	
I	Detailed study of Raga Shuddha Sarang	05	
II	Ability to play 15 Alankars/Taans/Todas in the Raga Shuddha Sarang	05	
III	Ability to play one Maseetkhani & one Razakhani Gat in the Raga Shuddha Sarang	10	
IV	Ability to play Jod & Jhalla in the Raga Shuddha Sarang	05	
V	Ability to play Jhalla in the Raga Shuddha Sarang	05	
VI	Ability to demonstrate & recite Taal Jhaptaal on hands	05	
VII	Detailed Study of the Senia Gharana of Sitar & it's torchbearers.	05	
VIII	Basic knowledge of replacing main & tarab strings in "Sitar"	05	
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Bavra, Dr. Jogindra Singh, Bhartiya Sangeet ki Utpatti Evam Vikas, Publisher: ABS Publishers, Jalandhar.</li> <li>2. Chaudhary, Pt. Debu, Sitar and its Technique, Publisher: Avon Book Company, Delhi.</li> <li>3. Chaudhary, Dr. Subash Rani, Sangeet ke Pramukh Shastriya Sidhanth, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>4. Kaur, Dr. Bhagwant, Paramparagat Hindustani Saidhantik Sangeet, Publisher: Kanishka</li> </ol>			



  
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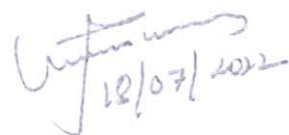
<p>Publishers and Distributors, New Delhi.</p> <ol style="list-style-type: none"> <li>5. Mishra, Dr. Lalmani, <b>Bhartiya Sangeet Vadya</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>6. Nahar, Prof. Sahitya Kumar, <b>Tantri Naad Swaranjali</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>7. Pranjape, Dr. Sharachandra Sridhar, <b>Sangeet Bodh</b>, Publisher: MP Hindi Grantha Academy, Bhopal.</li> <li>8. Rai, Dr. S Sudip, <b>Jahan-E-Sitar</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>9. Shah, Prof. Rajesh, <b>Sitar Vigyan (Shastra evam prayog)</b>, Publisher: Kala Prakashan, Varanasi.</li> <li>10. Sharma, Bhagvad Sharan, <b>Bhartiya Sangeet ka Itihas</b>, Publisher: Sangeet Karyalaya, Hathras.</li> <li>11. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Etihāsik Visleṣhan</b>, Publisher: Pratibha Prakashan, New Delhi.</li> <li>12. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Vigyanik Vishleṣhan</b>, Publisher: Pratibha Prakashan, New Delhi.</li> <li>13. Singh, Dr. Usha, <b>Sangeet Shataiyu</b>, Publisher: Sahitya Sangam, Allahabad.</li> <li>14. Singh, Prof. Lalit Kishore, <b>Dhvani aur Sangeet</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>15. Sinha, Dr. Jyoti, <b>Sangeet Saransh</b>, Publisher: Omega Publications, New Delhi.</li> <li>16. Srivastav, Dr. Nancy, <b>Sitar Vadan (Pravidhi evam Shaili Sangrah)</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>17. Srivastava, Prof. Harischandra, <b>Raag Parichay vol. 1 &amp; 2</b>, Publisher: Sangeet Sadan Prakashan, Allahabad.</li> <li>18. Srivastava, Prof. Harischandra, <b>Raag Parichay vol. 3 &amp; 4</b>, Publisher: Sangeet Sadan, Allahabad.</li> <li>19. Taak, Dr. Tez Singh, <b>Sangeet Jigyasa aur Samadhan</b>, Publisher: Bakran Aalmi Foundation Sankalp, Lucknow.</li> <li>20. Tiwary, Dr. Kiran, <b>Sangeet evam Manovigyan</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>21. Vasant, <b>Sangeet Visharad</b>, Publisher: Sangeet Karyalaya, Hathras.</li> </ol> <p>Suggestive digital platforms web links- <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></p>
<p><b>Suggested Continuous Evaluation Methods:</b> Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)</p>
<p>Suggested equivalent online courses: SWAYAM, MOOCS. <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></p>
<p>Further Suggestions:</p>

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SKILL DEVELOPMENT / VOCATIONAL COURSE - U.G.	Year: Second	Semester: Fourth
<b>Subject: Music Instrumental (Veena, Sarod, Sitar, Israj, Guitar, Violin &amp; Flute )</b>		
Course Code: MS-SV104P	Course Title: ADVANCED KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN "SITAR"	
<p><b>Course outcome:</b> The student will know the fundamentals of holding of the Sitar, the right posture for sitting and the correct placement of the hands on the instrument for playing. They will learn the practical fundamentals of playing of instrument in terms of some bol patterns exercise, alankars-paltas of left-right hand and basic playing of jhala. The students will become well versed with the techniques of playing Sitar. Having learnt the Notation system in the theory, the student will be able to read and learn the compositions in the prescribed ragas and taalās. They will possess a fairly good idea of how Maseetkhani and Razakhani gat with tans and jhaala in a Raga is to be performed after learning the basic ragas and their gats. They'll understand the concept of laya and layakri through some basic talas.</p>		
<b>Credits: 03</b>		SKILL DEVELOPMENT/VOCATIONAL COURSE
Max. Marks: 25+75 = 100 (External + Internal)		Min. Passing Marks: 33
<b>Unit</b>	<b>Topics</b>	<b>No. of Lectures</b>
I	Detailed study of Raga Bihag	05
II	Ability to play 15 Alankars/Taans/Todas in the Raga Bihag	05
III	Ability to play one Maseetkhani & one Razakhani Gat in the Raga Bihag	10
IV	Ability to play Jod & Jhallah in the Raga Bihag	05
V	Ability to play Jhallah in the Raga Bihag	05
VI	Ability to demonstrate & recite Taal Dhamar on hands	05
VII	Detailed Study the "Gayaki Ang" on Sitar with special reference to Ustad Vilayat Khan	05
VIII	Basic knowledge of maintenance, repair work & Jawari in Sitar	05
<p><b>Suggested Readings:</b></p> <ol style="list-style-type: none"> <li>1. Bavra, Dr. Jogindra Singh, Bhartiya Sangeet ki Utpatti Evam Vikas, Publisher: ABS Publishers, Jalandhar.</li> <li>2. Chaudhary, Pt. Debu, Sitar and its Technique, Publisher: Avon Book Company, Delhi.</li> <li>3. Chaudhary, Dr. Subash Rani, Sangeet ke Pramukh Shastriya Sidhanth, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>4. Kaur, Dr. Bhagwant, Paramparagat Hindustani Saidhantik Sangeet, Publisher: Kanishka</li> </ol>		



  
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Publishers and Distributors, New Delhi.

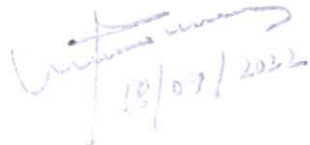
5. Mishra, Dr. Lalmani, **Bhartiya Sangeet Vadya**, Publisher: Bhartiya Gyanpeeth, New Delhi.
6. Nahar, Prof. Sahitya Kumar, **Tantri Naad Swaranjali**, Publisher: Kanishka Publishers and Distributors, New Delhi.
7. Pranjape, Dr. Sharachchandra Sridhar, **Sangeet Bodh**, Publisher: MP Hindi Grantha Academy, Bhopal.
8. Rai, Dr. S Sudip, **Jahan-E-Sitar**, Publisher: Kanishka Publishers and Distributors, New Delhi.
9. Shah, Prof. Rajesh, **Sitar Vigyan (Shastra evam prayog)**, Publisher: Kala Prakashan, Varanasi.
10. Sharma, Bhagvad Sharan, **Bhartiya Sangeet ka Itihas**, Publisher: Sangeet Karyalaya, Hathras.
11. Sharma, Dr. Swatantra Bala, **Bhartiya Sangeet ka Etihāsik Visleshan**, Publisher: Pratibha Prakashan, New Delhi.
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15. Sinha, Dr. Jyoti, **Sangeet Saransh**, Publisher: Omega Publications, New Delhi.
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18. Srivastava, Prof. Harischandra, **Raag Parichay vol. 3 & 4**, Publisher: Sangeet Sadan, Allahabad.
19. Taak, Dr. Tez Singh, **Sangeet Jigyasa aur Samadhan**, Publisher: Bakran Aalmi Foundation Sankalp, Lucknow.
20. Tiwary, Dr. Kiran, **Sangeet evam Manovigyan**, Publisher: Kanishka Publishers and Distributors, New Delhi.
21. Vasant, **Sangeet Visharad**, Publisher: Sangeet Karyalaya, Hathras.

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

**Suggested Continuous Evaluation Methods:** Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students.  
Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

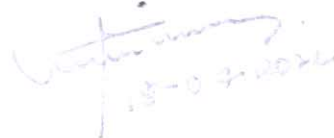
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<http://heecontent.upsdc.gov.in>

Further Suggestions:

  
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VOCATIONAL/SKILL DEVELOPMENT COURSES #					
LIST OF ALL THE PAPERS IN FIRST 04 SEMESTERS - Hindustani Music Vocal					
YEAR	SEMESTER	COURSE CODE	PAPER TITLE	THEORY/PRACTICAL	CREDITS
FIRST	1 ST	MV-SV101P	BASIC KNOWLEDGE OF HINDUSTANI CLASSICAL "VOCAL"	PRACTICAL	3
FIRST	2 ND	MV-SV102P	ADVANCED KNOWLEDGE OF HINDUSTANI CLASSICAL "VOCAL"	PRACTICAL	3
SECOND	3 RD	MV-SV103P	BASIC KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN HINDUSTANI CLASSICAL "VOCAL"	PRACTICAL	3
SECOND	4 TH	MV-SV104P	ADVANCED KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN HINDUSTANI CLASSICAL "VOCAL"	PRACTICAL	3

# Note: Admission in the Skill Development/Vocational Courses for the students from 1st to 4th Semester shall strictly depend upon the number of available seats (Merit Wise) as suggested by the Faculty Members of the Subject Specialization according to the availability of musical instruments & seating capacity.

SKILL DEVELOPMENT/ VOCATIONAL COURSE U.G.		Year : First	Semester : First
Subject : Hindustani Music (Vocal)			
Course Code: MV-SV101P		Course Title : BASIC KNOWLEDGE OF HINDUSTANI CLASSICAL "VOCAL"	
<b>Course Outcomes:</b> This course focuses on the practical fundamentals of performing a Raag on stage with Vilambit and Drut Khayal. Students will be able to perform other lighter compositional forms of Indian Music like, Tarana, Bhajan, Geet and Ghazal. Students will understand the concept of Laya and Layakari with proper fusion with the Raga and its composition. Students will also learn the basic Vocal exercises like Alankar-Paltas, Lakshangeet and Sargangeet which are the foundational compositions to learn for a beginner student.			
<b>Credits : 03</b>		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks 100 (75+25) (External + Internal)		Min. Passing Marks : 33	
Unit	Topics	No. of Lab Lectures	
I	Detailed study of Raga Yaman	10	
II	Brief study of Raga Bhoopali	05	
III	Ability to demonstrate Taal Teental on hand with it's Theka and Dugun Layakari	05	
IV	Ability to perform one Bhajan or Geet	05	
V	Ability to perform 05 Alankars in the Raga Yaman	05	
VI	Demonstration of Dhrupad with Dugun Laykaari in the Raga Yaman	05	
VII	Ability to perform one Drut Khyal in the Raga Yaman	05	
VIII	Ability to sing one Lakshan Geet or Sargam Geet in the Raaga Bhopali	05	
Suggested Readings:			
<ol style="list-style-type: none"> <li>1. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Etihasisik Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>2. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Vigyanik Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>3. Bavra, Dr. Jogindra Singh, <b>Bhartiya Sangeet ki Utpatti Evam Vikas</b>, Publisher: ABS Publishers, Jalandhar.</li> <li>4. Chaudhary, Dr. Subash Rani, <b>Sangeet ke Pramukh Shastriya Sidhanth</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>5. Kaur, Dr. Bhagwant, <b>Paramparagat Hindustani Saidhantik Sangeet</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>6. Mishra, Dr. Lalmani, <b>Bhartiya Sangeet Vadya</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>7. Pranjape, Dr. Sharachchandra Sridhar, <b>Sangeet Bodh</b>, Publisher: MP Hindi Grantha Academy, Bhopal.</li> </ol>			



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8. Sharma, Bhagvad Sharan, **Bhartiya Sangeet ka Itihas**, Publisher: Sangeet Karyalaya, Hathras.
9. Singh, Prof. Lalit Kishore, **Dhvani aur Sangeet**, Publisher: Bhartiya Gyanpeeth, New Delhi.
10. Srivastava, Prof. Haris Chandra, **Raag Parichay vol. 1 & 2**, Publisher: Sangeet SadanPrakashan, Allahabad.
11. Srivastava, Prof. Harischandra, **Raag Parichay vol. 3 & 4**, Publisher: Sangeet Sadan,Allahabad.
12. Taak, Dr. Tez Singh, **Sangeet Jigyasa aur Samadhan**, Publisher: Bakran Aalmi Foundation Sankalp, Lucknow.
13. Vasant, **Sangeet Visharad**, Publisher: Sangeet Karyalaya, Hathras.
14. Mishra, Dr. Jyoti, **Alankar lay Kriya samuchchaya** Publisher: Anubhav Prakashan,Prayagraj.
15. Tomar, Awadhesh Pratap, **Sangeet Shashtr Surasari** Publisher: Raagi Publication, Sagar (M.P.)
16. Banerjee, Dr. Geeta, **Raag Shaastra I&II**, Publisher: Sangeet Sadan Prayagraj.
17. Bhatkhande, Pt V N, **Kramik Pushtak Malika**, Publisher: Sangeet Karyalay Hathras.
18. Deodhar B.R **Raga Bodh Part 1-7** Publisher Rohini Gogate Modi Chambers French Bridge Mumbai
19. Kumar Ashok "Yaman" **Sangeet Ratnawali** Abhishek Publications Dariya Gang New Delhi
20. Garg Laxminarayan **Hamare Sangeet Ratna** Sangeet Karyalaya Hatras

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

Suggested Continuous Evaluation Methods:(25 Marks)Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

Course prerequisites: To study this course, a student must have hadthe.....subject inclass/12<sup>th</sup>/certificate/diploma. **Open for all**

Suggested equivalent online courses: SWAYAM, MOOCS.

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Further Suggestions:

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SKILL DEVELOPMENT/ VOCATIONAL COURSE U.G.	Year : First	Semester : Second
Subject : Hindustani Music (Vocal)		
Course Code: MV-SV102P	Course Title : ADVANCED KNOWLEDGE OF HINDUSTANI CLASSICAL "VOCAL"	
<b>Course Outcomes:</b> This course focuses on the practical fundamentals of performing a Raag on stage with Vilambit and Drut Khayal. Students will be able to perform other lighter compositional forms of Indian Music like, Tarana, Bhajan, Geet and Ghazal. Students will understand the concept of Laya and Layakari with proper fusion with the Raga and its composition. Students will also learn the basic Vocal exercises like Alankar-Paltas, Lakshangeet and Sargangeet which are the foundational compositions to learn for a beginner student.		
<b>Credits : 03</b>		SKILL DEVELOPMENT/VOCATIONAL COURSE
Max. Marks 100 (75+25) (External + Internal)		Min. Passing Marks : 33
Unit	Topics	No. of Lab Lectures
I	Detailed study of Raga Bhimpalasi	10
II	Brief study of Raga Kafi	05
III	Ability to demonstrate Taal Ektaal on hand with its Theka and Dugun Layakari	05
IV	Ability to perform one Bhajan or Geet	05
V	Ability to perform 05 Alankars in the Raga Bhimpalasi	05
VI	Demonstration of Dhrupad with Dugun Laykaari in the Raga Bhimpalasi	05
VII	Ability to perform one Drut Khyal in the Raga Bhimpalasi	05
VIII	Ability to sing one Lakshan Geet or Sargam Geet in the Raaga Kafi	05
Suggested Readings: <ol style="list-style-type: none"> <li>1. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka EtihasiK Visleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>2. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Vigyanik Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>3. Bavra, Dr. Jogindra Singh, <b>Bhartiya Sangeet ki Utpatti Evam Vikas</b>, Publisher: ABS Publishers, Jalandhar.</li> <li>4. Chaudhary, Dr. Subash Rani, <b>Sangeet ke Pramukh Shastriya Sidhanth</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>5. Kaur, Dr. Bhagwant, <b>Paramparagat Hindustani Saidhantik Sangeet</b>, Publisher: Kanishka Publishers and Distributors, New Delhi</li> <li>6. Mishra, Dr. Lalmani, <b>Bhartiya Sangeet Vadya</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>7. Pranjape, Dr. Sharachchandra Sridhar, <b>Sangeet Bodh</b>, Publisher: MP Hindi GranthaAcademy, Bhopal.</li> </ol>		



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19. Kumar Ashok "Yaman" **Sangeet Ratnawali** Abhishek Publications Dariya Gang New Delhi
20. Garg Laxminarayan **Hamare Sangeet Ratna** Sangeet Karyalaya Hatras

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

Suggested Continuous Evaluation Methods:(25 Marks) Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

Course prerequisites: To study this course, a student must have had the.....subject in class/12<sup>th</sup>/certificate/diploma. **Open for all**

Suggested equivalent online courses: SWAYAM, MOOCS.

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Further Suggestions:



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SKILL DEVELOPMENT/ VOCATIONAL COURSE U.G.	Year : Second	Semester : Third
Subject : Hindustani Music (Vocal)		
Course Code: MV-SV103P	Course Title : BASIC KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN HINDUSTANI CLASSICAL "VOCAL"	
<b>Course Outcomes:</b> This course focuses on the practical fundamentals of performing a Raag on stage with Vilambit and Drut Khayal. Students will be able to perform other lighter compositional forms of Indian Music like, Tarana, Bhajan, Geet and Ghazal. Students will understand the concept of Laya and Layakari with proper fusion with the Raga and its composition. Students will also learn the basic Vocal exercises like Alankar-Paltas, Lakshangeet and Sargamgeet which are the foundational compositions to learn for a beginner student.		
Credits : 03	SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks 100 (75+25) (External + Internal)	Min. Passing Marks : 33	
Unit	Topics	No. of Lab Lectures
I	Detailed study of Raga Bihag	10
II	Brief study of Raga Durga	05
III	Ability to demonstrate Taal Jhaptal on hand with its Theka and Dugun Layakari	05
IV	Ability to perform one Bhajan or Geet	05
V	Ability to perform 05 Alankars in the Raga Bihag	05
VI	Demonstration of Dhrupad with Dugun Laykaari in the Raga Bihag	05
VII	Ability to perform one Drut Khyal in the Raga Bihag	05
VIII	Ability to sing one Lakshan Geet or Sargam Geet in the Raga Durga	05
Suggested Readings:		
<ol style="list-style-type: none"> <li>Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Etihasisik Visleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Vigyanik Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>Bavra, Dr. Jogindra Singh, <b>Bhartiya Sangeet ki Utpatti Evam Vikas</b>, Publisher: ABS Publishers, Jalandhar.</li> <li>Chaudhary, Dr. Subash Rani, <b>Sangeet ke Pramukh Shastriya Sidhanth</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>Kaur, Dr. Bhagwant, <b>Paramparagat Hindustani Saidhantik Sangeet</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>Mishra, Dr. Lalmani, <b>Bhartiya Sangeet Vadya</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>Pranjape, Dr. Sharachchandra Sridhar, <b>Sangeet Bodh</b>, Publisher: MP Hindi Grantha Academy, Bhopal.</li> </ol>		



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8. Sharma, Bhagvad Sharan, **Bhartiya Sangeet ka Itihas**, Publisher: Sangeet Karyalaya, Hathras.
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14. Mishra, Dr. Jyoti, **Alankar lay Kriya samuchchaya** Publisher: Anubhav Prakashan, Prayagraj.
15. Tomar, Awadhesh Pratap, **Sangeet Shashtr Surasari** Publisher: Raagi Publication, Sagar (M.P.)
16. Banerjee, Dr. Geeta, **Raag Shashtra I&II**, Publisher: Sangeet Sadan Prayagraj.
17. Bhatkhande, Pt V N, **Kramik Pushtak Malika**, Publisher: Sangeet Karyalay Hathras.
18. Deodhar B.R **Raga Bodh Part 1-7** Publisher Rohini Gogate Modi Chambers French Bridge Mumbai
19. Kumar Ashok "Yaman" **Sangeet Ratnawali** Abhishek Publications Dariya Gang New Delhi
20. Garg Laxminarayan **Hamare Sangeet Ratna** Sangeet Karyalaya Hathras

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

Suggested Continuous Evaluation Methods:(25 Marks) Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

Course prerequisites: To study this course, a student must have had the.....subject in class/12<sup>th</sup>/certificate/diploma. **Open for all**

Suggested equivalent online courses: SWAYAM, MOOCS.

<http://heecontent.upsdc.gov.in>

Further Suggestions:

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18-07-2022

SKILL DEVELOPMENT/ VOCATIONAL COURSE U.G.		Year : Second	Semester : Fourth
Subject : Hindustani Music (Vocal)			
Course Code: MV-SV104P		Course Title : ADVANCED KNOWLEDGE OF PRACTICAL PERFORMANCE & PROFICIENCY SKILL IN HINDUSTANI CLASSICAL "VOCAL"	
<b>Course Outcomes:</b> This course focuses on the practical fundamentals of performing a Raag on stage with Vilambit and Drut Khayal. Students will be able to perform other lighter compositional forms of Indian Music like, Tarana, Bhajan, Geet and Ghazal. Students will understand the concept of Laya and Layakari with proper fusion with the Raga and its composition. Students will also learn the basic Vocal exercises like Alankar-Paltas, Lakshangeet and Sargangeet which are the foundational compositions to learn for a beginner student.			
<b>Credits : 03</b>		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks 100 (75+25) (External + Internal)		Min. Passing Marks : 33	
Unit	Topics	No. of Lab Lectures	
I	Detailed study of Raga Malkauns	10	
II	Brief study of Raga Des	05	
III	Ability to demonstrate Taal Dhamar on hand with its Theka and Dugun Layakari	05	
IV	Ability to perform one Bhajan or Geet	05	
V	Ability to perform 05 Alankars in the Raga Malkauns	05	
VI	Demonstration of Dhrupad with Dugun Laykaari in the Raga Malkauns	05	
VII	Ability to perform one Drut Khyal in the Raga Malkauns	05	
VIII	Ability to sing one Lakshan Geet or Sargam Geet in the Raga Des	05	
Suggested Readings:			
<ol style="list-style-type: none"> <li>1. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Etihask Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>2. Sharma, Dr. Swatantra Bala, <b>Bhartiya Sangeet ka Vigyanik Vishleshan</b>, Publisher: Anubhav Prakashan, Prayagraj.</li> <li>3. Bavra, Dr. Jogindra Singh, <b>Bhartiya Sangeet ki Utpatti Evam Vikas</b>, Publisher: ABS Publishers, Jalandhar.</li> <li>4. Chaudhary, Dr. Subash Rani, <b>Sangeet ke Pramukh Shastriya Sidhanth</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>5. Kaur, Dr. Bhagwant, <b>Paramparagat Hindustani Saidhantik Sangeet</b>, Publisher: Kanishka Publishers and Distributors, New Delhi.</li> <li>6. Mishra, Dr. Lalmani, <b>Bhartiya Sangeet Vadya</b>, Publisher: Bhartiya Gyanpeeth, New Delhi.</li> <li>7. Pranjape, Dr. Sharachchandra Sridhar, <b>Sangeet Bodh</b>, Publisher: MP Hindi Grantha Academy, Bhopal.</li> </ol>			



18-07-2022

8. Sharma, Bhagvad Sharan, **Bhartiya Sangeet ka Itihas**, Publisher: Sangeet Karyalaya, Hathras.
9. Singh, Prof. Lalit Kishore, **Dhvani aur Sangeet**, Publisher: Bhartiya Gyanpeeth, New Delhi.
10. Srivastava, Prof. Haris Chandra, **Raag Parichay vol. 1 & 2**, Publisher: Sangeet SadanPrakashan, Allahabad.
11. Srivastava, Prof. Harischandra, **Raag Parichay vol. 3 & 4**, Publisher: Sangeet Sadan,Allahabad.
12. Taak, Dr. Tez Singh, **Sangeet Jigyasa aur Samadhan**, Publisher: Bakran Aalmi Foundation Sankalp, Lucknow.
13. Vasant, **Sangeet Visharad**, Publisher: Sangeet Karyalaya, Hathras.
14. Mishra, Dr. Jyoti, **Alankar lay Kriya samuchchaya** Publisher: Anubhav Prakashan,Prayagraj.
15. Tomar, Awadshesh Pratap, **Sangeet Shashtr Surasari** Publisher: Raagi Publication, Sagar (M.P.)
16. Banerjee, Dr. Geeta, **Raag Shaastra I&II**, Publisher: Sangeet Sadan Prayagraj.
17. Bhatkhande, Pt V N, **Kramik Pushtak Malika**, Publisher: Sangeet Karyalay Hathras.
18. Deodhar B.R **Raga Bodh Part 1-7** Publisher Rohini Gogate Modi Chambers French Bridge Mumbai
19. Kumar Ashok "Yaman" **Sangeet Ratnawali** Abhishek Publications Dariya Gang New Delhi
20. Garg Laxminarayan **Hamare Sangeet Ratna** Sangeet Karyalaya Hatras

Suggestive digital platforms web links- <http://heecontent.upsdc.gov.in>

Suggested Continuous Evaluation Methods:(25 Marks)Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behaviour, Discipline and Participation in Different Activities)

Course prerequisites: To study this course, a student must have hadthe.....subject inclass/12<sup>th</sup>/certificate/diploma. **Open for all**

Suggested equivalent online courses: SWAYAM, MOOCS.

<http://heecontent.upsdc.gov.in>

Further Suggestions:



*W. J. J. J.*  
18-07-2022

## VOCATIONAL/SKILL DEVELOPMENT COURSES #

LIST OF ALL THE PAPERS IN FIRST 04 SEMESTERS - Music Instrumental (Tabla & Pakhawaj)

YEAR	SEMESTER	COURSE CODE	PAPER TITLE	THEORY/PRACTICAL	CREDITS
FIRST	1 ST	MT-SV101P	BASIC KNOWLEDGE OF THE INSTRUMENT "TABLA"	PRACTICAL	3
FIRST	2 ND	MT-SV102P	ADVANCED KNOWLEDGE OF THE INSTRUMENT "TABLA"	PRACTICAL	3
SECOND	3 RD	MT-SV103P	BASIC KNOWLEDGE OF TABLA ACCOMPANIMENT	PRACTICAL	3
SECOND	4 TH	MT-SV104P	ADVANCED KNOWLEDGE OF TABLA ACCOMPANIMENT	PRACTICAL	3

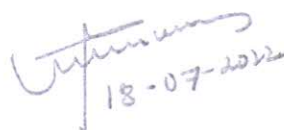


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# Note: Admission in the Skill Development/Vocational Courses for the students from 1st to 4th Semester shall strictly depend upon the number of available seats (Merit Wise) as suggested by the Faculty Members of the Subject Specialization according to the availability of musical instruments & seating capacity.

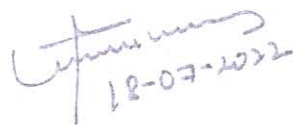
SKILL DEVELOPMENT/ VOCATIONAL COURSE (U.G.)		Year: First	Semester: First
<b>Subject: Music Instrumental - Tabla &amp; Pakhawaj</b>			
Course Code: MT-SV101P		Course Title: BASIC KNOWLEDGE OF THE INSTRUMENT "TABLA"	
<b>Course Outcome:</b>			
<ol style="list-style-type: none"> <li>1. To learn the Pattern of hand approach on Tabla and playing saral boles</li> <li>2. Tabla performance with simple bole material</li> <li>3. Padhant of different simple Layakaris and bols, exercise of Alankars</li> </ol>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75		Min. Passing Marks: 33	
<b>Unit</b>	<b>Topic</b>		<b>No of lab Lectures</b>
I	• Introduction of Percussion Instruments		03
II	• Basic Knowledge of Taal		05
III	• Introduction to the Gharana System		02
IV	• Basic knowledge of the instruments: Tabla & Pakhawaj		05
V	• Introduction of Varans of tabla & Pakhawaj		05
VI	• Ability to play varans of tabla & Pakhawaj		05
VII	• Ability to play the Theka of Teentaal		10
VIII	• Ability to play the Theka of Jhaptal		10
<b>Suggested Readings:</b>			
<ol style="list-style-type: none"> <li>1. Prof. Girish chandra Shrivastava- Taal parichay bhag 1, 2 - Sangeet Sadan Prakashan Allahabad</li> <li>2. Pt. keshav talegawanker Sulabh Tabla vadan – Sulab sangit prakashan Agra</li> <li>3. Shri laxmi narayan garg Sangit Taal Prichay Sangit Krayalaya hatras</li> <li>4. Prof. Girish chandra Shrivastava- Tabla Vadan - Sangeet Sadan Prakashan Allahabad</li> <li>5. Suggestive digital platform web link – <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></li> </ol>			
<b>Suggested Continuous Evaluation Methods:</b> Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Prsentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behavior, Discipline and Participation in Different Activities)			
<b>Course prerequisites:</b> To study this course, a student must have had the subject ..... in class/12th/ certificate/diploma. <b>Open for all</b>			
<b>Suggested equivalent online courses:</b> SWAYAM, MOOCS. <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a>			
<b>Further Suggestions:</b>			



  
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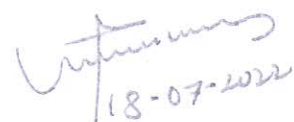
SKILL DEVELOPMENT/ VOCATIONAL COURSE (U.G.)		Year: First	Semester: Second
<b>Subject: Music Instrumental - Tabla &amp; Pakhawaj</b>			
Course Code: MT-SV102P		Course Title: ADVANCED KNOWLEDGE OF THE INSTRUMENT "TABLA"	
<b>Course Outcome:</b>			
<ol style="list-style-type: none"> <li>1. To learn the Pattern of hand approach on Tabla and playing saral boles</li> <li>2. Tabla performance with simple bole material</li> <li>3. Padhant of different simple Layakaris and bols, exercise of Alankars</li> </ol>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75		Min. Passing Marks: 33	
<b>Unit</b>			
<b>Unit</b>	<b>Topic</b>		<b>No of lab Lectures</b>
I	<ul style="list-style-type: none"> <li>• Ability to play the theka of Rupak Taal</li> </ul>		10
II	<ul style="list-style-type: none"> <li>• Ability to play the theka of Ektaal</li> </ul>		10
III	<ul style="list-style-type: none"> <li>• Ability to play the theka of Tilwara Taal</li> </ul>		05
IV	<ul style="list-style-type: none"> <li>• Ability to play the theka of Ada Chautaal</li> </ul>		05
V	<ul style="list-style-type: none"> <li>• Ability to play the Basic Bandish of Taal</li> </ul>		05
VI	<ul style="list-style-type: none"> <li>• Introduction of Laya &amp; Layakari</li> </ul>		05
VII	<ul style="list-style-type: none"> <li>• Classification of Indian Musical Instruments</li> </ul>		03
VIII	<ul style="list-style-type: none"> <li>• Reading &amp; Writing of Notations</li> </ul>		02
<b>Suggested Readings:</b>			
<ol style="list-style-type: none"> <li>1. Prof. Girish chandra Shrivastava- Taal parichay bhag 1, 2 - Sangeet Sadan Prakashan Allahabad</li> <li>2. Pt. keshav talegawanker Sulabh Tabla vadan – Sulab sangit prakashan Agra</li> <li>3. Shri laxmi narayan garg Sangit Taal Prichay Sangit Krayalaya hatras</li> <li>4. Prof. Girish chandra Shrivastava- Tabla Vadan - Sangeet Sadan Prakashan Allahabad</li> <li>5. Suggestive digital platform web link – <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></li> </ol>			
<b>Suggested Continuous Evaluation Methods:</b> Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students.			
Overall performance throughout the Semester (includes Attendance, Behavior, Discipline and Participation in Different Activities)			
<b>Course prerequisites:</b> To study this course, a student must have had the subject ..... in class/12th/ certificate/diploma. Open for all			
<b>Suggested equivalent online courses:</b> SWAYAM, MOOCS. <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a>			
<b>Further Suggestions:</b>			



  
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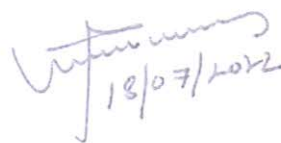
SKILL DEVELOPMENT/ VOCATIONAL COURSE (U.G.)		Year: Second	Semester: Third
<b>Subject: Music Instrumental - Tabla &amp; Pakhawaj</b>			
Course Code: MT-SV103P		Course Title: BASIC KNOWLEDGE OF TABLA ACCOMPANIMENT	
<b>Course Outcome:</b>			
<ol style="list-style-type: none"> <li>1. To learn the Pattern of hand approach on Tabla and playing saral boles</li> <li>2. Tabla performance with simple bole material</li> <li>3. Padhant of different simple Layakaris and bols, exercise of Alankars</li> </ol>			
Credits: 03		SKILL DEVELOPMENT/VOCATIONAL COURSE	
Max. Marks: 25+75		Min. Passing Marks: 33	
Unit	Topic		No of lab Lectures
I	<ul style="list-style-type: none"> <li>• Basic knowledge of Accompaniment</li> </ul>		10
II	<ul style="list-style-type: none"> <li>• Introduction of Taals</li> </ul>		10
III	<ul style="list-style-type: none"> <li>• Ability to play the theka of Dadra Taal</li> </ul>		05
IV	<ul style="list-style-type: none"> <li>• Ability to play the theka Keharwa Taal</li> </ul>		05
V	<ul style="list-style-type: none"> <li>• Ability to play the theka of Deepchandi Taal</li> </ul>		05
VI	<ul style="list-style-type: none"> <li>• Ability to play all the above mentioned Taals in Dugun &amp; Chaugun Laya</li> </ul>		05
VII	<ul style="list-style-type: none"> <li>• Ability to demonstrate Taals on Hands</li> </ul>		03
VIII	<ul style="list-style-type: none"> <li>• Accompaniment with Light Music</li> </ul>		02
<b>Suggested Readings:</b>			
<ol style="list-style-type: none"> <li>1. Prof. Girish chandra Shrivastava- Taal parichay bhag 1, 2 - Sangeet Sadan Prakashan Allahabad</li> <li>2. Pt. keshav talegawanker Sulabh Tabla vadan – Sulab sangit prakashan Agra</li> <li>3. Shri laxmi narayan garg Sangit Taal Prichay Sangit Krayalaya hatras</li> <li>4. Prof. Girish chandra Shrivastava- Tabla Vadan - Sangeet Sadan Prakashan Allahabad</li> <li>5. Suggestive digital platform web link – <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></li> </ol>			
<b>Suggested Continuous Evaluation Methods:</b> Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behavior, Discipline and Participation in Different Activities)			
<b>Course prerequisites:</b> To study this course, a student must have had the subject ..... in class/12th/ certificate/diploma. Open for all			
<b>Suggested equivalent online courses:</b> SWAYAM, MOOCS. <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a>			
<b>Further Suggestions:</b>			



  
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<b>SKILL DEVELOPMENT/ VOCATIONAL COURSE (U.G.)</b>		<b>Year: Second</b>	<b>Semester: Fourth</b>
<b>Subject: Music Instrumental - Tabla &amp; Pakhawaj</b>			
<b>Course Code: MT-SV104P</b>		<b>Course Title: ADVANCED KNOWLEDGE OF TABLA ACCOMPANIMENT</b>	
<b>Course Outcome:</b>			
<ol style="list-style-type: none"> <li>1. To learn the Pattern of hand approach on Tabla and playing saral boles</li> <li>2. Tabla performance with simple bole material</li> <li>3. Padhant of different simple Layakaris and bols, exercise of Alankars</li> </ol>			
<b>Credits: 03</b>		<b>SKILL DEVELOPMENT/VOCATIONAL COURSE</b>	
<b>Max. Marks: 25+75</b>		<b>Min. Passing Marks: 33</b>	
<b>Unit</b>	<b>Topic</b>		<b>No of lab Lectures</b>
I	• Advanced knowledge of Accompaniment		<b>05</b>
II	• Advanced knowledge of Taals		<b>05</b>
III	• Ability to play different variations of Dadra Taal		<b>05</b>
IV	• Ability to play different variations of Keharwa Taal		<b>05</b>
V	• Ability to play different variations of Deepchandi Taal		<b>05</b>
VI	• Ability to play the theka of Dhamaar Taal, Chartaal & Tilwara Taal		<b>10</b>
VII	• Accompaniment with Semi Classical Music		<b>05</b>
VIII	• Accompaniment with Classical Music		<b>05</b>
<b>Suggested Readings:</b>			
<ol style="list-style-type: none"> <li>1. Prof. Girish chandra Shrivastava- Taal parichay bhag 1, 2 - Sangeet Sadan Prakashan Allahabad</li> <li>2. Pt. keshav talegawnker Sulabh Tabla vadan – Sulab sangit prakashan Agra</li> <li>3. Shri laxmi narayan garg Sangit Taal Prichay Sangit Krayalaya hatras</li> <li>4. Prof. Girish chandra Shrivastava- Tabla Vadan - Sangeet Sadan Prakashan Allahabad</li> <li>5. Suggestive digital platform web link – <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a></li> </ol>			
<b>Suggested Continuous Evaluation Methods:</b> Assignment /Practical/ Viva Voce/ Test / Quiz (MCQ) / Seminar/ Presentations/ Research orientation of students. Overall performance throughout the Semester (includes Attendance, Behavior, Discipline and Participation in Different Activities)			
<b>Course prerequisites:</b> To study this course, a student must have had the subject ..... in class/12th/ certificate/diploma. Open for all			
<b>Suggested equivalent online courses:</b> SWAYAM, MOOCS. <a href="http://heecontent.upsdc.gov.in">http://heecontent.upsdc.gov.in</a>			
<b>Further Suggestions:</b>			



  
 18/07/2022

NEP 2020  
Geography  
Vocational/Skill Development Course

First Semester: Disaster Management

Second Semester: Disaster Preparedness

Third Semester: Disaster Response

Fourth Semester: Community Based Disaster Preparedness

## Skill Development Course in Geography

### 2.0 Disaster Management (1<sup>st</sup> semester)

Credits: 03

i) **Duration** : 6 months

ii) **Purpose**

India faces substantial human and economic losses from the natural disasters the frequency and intensity of which are constantly increasing in the recent years. The losses to life, property and infrastructure amount to allocation of resources for planned activities to meet with the needs of response, recovery and rehabilitation. India requires long-term development oriented approach to disaster management for preventing and reducing the risks associated with disasters. The course is tailor-made for those who have disaster management responsibilities. The course aims at capacitating the professionals on jobs in public administration and Non-Governmental Organisations for effective and integrated disaster management. The course will also focus on ensuring valuable contribution in the important areas of economic development and sustenance, environmental conservation and risk reduction.

#### iii. **Course Curriculum:**

##### ❖ Understanding Hazards

The module provides basic knowledge of an overview of planning considerations for a number of different categories of hazards, such as:

- hydro-meteorological (floods, cyclones, droughts)
- geological (earthquake, volcanic eruption, landslides, tsunami)
- technological (toxic chemical releases, accidents, oil spills)
- complex emergencies (civil strife, wars)
- others (fire, pest infestation, epidemics, lightning etc).

##### ❖ Understanding Disasters

This is the introductory part of the course focusing on :

- Informing the participants of the disaster situation in India and sensitizing them to the range of basic disaster programmes including frequency, intensity, impact on lives, property and the environment

- Discussing the key issues and problems in disaster management;
- Identifying the role of various organizations in disaster management.

#### ❖ Disaster Risk Management Concepts

This module introduces different terms and concepts used in disaster management. Various conceptual frameworks and models used in disaster management are discussed and analyzed by the resource persons and participants. Participants will be encouraged to select a preferred model that is relevant to their respective situations.

1. Disaster Risk Assessment
2. The module will introduce methodologies and tools for assessing:
3. Hazards
4. Vulnerability
5. Capacity/Manageability
- 6.

Techniques to prepare a disaster risk scenario will also be discussed and practiced in classroom-based exercises as well as in the field, which will provide a model for participants to use on their return home.

#### ❖ Prevention/Mitigation

The focus in this module shall be to :

- Define concepts of mitigation and prevention
- Explore mitigation options
- Discuss issues in information management/expertise
- Discuss policy issues and strategies for:
  - ✓ coordination
  - ✓ planning
  - ✓ monitoring and evaluation
  - ✓ financial considerations/budgets
  - ✓ advocacy

#### ❖ Preparedness/Response

Key elements, issues and challenges in preparedness and response are discussed in this module. A series of methodologies will be presented for dealing with :

- Preparedness planning
- Coordination
- Information management
- Public awareness
- Committee formation
- Resource management
- Warning systems
- Public information
- Training
- Exercise and drills

A number of emergency management issues will also be discussed, including:

- Immediate shelter
- Damage, needs and capacities assessment
- Donor requirements
- International aid
- Financial management
- Food and nutrition
- Resource management
- Reporting
- Health and sanitation
- Decision making

#### ❖ Post-Disaster management/recovery

The module will address the challenges, issues and strategies of post-disaster management/recovery, including:

- Rehabilitation

- Resettlement
- Reconstruction
- Long-term issues related to institutionalization and sustainability

#### **iv. Training Methodology:**

The training methodology for the course will include:

- Interactive Lectures
- Group Work
- Classroom Exercises
- Visit
- Mapping
- Discussions
- Presentation
- Field Exercise
- Video Shows, and
- Instructional Games
- The course will be structured around the following basic strategies:
  - Explain
  - Demonstrate
  - Explore/analyze
  - Practice
  - Synthesize

## Skill Development Course in Geography

**Disaster Preparedness (2<sup>nd</sup> Semester)**

**Credit: 03**

**i.) Duration : 6months**

**ii.) Purpose :**

Disasters occur, many times, suddenly without warning. But its effects on human lives, property, livestock etc., can be minimized through better preparedness. Disaster prevention, preparedness and mitigation shall be the major emphasis of the course. The important components of disaster prevention, disaster preparedness plans, use of different forms of technologies in preparedness, roles and responsibilities of different functionaries in disaster preparedness shall be discussed, besides focus on mitigation, which minimises the destruction and disruption caused by disasters and offers long-term cost-effective methods of dealing with disasters.

**iii. Objectives:**

The Course shall aim at:

- Sensitizing the participants to the importance of disaster prevention, preparedness and mitigation;
- Emphasizing on preparedness role and responsibilities mainly of all government departments, district administrators, armed forces, police, NGOs and voluntary agencies, local bodies, media, community based organisation, etc.,
- Giving the participants understanding of the practical tools of disasters mitigation and inculcating mitigation skills amongst participants with focus on planning, organizing, directions, coordination, reporting, and budgeting.

**iv. Course Curriculum:**

The Course Curriculum shall include:

- ❖ Disaster Prevention

- Disaster Management – Importance of Prevention, Preparedness and Mitigation
- Importance of Prevention in the context of National Development, Planning, Disaster Legislation, Special Disaster related Circumstances, Disaster Management Policy, etc.
- Prevention Strategies (National Policy, legislation, assessment and monitoring, public awareness and education)
- Problem areas in Prevention (traditional mindset, costs and benefits, public apathy, developmental problems, other national priorities etc.)
- Agencies relevant to the task of prevention (academic and training institutions, research establishments, technical authorities, independent safety organisations, disaster management authorities, NGOs, private sector, international disaster assistance agencies, etc.

#### ❖ Disaster Preparedness

- Nature of Preparedness
- Preparedness Needs
- Important Components of Disaster Preparedness (planning framework, disaster policy, legislation, organizational structure etc.)
- Assessment and Utilization of Resources
- Coordination of Preparedness Efforts
- Resources relevant to Preparedness
- Problem areas in Preparedness (organisation and planning, resources, coordination, lack of suitable training and public awareness etc.)
- Disaster Preparedness Plans – Characteristics, components, formulation and implementation
- Disaster Preparedness with relevance to Livestock
- Disaster Preparedness for People with Special Needs (poor, aged, women, expectant and lactating women, disabled, children etc.)

#### ❖ Preparedness Roles and Responsibilities

- Government Departments
- District Administration
- Armed Forces (Army, Navy, Air Force)
- Police
- Paramilitary Forces
- NGOs and Voluntary Agencies
- International Agencies
- Individuals
- Community (Host)
- Community Based Organisations
- Panchayati Raj Functionaries
- Stakeholders
- Media

#### ❖ Technology and Disaster Preparedness

- Importance of use of Technology in Preparedness
- Focus on Technologies associated with Disaster Management like mapping, aerial photo interpretation and remote sensing communication, information management
- Forecasting (Timely warning systems)
- Logistics Planning (inventory, warehousing, stock control procedures, material distribution methods)
- Emerging Technologies (Satellite Photography)

#### ❖ Disaster Mitigation

- Concept of Mitigation
- Importance of Disaster Mitigation
- Disaster Mitigation Policy Framework

- Guiding Principles of Mitigation (Initiation, Management, Prioritization, Monitoring and Evaluation, Institutionalization)
- Mitigation Tools (Disaster Mitigation Plans, Mitigation Grants, Mitigation Survey Teams)
- Evolving Inter-governmental Mitigation System (From Central-Local Level Implementation Plans)
- Assessing the Effectiveness of Disaster Mitigation
- Disaster Mitigation Strategies (Structural and Non-structural)

#### ❖ Major Trends in Mitigation Policy

- New emerging themes
- Increasing favour of Non-structural mitigation
- Personal responsibility and overcoming the victim psychological state
- Ecological Management
- Building Disaster Resilient Communities
- Reforming Inter-governmental Mitigation System
- Greater State and Local Responsibility
- Regional, Multi-jurisdictional Strategies
- Shift from Resistance to Resilience
- Capability Analysis
- Making better State Hazard/Disaster Mitigation Plans
- Ethical Guidelines for Disaster Mitigation (disaster ethics, ethical roles and responsibilities)

#### ❖ Mitigation : Managerial Skills

- Leadership
- Planning
- Coordination
- Human Resource Development
- Budgeting

- Communication
- Command & Control
- Media Management

**vi. Training methodologies**

- Classroom Lectures
- Group Discussion
- Simulation Exercises
- Field Training

## **Skill Development Course in Geography**

**Disaster Response (3<sup>rd</sup> semester)**

**Credit: 03**

i.) **Duration :** 6 months

ii.) **Purpose :**

Responding to the needs of victims in the post-disaster scenario assumes critical importance in the area of disaster management. Disaster response includes relief and recovery. The major components and essentials of Disaster response shall form the vital component of the course. Disaster response including the relief measures, the management of relief commodities and services, roles and responsibilities of various governmental and non-governmental agencies and recovery related to the post-disaster situations shall be included in the course. It shall also discuss the various myths related to human response, methods for dealing with the myths through public education and information, etc.

iv. **Objectives:**

- The major objectives of the programme will include:
- To give the participants an understanding of the major components of disaster response.
- To enhance the capability of the participants regarding essentials of disaster response mainly planning, organizing, coordination, leadership, warehousing, public security, law and order;
- To provide practical insights to the participants regarding relief measures such as search, rescue and evacuation, shelter, hygiene and sanitation, livestock relief, clearance of debris and disposal of dead;
- To highlight the roles and responsibilities of various agencies to enable the participants for appreciating the roles and responsibilities of government agencies, NGOs, voluntary groups, self-help groups, community based organizations, media, etc.

**v. Course Curriculum: It shall include**

- Response : Major Components
- Important Characteristics of Response
- Response Phases
- Effective Response Requirements
- Follow up of Response Operations
- Human Factors in Response
- Problem areas of Response
- ❖ Essentials of Disaster Response
  - Planning
  - Organizing
  - Coordination
  - Leadership
  - Warehousing
  - Public Safety, Security, Law and Order
- ❖ Relief Measures
  - Search, Rescue and Evacuation
  - Shelter (Transit and Temporary)
  - Hygiene and Sanitation
  - Livestock relief
  - Clearance of Debris and Disposal of Dead
- ❖ Management of Relief Commodities and Services
  - Drinking Water, Food, and Nutrition
  - Health and Medicine
  - Transportation, Power Supply and Communication
- ❖ Roles and Responsibilities of Various Agencies
  - Government Agencies
  - Non-Governmental Agencies
  - Voluntary Agencies
  - Self-help Groups
  - Medical Personnel

- International Agencies
- ❖ Immediate Financial Relief
  - Relevant Relief Codes
  - Immediate Aid from Prime Minister's Fund, Calamity Relief Fund and Discretionary Fund etc., to the Disaster Victims
- ❖ Managing Human Response
  - Myths and realities
  - Dealing with Myths
  - Role of Media
  - Public Education and Public Information
- ❖ Recovery
  - Damage and Need Assessment
  - Logistics Requirements
  - Assessment of Logistic tools
  - Recovery : Meaning and Significance
  - Requirements for Effective Recovery
  - Human Factors in Recovery – Coping with Trauma
  - Recovery Programmes : Relevant Resources
  - Recovery Planning

#### **vi. Training Methodologies**

- Interactive Lectures
- Group Discussions
- Participants Presentation
- Field Exercise

## Skill Development Course in Geography

**Community Based Disaster Preparedness (4<sup>th</sup> semester)**

**Credit: 03**

**i) Duration:** 6months

**ii) Purpose :**

Human vulnerability to disasters is an age-old phenomenon and India has to increasingly face many natural disasters requiring a comprehensive strategy to lesson the effects of disasters by resorting to effective disaster management techniques. There is a need for a holistic approach to community based disaster preparedness whereby it is imperative to involve community in all facets of disaster management. This can be achieved by strengthening communities' capabilities at all three stages of disaster management.

There are number of agencies which are now concerned for ensuring better community based disaster preparedness. All concerned, may it be government departments, training institutions, educational institutions, non-government organisations, Panchayati Raj Institutions, media and community need to work in more concerted way for achieving this objective, whereby, the community is geared up to take proactive steps and measures for meeting with the challenges posed by the disasters. This has to be a comprehensive and on-going exercise so that the community is not only made aware of various causal factors, effects, preparedness elements, response activities, and recovery measures, etc., but also such awareness is sustained for meaningful results.

**iii. Objectives:**

The major objectives of the programme would be;

- To provide an insight into the participants of various facets of a holistic community based disaster preparedness strategy;
- To make them understand the role and benefit of community participation in pre-disaster, during-disaster and post-disaster phases of disaster management;
- To inculcate skills among the participants, which are required for effective community based disaster preparedness.

**iv. Course Curriculum:**

It shall include the following:

- ❖ Fundamental concepts:
  - Community
  - Coordination in Community
  - Community Participation
  - Women's Participation
  - Traditional Knowledge
  - Community Needs
- ❖ Community Based Disaster Preparedness at the Pre-Disaster stage:
  - Understanding facets of the pre-disaster preparedness plan:
  - Mitigation
  - Risk Assessment and Vulnerability Analysis;
  - Resource and Assessment Mobilization;
  - Insurance
- ❖ Community Based Disaster Preparedness During-Disaster
  - Search, Rescue and Evacuation
  - Shelter for victimize
  - First Aid
  - Clearance of debris
  - Medical evacuation and hospitalization
  - Disposal of human and animal carcasses
  - Sympathetic attitude towards victims
  - Assisting rescue teams
- ❖ Community Based Disaster Preparedness – Post-Disaster Phase
  - Damage assessment
  - Economic rehabilitation
  - Social rehabilitation
  - Women and children rehabilitation

- Disasters and development
- Educational activities
- Monitoring and evaluation
- Reporting
- ❖ Preparing Community Action Plan
- ❖ Participatory Approaches for ensuring Community Participation;

v. **Training Methodologies**

- Interactive Session
- Group Discussion
- Experience Sharing
- Simulation
- Field Visit

Year wise Structure of UG / BA  
(CORE / ELECTIVE COURSES & PROJECTS)

Subject:Hindi

Course/Entry -Exit Levels	Year	Sem.	Paper 1 Major Course	Credit	Paper 2 Minor Elective	Credit 4/5/6	Paper 3 Vocational/Skill Development Course	Credit s /Hrs	Research Project	Credit /	Total Credits /Hrs/
Certificate Course In Arts- HINDI	I	I	प्राचीन एवं भक्तिकालीन काव्य	6	हिन्दी भाषा :व्याकरण	4					13
		II	हिन्दी कथा साहित्य	6							09
	Diploma in Arts HINDI	III	III	शीतकालीन काव्य एवं काव्यांग विवेचन	6	हिन्दी भाषा :स्वरूप (राजभाषा, राष्ट्रभाषा, मानक भाषा आदि)	4				13
			IV	नाटक एवं स्मारक साहित्य	6						09
		II	IV	द्विवेदीयुगीन एवं छायावादी काव्य	5						14
	Bachelor of Arts HINDI	III	V	छायावादोत्तर हिन्दी काव्य	5						14
VI			हिन्दी निबंध	5						14	
			छायावादोत्तर हिन्दी कविता	5							
			साहित्यिक विचारधाराओं का अध्ययन	4						4	14



## हिन्दी एवं अन्य भारतीय भाषा विभाग, कुमाऊँ विश्वविद्यालय, नैनीताल (उत्तराखण्ड)

पत्रांक: हिन्दी/पाठ्यसमिति/

दिनांक : 25 जून 2022

राष्ट्रीय शिक्षा नीति 2022 सातक पाठ्यक्रम (Passed By Board of Studies)

### List of all Papers in Six Semester Semester-wise Titles of the Papers in HINDI

Year	Sem.	Course Code	Paper Title	Theory/ Practical	Credits
<b>Certificate Course in ARTS-HINDI</b>					
FIRST YEAR	I		प्राचीन एवं भक्तिकालीनकाव्य Major/Core	Theory	6
			हिन्दीभाषा :व्याकरणElective	Theory	4
	II		हिन्दी कथा साहित्य Major/Core	Theory	6
<b>Diploma in ARTS-HINDI</b>					
SECOND YEAR	III		रीतिकालीन काव्य एवं काव्यांग विवेचन Major/Core	Theory	6
			हिन्दी भाषा : स्वरूप (राजभाषा, राष्ट्रभाषा, मानक भाषा)Elective	Theory	4
			नाटक एवं स्मारक साहित्य Major/Core	Theory	6
<b>Bachelor of ARTS-HINDI</b>					
THIRD YEAR	V		द्विवेदीयुगीन एवं छायावादीकाव्य Major/Core	Theory	5
			छायावादोत्तर हिन्दी कविता Major/Core	Theory	5
			हिन्दी की वैज्ञानिक एवं तकनीकी शब्दावली/Project	Project	4

VI	हिन्दी निबंध Major/Core	Theory	5
	लोकसाहित्य Major/Core	Theory	5
	साहित्यिक विचारधाराओं का अध्ययन : भक्ति-आन्दोलन, छायावाद, प्रगतिवाद, राष्ट्रवाद, आधुनिकताबोध, उत्तरआधुनिकता में से कोई एक/Project	Project	4

### COURSE INTRODUCTION

#### Programme outcomes (POs):

1. साहित्य मानव संवेदना की अभिव्यक्ति का प्रमुख स्रोत रहा है। कलाओं में यह सम्पूर्ण कला है। साहित्य समाज का प्रतिदर्श है। स्नातक उपाधि में इस विषय के चयन व अध्ययन से शिक्षार्थी को साहित्य के सांगोपांग महत्व का ज्ञान होता है।
2. शिक्षार्थी को राष्ट्र की सर्वप्रमुख भाषा हिन्दी के अत्यन्त समृद्ध साहित्य के सम्पूर्ण स्वरूप का ज्ञान होता है।
3. शिक्षार्थी को हिन्दी साहित्य की सभी प्रमुख विधाओं का ज्ञान होता है, जिससे उसमें रचनात्मकता का प्रस्फुटन एवं विकास होता है।
4. शिक्षार्थी को जीवन के आजीविकोपरार्जन सम्बन्धी पक्ष के रूप में हिन्दी के प्रयोजनमूलक स्वरूप व महत्व का ज्ञान एवं प्रशिक्षण होता है।
5. साहित्य के अध्ययन में अन्य अनुशासनों के सन्दर्भ यथा सामाजिक, मनोवैज्ञानिक, राजनीतिक, आर्थिक, ऐतिहासिक, पर्यावरणीय आदि समाहित होते हैं। स्नातक में हिन्दी साहित्य का चयन शिक्षार्थी को समग्र रूप से शिक्षित करता है।
6. शिक्षार्थी संघ लोक सेवा आयोग एवं प्रादेशिक लोक सेवा आयोगों के परीक्षा पाठ्यक्रम में सम्मिलित हिन्दी साहित्य की आधार व अनिवार्य शिक्षा प्राप्त करता है।

#### Programme specific outcomes (PSOs):

### UGI Year / Certificate course Arts with Hindi

1. शिक्षार्थी स्नातक प्रमाण पत्र पाठ्यक्रम के अन्तर्गत मुख्य विषय के रूप में हिन्दी की प्राचीन एवं मध्यकालीन कविता तथा कथा साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
2. शिक्षार्थी स्नातक प्रमाण पत्र पाठ्यक्रम के अन्तर्गत वैकल्पिक/सहायक विषय के रूप में हिन्दी व्याकरण का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा। विकल्प के रूप में यह चयन प्रतियोगी परीक्षाओं में सहायक एवं उपयोगी सिद्ध होगा।
3. शिक्षार्थी प्रमाण पत्र वर्ष में एवं कौशल संवर्द्धन पाठ्यक्रम के रूप में प्रयोजनमूलक हिन्दी का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा।
4. प्रथम वर्ष में शिक्षा में बाधा हो जाने की स्थिति में शिक्षार्थी हिन्दी तथा अन्य विषयों के साथ स्नातक प्रमाण-पत्र प्राप्त करेगा, जिसका लाभ उसे आजीविका प्राप्त करने में प्राप्त होगा।

**Programme specific outcomes (PSOs):**  
**UG II Year/ (Diploma in ARTS with Hindi**

1. शिक्षार्थी स्नातक डिप्लोमा पाठ्यक्रम के अन्तर्गत मुख्य विषय के रूप में हिन्दी की शैतिकालीन कविता व काव्यांग परिचय तथा नाटक एवं स्मारक साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
2. शिक्षार्थी स्नातक डिप्लोमा पाठ्यक्रम के अन्तर्गत वैकल्पिक/सहायक विषय के रूप में हिन्दी भाषा के स्वरूप का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा। विकल्प के रूप में यह चयन प्रतियोगी परीक्षाओं में सहायक एवं उपयोगी सिद्ध होगा।
3. शिक्षार्थी डिप्लोमा वर्ष में एवं कौशल संवर्द्धन पाठ्यक्रम के रूप में हिन्दी पत्रकारिता का ज्ञान एवं व्यावहारिक प्रशिक्षण प्राप्त करेगा।
4. शिक्षा में बाधा हो जाने की स्थिति में शिक्षार्थी हिन्दी तथा अन्य विषयों के साथ स्नातक डिप्लोमा प्राप्त करेगा, जिसका लाभ उसे आजीविका प्राप्त करने में प्राप्त होगा।

**Programme specific outcomes (PSOs):**  
***UG III Year / Bachelor of ARTS with Hindi***

<b>PSO 1</b>	1. शिक्षार्थी स्नातक उपाधि वर्ष पाठ्यक्रम के अन्तर्गत मुख्य विषय के रूप में हिन्दी की द्विवेदीयुगीन, छायावादी तथा छायावादोत्तर एवं समकालीन कविता, हिन्दी निबन्ध एवं लोक-साहित्य का आधारभूत ज्ञान प्राप्त करेगा।
<b>PSO2</b>	2. शिक्षार्थी के पास उपाधि वर्ष में विगत वर्षों के अध्ययन से हिन्दी साहित्य के विविध पक्षों तथा उनके अकादमिक स्वरूप ज्ञान होगा, उसे हिन्दी भाषा के व्याकरण एवं स्वरूप का ज्ञान होगा, उसे कार्यालयी हिन्दी तथा पत्रकारिता जैसे रोजगारपरक विषयों का ज्ञान होगा और वह आगे की शिक्षा एवं शोध के लिए भाषा तथा साहित्य के उच्चस्तरीय आधारभूत ज्ञान व कुशलता के साथ उपाधि प्राप्त करेगा।

Year wise Structure of UG / BA  
(CORE / ELECTIVE COURSES & PROJECTS)

Subject:Hindi

Course/ Entry -Exit Levels	Year	Sem.	Paper 1 Major Course	Credit	Paper 2 Minor Elective	Credit 4/5/6	Paper 3 Vocational/Skill Development Course	Credits /hrs	Research Project	Credits	Total Credits /hrs/	
Certificate Course In Arts- HINDI	I	I	प्राचीन एवं भक्तिकालीन काव्य	6	हिन्दी भाषा : व्याकरण	4					13	
		II	हिन्दी कथा साहित्य	6							09	
		III	रीतिकालीन काव्य एवं काव्यांग विवेचन	6	हिन्दी भाषा : स्वरूप (राजभाषा, राष्ट्रभाषा, मानक भाषा आदि)	4					13	
		IV	नाटक एवं स्मारक साहित्य	6							09	
		V	द्विवेदीयुगीन एवं छायावादी काव्य	5						हिन्दी की वैज्ञानिक एवं तकनीकी शब्दावली	4	14
		VI	छायावादोत्तर हिन्दी कविता	5						साहित्यिक विचारधाराओं का अध्ययन	4	14
Diploma in Arts HINDI	II	III										
		IV										
Bachelor of Arts HINDI	III	V										
		VI										



H.S.E

**MINOR ELECTIVE**

**HSC/UG015- TECHNIQUES OF FOOD PRESERVATION**

Programme/ Class: Certificate		Year: I	
Subject: Home Science			
Course Code: <b>HSC/UG015</b>		Course Title: <b>TECHNIQUES OF FOOD PRESERVATION</b>	
Credits: 4		Minor Elective	
Unit	Topic	No. of Lectures	
I	<p><b>Food Microbiology</b> Principles of Food Preservation, microorganisms associated with foods- bacteria, yeast and mold, Importance of bacteria, yeast and molds in foods. Classification of microorganisms based on temperature, pH, water activity, nutrient and oxygen requirements, typical growth curve of microorganisms. Classification of food based on pH, Food infection, food intoxication, definition of shelf life, perishable foods, semi perishable foods, and shelf stable foods.</p>	12	
II	<p><b>Food Preservation by Low temperature</b> Freezing and Refrigeration: Introduction to refrigeration, cool storage and freezing, definition, principle of freezing, freezing curve, changes occurring during freezing, types of freezing i.e., slow freezing, quick freezing, introduction to thawing, changes during thawing and its effect on food.</p>	9	
III	<p><b>Food Preservation by high temperature</b> Thermal Processing- Commercial heat preservation methods: Sterilization, commercial sterilization, Pasteurization, and blanching.</p>	6	
IV	<p><b>Food Preservation by Moisture control</b> Drying and Dehydration - Definition, drying as a means of preservation, differences between sun drying and dehydration (i.e. mechanical drying), heat and mass transfer, factors affecting rate of drying, normal drying curve, names of types of driers used in the food industry. Evaporation – Definition, factors affecting evaporation, names of evaporators used in food industry.</p>	9	
V	<p><b>Food Preservation by Irradiation</b> Introduction, units of radiation, kinds of ionizing radiations used in food irradiation, mechanism of action, uses of radiation processing in food industry, concept of cold sterilization.</p>	9	

/	<b>PART B (Practical)</b>	
VII	<ul style="list-style-type: none"> <li>• Methods of Sampling.</li> <li>• Concept of shelf life of different foods</li> </ul>	03
VIII	<ul style="list-style-type: none"> <li>• To study the concept of Asepsis and sterilization</li> <li>• Determination of pH of different foods using pH meter.</li> </ul>	05
VII	<ul style="list-style-type: none"> <li>• Study quality characteristics of foods preserved by drying/dehydration/ freezing.</li> <li>• To perform pasteurization of fluids using different methods.</li> <li>• To perform blanching of different plant foods.</li> </ul>	07
<b>Suggested Readings:</b> <ol style="list-style-type: none"> <li>1. B. Srilakshmi, Food science, New Age Publishers,2002</li> <li>2. Meyer, Food Chemistry, New Age,2004</li> <li>3. Bawa. A.S, O.P Chauhan et al. Food Science. New India Publishing agency, 2013</li> <li>4. Frazier WC and Westhoff DC, Food Microbiology, TMH Publication, New Delhi, 2004</li> </ol>		

### HSC/UG016 - Entrepreneurship Management

Programme/ Class: Diploma		Year: II	
Subject: Home Science			
Course Code: HSC/UG016		<b>Entrepreneurship Management</b>	
Credits: 4		Minor Elective	
Unit	Topic	No. of Lectures	
<b>Part- A (Theory)</b>			
I	Entrepreneurship – Definition, need, scope and characteristics of entrepreneurship development and employment promotion Identification of Opportunities	8	
II	Entrepreneur and enterprise, entrepreneurial qualities, assessing entrepreneurial qualities, environment scanning and opportunity identification. Methods source and type of opportunity, assessment criteria and profiling opportunities.	9	
III	Infrastructure and support system, Industrial support agencies, Procedure and steps involved in setting up an enterprise, sources	9	

	of information and industry organization.	
IV	Project planning and formulation of project, identification and product selection, generating project ideas, short listing, final selection market survey, market alternatives, an overview of the future, Product development, Product Selection, Preparation of project report	9
V	Enterprise management, Basicmanagement concepts, personnelmanagement, product management, material management, financialmanagement and accounting, market management, crisis management.	10
<b>PART B (Practical)</b>		No. of Lab Periods
VI	Interaction with entrepreneurs, Visit to industry, Project planning formulation and report preparation, Case studies	4
VII	SWOT analysis with respect to entrepreneurial competencies through case profiling of successful entrepreneurs and enterprises.	5
VIII	Survey of an institution facilitating entrepreneurship development in India.	3
IX	Preparation of business plan.	3

**RECOMMENDED READINGS**

1. Ramachandran, Entrepreneurship Development, Mc Graw Hill
2. Katz, Entrepreneurship Small Business, Mc Graw Hill
3. Byrd Megginson, Small Business Management An Entrepreneur's Guidebook 7th ed, McGrawHill
4. Fayolle A (2007) Entrepreneurship and new value creation. Cambridge, Cambridge University Press
5. Hougard S. (2005) The business idea. Berlin, Springer
6. Lowe R & S Mariott (2006) Enterprise: Entrepreneurship & Innovation. Burlington, Butterworth Heinemann

**VOCATIONAL MINOR**

## HSC/UG017-Basics of Nutrition and Hygiene

### Subject: Home Science

Course Code: HSC/UG017		Course Title: Basics of Nutrition and Hygiene
<b>Course Outcomes:</b>		
The student at the completion of the course will be able to:		
<ul style="list-style-type: none"> <li>• Prepare the students to understand physiology-based courses</li> <li>• Students will get familiar with different methods of cooking</li> <li>• Acquaint students with practical knowledge of nutrient-rich foods</li> <li>• Explain the need and importance of studying</li> </ul>		
Credits: 3		<b>Vocational Minor</b>
Max. Marks: 25+75		Total No. of Lectures-45
Units	Topic	No. of Lectures
<b>Theory</b>		
<b>I</b>	Introduction to Food and its functions, food groups, meaning of nutrition, Concept of Health.	5
<b>II</b>	Composition, Classification, functions, sources, digestion, Absorption and Utilization of Macronutrients (Carbohydrates, Fat, Protein) and Energy.	8
<b>III</b>	Composition, functions, sources, digestion, Absorption and Utilization of Micronutrients (Vitamins and Minerals), sources, functions, requirement and deficiency diseases	8
<b>IV</b>	Food Spoilage, factors contributing to food spoilage, personal hygiene, evaluating food for freshness, evaluating canned food for spoilage, food hygiene during cooking and serving, public health department and food sanitation. Food sanitation at household level.	3
<b>V</b>	Agents of contamination, sources and reservoirs of infection, modes of transmission of infection, mode of entry into a susceptible host, prevention and control of infection and disease.	6
<b>Practical</b>		
<b>V</b>	Basic Cooking skills -Weighing of raw materials -Preparing of different food items	2
<b>VI</b>	Preparation of various dishes using different methods of cooking - Boiling / steaming - Roasting - Frying-Deep/shallow - Pressure cooking - Hot air cooking/Baking	5
<b>VII</b>	Different styles of cutting fruits and vegetables	2

	<ul style="list-style-type: none"> <li>- Salad Decoration/Dressing</li> <li>- Table setting, Napkin Folding</li> </ul>	
VIII	Preparation of nutrient rich dishes <ul style="list-style-type: none"> <li>- Protein rich dish</li> <li>- Carbohydrate rich dish</li> <li>- Fat rich dish</li> <li>- Vitamins rich dish</li> <li>- Minerals rich dish</li> <li>- Fiber rich dish</li> </ul>	6

**Suggested Reading**

- Dr. Brinda Singh, Manav Sharir evam Kriya Vigyan PanchcheelPrakashan, Jaipur, 2015, 15<sup>th</sup> Ed.
- Chatterjee, C.C, “Human Physiology” Medical Allied Agency: Vol I, II.
- Text Book of Biology for 10+2 Students (NCERT)
- Sumati R Mudami, “Fundamentals of food Nutrition and Diet Therapy”, New Age International Pvt. Ltd, New Delhi, 6<sup>th</sup> Ed. (2018)
- Punita Sethi and Poonam Lakda, “Aahar Vigyan, Suraksha evam Poshan”; Elite Publishing House, New Delhi; 2015
- Dr. Anita Singh, AaharEvamPoshan Vigyan, star Publication, Agra
- Dr.DevinaSahai, AaharVigyan, New Age International Publishers, New Delhi
  - Suggestive digital platforms web links-ePG-Pathshala, IGNOU & UPRTOU online study material  
Svayam Portal  
<http://heecontent.upsdc.gov.in/Home.aspx>

This course can be opted as an elective by the students of the following subjects: Open for all  
The eligibility for this paper is 10+2 with any subject

**Suggested Continuous Evaluation Methods:**

- Seminar / Presentation on any topic of the above syllabus
- Test with multiple choice question/ short and long answer questions

Attendance

Course prerequisites: The eligibility for this paper is 10+2 with any subject



**CERTIFICATE COURSE IN UG**Programme: *Certificate Course in Arts- Sanskrit*Year: **I** Semester: **II**Paper: **III**

Subject: Sanskrit

Course Title: निरुपनिषत् अनुष्ठान

Course Code: **3** Course Title: निरुपनिषत् अनुष्ठान

Course Outcomes: अधिगम उपलब्धि

- 1 विद्यार्थी भारतीय परम्परािक कर्मकाण्ड एवं सांस्कृतिक मूल्यों से परिचित होंगे।
- 2 निरुपनिषत् अनुष्ठान विधि का जानकार जीवन का नियमबद्ध एवं आनन्दपूर्ण बनाने में समर्थ होंगे।
- 3 भारतीय कर्मकाण्ड के प्रामाणिक भारतीय रूप से परिचित होंकर उसकी व्यवहारिक उपयोगिता जानने योग्य बनेंगे।
- 4 सामान्य अनुष्ठान सधन करने योग्य क्षमता और परिश्रमिक कर्म विस्तार बनेंगे।
- 5 आत्मनिर्भर भारत की स्थापना का साकार करने में सक्षम एवं आत्मनिर्भर बनेंगे।

Credits: **3**Max. Marks: **25 (Internal)+ 75 (External)=100**Vocational Skill Development Courses  
Min. Passing Marks: 10+30=40Total No. of Lectures/Tutorials/Practical in hours per week: **4+0-0**

Unit	Topic	No. of Lectures
Unit I	निरुपनिषत् (प्रारम्भिक, स्थान, स्थान, स्थान तथा नियम) से सम्बन्धित करने अथवा प्रत्येक का अध्ययन एवं अध्यापन।	12
Unit II	निरुपनिषत् (प्रारम्भिक, स्थान, स्थान, स्थान तथा नियम) से सम्बन्धित करने अथवा प्रत्येक का अध्ययन एवं अध्यापन।	12
Unit III	निरुपनिषत् (प्रारम्भिक, स्थान, स्थान, स्थान तथा नियम) से सम्बन्धित करने अथवा प्रत्येक का अध्ययन एवं अध्यापन।	13
शुद्धि का अध्ययन एवं अध्यापन।		
Class Room Lectures		37
Tutorial, Assignment, Class Room Seminars, Group Discussion etc		08
		Total- 45

**Suggested Reading:**

- 1 हिन्दू सत्कार, राजवती पाठ चौखटा विद्यामन्त्र, वाराणसी, 1995।
- 2 धर्म शास्त्र का इतिहास, प्रथम भाग, अर्जुन शर्मा, उत्तर प्रदेश हिंदी संस्थान, लखनऊ।
- 3 सत्कार प्रकाश, मधुनी शर्मा त्रिवेदी, शाला पराशुर शास्त्री केंद्रीय संस्कृत विद्यापीठ, दिल्ली।
- 4 परोपनिषदकर्म प्रथमक उत्तर प्रदेश संस्कृत संस्थान लखनऊ।
- 5 निरुपनिषत् पूजा प्रकाश, गीता प्रेस गोरखपुर।
- 6 धर्म शास्त्र का इतिहास, पांडुरंग वामन कर्ण (अनु०) अर्जुन शर्मा, उत्तर प्रदेश हिंदी संस्थान लखनऊ, 1973।

**Suggested Online Link:**

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:

अथ सती विभाग एवं सत्कार

Subject: Sanskrit

Course Code: Course Title: व्योमिश्वर का मूलभूत सिद्धान्त  
Course Outcomes: अधिगम उपलब्धि

1. भारतीय प्राचीन ज्ञान के प्रति अभिख्यति उत्पन्न होगी।
2. भारतीय व्योमिश्वर का सामान्य ज्ञान प्राप्त कर सकेंगे।
3. व्योमिश्वर के विभिन्न सिद्धांतों के माध्यम से विश्लेषण क्षमता जागृत होगी।
4. पर्याप्त अवलोकन एवं निर्माण कार्यों का विकास होगा।

Credits: 3

Max. Marks: 25 (Internal)+ 75 (External)=100

Vocational/Skill Development Courses  
Min. Passing Marks: 10+30=40

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	व्योमिश्वर का सामान्य महत्त्व, उद्भव एवं विचार- धारण का परिचय, व्योमिश्वर का महत्त्व, व्योमिश्वर का शीतलता एवं व्योमिश्वर परम्परा एवं विकास।	12
Unit II	व्योमिश्वर का प्रकरण प्रथम 40 पर्यन्त- व्योमिश्वर चंद्रिका परिचय, कर्तव्य का परिचय, व्योमिश्वर चंद्रिका का महत्त्व एवं प्रतिफल विषय, रत्नों की व्याख्या एवं विषय।	12
Unit III	क- व्योमिश्वर चंद्रिका-संज्ञा प्रकरण प्रथम 41 से 80 पर्यन्त- रत्नों की व्याख्या विषय एवं समीक्षात्मक प्रश्न। ख- होलावकम का सामान्य परिचय।	13
	Class Room Lectures	37
	Tutorial, Assignment, Class Room Seminars, Group Discussion etc	08
		Total- 45

Suggested Reading:

1. व्योमिश्वर चंद्रिका रचयिता रघु शर्मा (सप्त) काल्दा भाटिया, भारतीय बुक कॉरपोरेशन, दिल्ली।
2. व्योमिश्वरचन्द्रमंथसालायाचिका प्रो युंजशकुमार शुक्ल, प्रतिभा प्रकाशन, दिल्ली।
3. बृहत् संहिता अष्टांगश्री शा (अनु०) वाखवा विद्याभवन, योरापसी।
4. बृहत् संहिता, राघवकुमार नरु (अनु०) मंगलाल बनारसीदास बॉल्डुम 1 और 2, दिल्ली।
5. भारतीय व्योमिश्वर, शंकर बालकृष्ण दीक्षित शिवनाथ झारखंडी (अनु०), हिन्दी, समिति, उत्तर प्रदेश।
6. भारतीय व्योमिश्वर परिचय सर्वनाथशा शा, चंद्रिय सर्वज्ञ संस्थान, गान्धी नरु दिल्ली।
7. द्रामाड एवं सौर परिचय त्रिसाठी देवी प्रसाद, दिल्ली।
8. भुवन काश त्रिपाठी देवी प्रसाद, दिल्ली।
9. व्योमिश्वर के अन्वयभूतत्व एवं व्योमिश्वरचन्द्रिका-सम्पादक व्याख्या० गिरीश चन्द्र पन्त, इन्दु प्रकाशन, दिल्ली।
10. होलावकम-

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:  
अथ सभी विभाग एवं संकाय

DIPLOMA COURSE IN ITC

Programme: Diploma Course in Arts- Sanskrit

Year: II

Semester: IV

Paper-III

Subject: Sanskrit

Course Code: Course Title: संस्कृत पत्र एवं प्रकाशिता

Course Outcomes: अंगितम उपलब्धि

- 1 संस्कृत प्रकाशिता का सामान्य परिचय प्राप्त कर सकेंगे।
- 2 संस्कृत संपादक और संपादन के सिद्धान्त से परिचय प्राप्त कर सकेंगे।
- 3 आधुनिक संस्कृत प्रकाशिता के संस्करण और समायोजन का बोध हो सकेंगे।
- 4 आकाशवाणी और दूरदर्शन में संस्कृत वर्त, संस्कृत और सोशल मीडिया से परिचय प्राप्त कर सकेंगे।
- 5 विद्यार्थी संस्कृत शोध पत्र-परिचयों से परिचित हो सकेंगे।

Credits: 3

Max. Marks: 25 (Internal) + 75 (External)=100

Vocational/Skill Development Courses  
Min. Passing Marks: 10+30=40

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	संस्कृत पत्र का परिचय प्रकाशिता का अर्थ एवं विकास।	10
Unit II	संस्कृत संपादक और संपादन करने के सिद्धान्त एवं आधुनिक संस्कृत प्रकाशिता की संरचना एवं समायोजन।	15
Unit III	आकाशवाणी और दूरदर्शन में संस्कृत वर्त एवं सोशल मीडिया का परिचय।	12
Class Room Lectures		37
Tutorial, Assignment, Class Room Seminars, Group Discussion etc		08
Total		45

Suggested Reading:

- 1- प्रकाशिता परिचय इतिहास एवं भूतकालीयधर्म, राष्ट्रियसंस्कृतसंस्थानम्, नव देहली।
- 2- संस्कृतप्रकाशिता स्वरूप महत्त्व या भूतकालीयधर्म, राष्ट्रियसंस्कृतसंस्थानम्, नव देहली।
- 3- संस्कृतप्रकाशिता, अर्जुन तिवारी सम्पूर्णानन्द संस्कृत विश्वविद्यालय वाराणसी।

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:

अथ सती विद्या एवं संकाय

**List of all Papers in Six Semesters**  
**Semester-wise Titles of the Papers in Sociology**

Year	Sem.	Course Code	Paper Title	Theory/ Practical	Credits
<i>Certificate Course in UG (Arts)</i>					
FIRST YEAR	I	UGSOC- CC101	Introductory Sociology(Core Course)	Theory	06
		UGSOC- ME102	Industrial Sociology(Minor Elective)	Theory	04
		UGSOC- V/SD 103	State welfare Interventions in India (Vocational/Skill development)	Theory & Field Work	03
	II	UGSOC- CC201	Indian Social System (Core Course)	Theory	06
		UGSOC- V/SD202	Gender Sensitization (Vocational/Skill Development)	Theory & Field Work	03
<i>Diploma in UG (Arts)</i>					
SECOND YEAR	III	UGSOC- CC301	Indian Social Problems (Core Course)	Theory	06
		UGSOC- ME302	Applied Sociology(Minor Elective)	Theory	04
		UGSOC- ME303	NGOs and Development in India (Vocational/Skill development)	Theory & Field Work	03
	IV	UGSOC- CC401	Social Control (Core Course)	Theory	06
		UGSOC- V/SD402	Techniques of Social Research (Vocational/Skill Development)	Theory & Field work	03
<i>Bachelor of Arts</i>					
THIRD YEAR	V	UGSOC- CC501	Development of Sociological Thought (Core Course)	Theory	05
		UGSOC- CC502	Research Methodology in Sociology(Core Course)	Theory	05
		UGSOC- RP503	Research Project/Industrial Training Survey(Qualifying)	Field work	04
	VI	UGSOC- CC601	Indian Sociological Thought (Core Course)	Theory	05
		UGSOC- CC602	Social Change (Core Course)	Theory	05
		UGSOC- RP603	Research Project on Contemporary Social Issues (Qualifying)	Field work	04

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28.06.2022

**Year wise Structure of Sociology (CORE / ELECTIVE COURSES & PROJECTS)**

Subject:											Total Credits /hrs
Course/Entry-Exit Levels	Year	Sem.	Paper 1	Credits / hrs	Paper 2	Credits / hrs	Paper 3	Credits /hrs	Research Project	Credit/	
Certificate Course In Arts	I	I	Introductory Sociology (Core Course)	06	Industrial Sociology (Minor Elective)	04	State welfare Interventions in India (Vocational/Skill development)	03			
		II	Indian Social System (Core Course)	06		Gender Sensitization (Vocational/Skill Development)	03				
Diploma in Arts	II	III	Indian Social Problems (Core Course)	06	Applied Sociology (Minor Elective)	04	NGOs and Development in India (Vocational/ Skill Development)	03			
		IV	Social Control (Core Course)	06		Techniques of Social Research	03				
Bachelor of Arts		V	Development of Sociological Thought (Core Course)	05	Research Methodology in Sociology (Core Course)	05	Research Project/Industrial Training Survey (Qualifying)	04			

*[Handwritten signatures]*

*A. Indan*  
20.06.2022

**B.A. DRAWING AND PAINTING NEP- CBCS MODE SYLLABUS  
I<sup>st</sup> SEMESTER TO VI<sup>th</sup> SEMESTER SESSION 2022- 2023 AND ONWARDS**

***Certificate in Arts***

YEAR	SEMESTER	PAPER		COURSE TITLE	CREDIT
I <sup>st</sup>	B.A. I <sup>st</sup>	I	Major/ Theory	Fundamental of Visual Arts	2
		II	Major/ Practical	Still Life Study	4
	B.A. II <sup>nd</sup>	I	Major/ Theory	Method and Material	2
		II	Major/ Practical	Landscape Painting	4

***Diploma in Drawing and Painting***

YEAR	SEMESTER	PAPER		COURSE TITLE	CREDIT
II <sup>st</sup>	B.A. III <sup>rd</sup>	I	Major/ Theory	Applied and Graphic Art	2
		II	Major/Practical	Applied Art	4
	B.A. IV <sup>th</sup>	I	Major/ Theory	Indian Paintings(Pre Historic to 1850)	2
		II	Major/Practical	Traditional Composition	4

**Bachelors of Art**

YEAR	SEMESTER	PAPER		COURSE TITLE	CREDIT
III <sup>rd</sup>	B.A. V <sup>th</sup>	I	Major/ Theory	Indian Sculpture	2
		II	Major/ Practical	Creative Design	4
		III	Major/Practical	Painting Exhibition	3
		IV	Research Project I	Qualifying	2
	B.A. VI <sup>th</sup>	I	Major/ Theory	Indian Art Aesthetics	2
		II	Major/ Practical	Portrait(Bust)	4
		III	Major/Practical	Painting Exhibition	3
		IV	Research Project II	Qualifying	2

**Course Pre-requisites:** To study this course, a student must have had any subject in class /12<sup>th</sup>/certificate/diploma. Open for all.

**Students will have to study a vocational course for each semester for initial two years.**

**Credits: (3x4 =12)**

Semester	Topic	Credit
I	Drawing and Colour Studies	3
II	Drawing and Sketching of Human Body	3
III	Head (Bust) Study with Pen	3
IV	Landscape.	3

<b>Programme/ Class :</b> Certificate/B.A		<b>Year:</b> First	<b>Semester:</b> First
<b>Subject:</b> Drawing and Painting			
<b>Course Code:</b>		<b>Course Title:</b> Fundamental of Visual Arts	<b>Paper I:</b> Theory
<b>Course Outcomes</b>			
<ul style="list-style-type: none"> <li>• Understanding of basic concept of origin of art, meaning of art and various philosophical definition of art.</li> <li>• Study of Elements of Painting- Point, Line, Colour , Form, Space, Tone And Texture. Understanding of different frame in fine arts. Understand the basic concept of Indian arts. Study of composition theory in artistic manner.</li> </ul>			
<b>Credits:</b> 02		<b>Core:</b> Compulsory	
<b>Max.Marks:</b> 25+75		<b>Min. Passing Marks:</b> 33	
<b>Total No. of Lectures:</b> 30			
<b>Unit</b>	<b>Topic</b>		<b>No. of Lectures</b>
<b>I</b>	Origin of Arts, Meaning of Arts , Definition of Arts		<b>4</b>
<b>II</b>	Six Limbs of Paintings (Shadang )		<b>6</b>
<b>III</b>	Elements of Painting-Point, Line, Space ,Form, Colour, Texture, Tone etc.		<b>6</b>
<b>IV</b>	Principles of Painting Composition		<b>6</b>
<b>V</b>	Unity, Balance, Rhythm, Proportion, Harmony, Perspective and Contrast.		<b>8</b>

**Suggested Reading**

- 1-चित्रकला के मूलआधार-डॉ०मोहन सिंह मावड़ी
- 2-रुपांकन-गिर्राजकिशोरअग्रवाल
- 3 - **Meaning of Art: Herbert Reed**
- 4 -**Art Fundamental:Theory and Practice-Robert E. Stinson**
- 5 - **Art Fundamental: Light,Colour,Composition,Anatomy,Perspective & Depth- Gilles Bells**

**Vocational /Skill Development Course :Drawing and Colour Studies**

Topic	Credit
Geometrical Shapes (Object)	1
Colouring (Object)	1
Mixed Media	1

**CERTIFICATE COURSE IN EG**

Programme: Certificate Course in Arts- Sanskrit

Year: I

Semester I  
Paper-III

Subject: Sanskrit

Course Code: Course Title: संस्कृत संज्ञाणक

Course Outcomes: अधिगम उपलब्धि

1. विद्यार्थी संज्ञाणक का सामान्य ज्ञान प्राप्त कर, अधिगम क्षमता में वृद्धि हेतु इसका उपयोग करने में सक्षम होंगे।
2. E- Content एवं डिजिटल साधनों का उपयोग करने में समर्थ होंगे।
3. संस्कृत भाषा और साहित्य के लिप्य-मयीन अन्वेषण को खोज पाने तथा उससे स्व-ज्ञान कोष में वृद्धि कर पाने योग्य होंगे।
4. संज्ञाणक के प्रयोग के माध्यम से संस्कृत ज्ञान के प्रसार प्रसार करने में कुशल बनेंगे।
5. पारस्परिक एवं धैर्यिक ज्ञान में सामंजस्य बनाकर ज्ञान की संवर्धन करने एवं जीविकोपार्जन के नए माग खोजने का कोशल विकसित होंगे।

Credits: 3

Max. Marks: 25 (Internal)+ 75 (External)=100

Vocational/Skill Development Courses  
Min. Passing Marks: 10+30=40

Total No. of Lectures, Tutorials, Practical (in hours per week: 4+0+0

Unit	Topic	No. of Lectures
Unit I	संज्ञाणक का सामान्य परिचय, संस्कृत की इतिहास संज्ञाणक की उपयोगिता, विभिन्न उपकरण(सॉफ्टवेयर)-माइक्रोसॉफ्ट वर्ड, माइक्रोसॉफ्ट पावरपॉइंट, माइक्रोसॉफ्ट एक्सेल।	12
Unit II	संज्ञाणक में संस्कृत-इंग्लिश शब्दांश प्रयोग उपकरण (गूगल)-गूगल ट्रांसलैट, गूगल इनपुट टूल, गूगल असेसटेंट एवं गूगल ट्रांसक्रिप्ट।	12
Unit III	इंटरनेट (इंटरनेट) का प्रयोग एवं वेब का उपयोग, ई-बुक, ई-रिजल जनरल, ई-मैजिन, डिजिटल साइबरी। संसार माध्यम से (ऑनलाइन) शिक्षण-प्रशिक्षणका आधार (टीचिंग लर्निंग प्लेटफॉर्म)-जूम, टीम, भीट, वेबक्स ऑनलाइन लर्निंग एवं शोध आधार (रिसर्च प्लेटफॉर्म)-रजय भूक ई-पाठशाला डेलनट, इनप्लाइबेट, शोधपत्रमा गूगल स्कॉलर आदि।	13
	Class Room Lectures	37
	Tutorial, Assignment, Class Room Seminars, Group Discussion etc	08
		Total- 45

**Suggested Reading:**

1. कंप्यूटर का परिचय मारा अग्रवाल, शिवा प्रकाशन, इंदौर।
2. कंप्यूटर पर्यावरण, शीवरो फिन्ना शीवरो फिन्ना पब्लिकेशन, नई दिल्ली।
3. इनफार्मेशन टेक्नॉलॉजी, सुशिला अग्रवाल, बनारस विश्वविद्यालय, नई दिल्ली।
- 4- कंप्यूटर सामान्य परिचय - डॉ० शोभा भारद्वाज- युवराज पब्लिकेशन, आगरा।
- 5- कंप्यूटर मौलिक सिद्धान्त- डॉ० शोभा भारद्वाज- युवराज पब्लिकेशन, आगरा। डॉ० शोभा भारद्वाज- युवराज पब्लिकेशन, आगरा।

**Suggested Online Link:**

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:

अन्य सभी विभाग एवं संकाय

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Subject: Sanskrit

Course Code: Course Title: ज्योतिषशास्त्र के मूलभूत सिद्धान्त

Course Outcomes: ज्योतिषशास्त्र के मूलभूत सिद्धान्त

1. भारतीय प्राचीन ज्ञान के प्रति अभिलषि उत्पन्न होगी।
2. भारतीय ज्योतिषशास्त्र का सामान्य ज्ञान प्राप्त कर सकेंगे।
3. ज्योतिष के विभिन्न सिद्धांतों के माध्यम से विरलेपण क्षमता जागृत होगी।
4. प्रयोग प्रबलकन एवं निर्माण कार्यों का विकास होगा।

Credits: 3

Max. Marks: 25 (Internal)+ 75 (External)=100

Vocational/Skill Development Courses  
Min. Passing Marks: 10+30=40

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	ज्योतिषशास्त्र का सामान्य परिचय, उद्गम एवं विभाग- धरा का परिवर्तन, ज्योतिषशास्त्र का महत्त्व, ज्योतिषशास्त्र का इतिहास एवं ज्योतिषशास्त्र परम्परा एवं विकास।	12
Unit II	ज्योतिष शास्त्र की सज्ञा प्रकरण प्रश्नक 01 से 40 पर्यन्त- ज्योतिष चंद्रिका परिचय, कृत्तिका का परिवर्तन, सप्तमि चंद्रिका का महत्त्व एवं प्रतिफल विषय, श्लोकों की व्याख्या एवं टिप्पणी।	12
Unit III	क- ज्योतिष चंद्रिका-सज्ञा प्रकरण प्रश्नक 41 से 80 पर्यन्त- श्लोकों की व्याख्या टिप्पणी एवं समीक्षात्मक प्रश्न। ख- होलाचक्रण का सामान्य परिचय। Class Room Lectures Tutorial, Assignment, Class Room Seminars, Group Discussion etc	37 08 Total- 45

Suggested Reading:

1. ज्योतिष चंद्रिका, रंजनी रमण शर्मा (सप) कान्हा भट्टिका, भारतीय बुक कॉरपोरेशन, दिल्ली।
2. ज्योतिषविज्ञानसम्बन्धसमाप्तावलि, प्रो. वृन्धकुमार शुक्ल, प्रतिभा प्रकाशन, दिल्ली।
3. बृहत् संहिता अध्यायानन्द झा (अनु०) वाखवा विद्याभवन, वाराणसी।
4. बृहत् संहिता, रामकृष्णानन्द (अनु०) मंगीलाल बनारसीदास बॉल्डुप 1 और 2, दिल्ली।
5. भारतीय ज्योतिष, शंकर बालकृष्ण दीक्षित शिवनाथ शारखडी (अनु०), हिन्दी, समिति, उत्तर प्रदेश।
6. भारतीय ज्योतिष परिचय सर्वनाथराज झा, चण्डिय सर्वकृत संस्थान, गान्धी, नई दिल्ली।
7. ब्रह्मण्ड एवं सौर परिवार विभागी दत्ती प्रसाद, दिल्ली।
8. भूचक्र विषयों की प्रसाद, दिल्ली।
9. ज्योतिष के अन्वयगतत्व एवं ज्योतिषचंद्रिका-सम्पादक व्याख्या० गिरीश चन्द्र पन्ना, इन्डु प्रकाशन, दिल्ली।
10. होलाचक्रण-

Suggested Online Link:

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:

अथ सती विभाग एवं संकाय











Subject: Sanskrit

Course Code: Course Title: संस्कृत पत्र एवं पत्रकारिता

Course Outcomes: अखिल उपलब्धि

- 1 संस्कृत पत्रकारिता का सामान्य परिचय प्राप्त कर सकेंगे।
- 2 संस्कृत संपादक और संपादन के सिद्धान्त से परिचय प्राप्त कर सकेंगे।
- 3 आधुनिक संस्कृत पत्रकारिता के संस्करण और समाचार का बोध हो सकेंगे।
- 4 आकाशवाणी और दूरदर्शन में संस्कृत बतरी, संस्कृत और स्थानल शिष्टिया से परिचय प्राप्त कर सकेंगे।
- 5 विद्यार्थी संस्कृत सेवा पत्र-पत्रिकाओं से परिचित हो सकेंगे।

Credits: 3 Vocational/Skill Development Courses

Max. Marks: 25 (Internal)+ 75 (External)=100 Min. Passing Marks: 10+30=40

Total No. of Lectures-Tutorials-Practical (in hours per week): 4-0-0

Unit	Topic	No. of Lectures
Unit I	संस्कृत पत्र का परिचय पत्रकारिता का अर्थ एवं विकास।	10
Unit II	संस्कृत संपादन का संपादक और संपादन करने के सिद्धान्त एवं आधुनिक संस्कृत पत्रकारिता की समस्या एवं समाधान।	15
Unit III	आकाशवाणी और दूरदर्शन में संस्कृत बतरी एवं स्थानल शिष्टिया का परिचय।	12
	Class Room Lectures	37
	Tutorial, Assignment, Class Room Seminars, Group Discussion etc	08
		Total- 45

**Suggested Reading:**

- 1- पत्रकारिताय परिचय इतिहाससह मुद्रासंस्थायाधीनम्, राष्ट्रियसंस्कृतसंस्थानम्, नव देहली।
- 2- संस्कृतपत्रकारिताया स्वरूप महत्त्व च भवतस्वाध्यायाधीनम्, राष्ट्रियसंस्कृतसंस्थानम्, नव देहली।
- 3- संस्कृतपत्रकारिता अर्जुन तिवारी सम्पादनम् संस्कृत विश्वविद्यालय वाराणसी।

**Suggested Online Link:**

Suggested equivalent online courses:

This course can be opted as an elective by the students of following subjects:  
अन्य सभी विभाग एवं संकाय











## Vocational/Skill Enhancement Courses in Botany

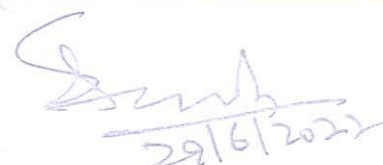
### i) Bio-fertilizers

Credit: 3

#### Course outcome

1. Develop conceptual skill about identifying microbes, and bio-fertilizers.
2. Gain knowledge about developing commercial enterprise of bio-fertilizers.

Unit	Topic	No. of lecturers/ hrs (45)
1	General account about the microbes used as biofertilizer – <i>Rhizobium</i> – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.	10
2	<i>Azospirillum</i> : isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms. <i>Azotobacter</i> : classification, characteristics – crop response to <i>Azotobacter</i> inoculum, maintenance and mass multiplication Cyanobacteria (blue green algae), <i>Azolla</i> and <i>Anabaena azollae</i> association, nitrogen fixation, factors affecting growth, blue green algae and <i>Azolla</i> in rice cultivation	15
3	Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and distribution, phosphorus nutrition, growth and yield – colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop Plants	10

  
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4	Organic farming – Green manuring and organic fertilizers, Recycling of biodegradable municipal, agricultural and Industrial wastes – biocompost making methods, types and method of vermicomposting – field Application. National and state institutes related to the activity.	10
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#### Suggested readings

- Dubey, R.C. (2005). A Text Book of Biotechnology. S.Chand and Co, New Delhi.
- John Jothi Prakash, E. (2004). Outlines of Plant Biotechnology. Emkay Publication, New Delhi.
- Kumaresan, V. (2005). Biotechnology, Saras Publications, New Delhi.
- Sathe, T.V. (2004). Vermiculture and Organic Farming. Daya Publishers.
- Subha Rao, N.S. (2000). Soil Microbiology, Oxford and IBH Publishers, New Delhi.
- Vayas, S.C, Vayas, S. and Modi, H.A. (1998). Bio-fertilizers and organic Farming. Akta Prakashan, Nadiad.

#### ii) Herbal Technology

Credit: 3

##### Course outcome

1. Develop conceptual skill about traditional Indian medicinal system, herbal medicines, their processing, storage and marketing.
2. Gain knowledge about developing commercial enterprise of herbal medicines.
3. Learn the basic tools and techniques for phytochemical analysis and propagation of the medicinal plants.

Unit	Topic	No. of lecturers/ hrs (45)
1	Herbal medicines: history and scope - definition of medical terms - role of medicinal plants in Siddha systems of medicine; cultivation - harvesting - processing - storage - marketing and utilization of medicinal plants.	10
2	Pharmacognosy - systematic position medicinal uses of the following herbs in curing various ailments; Tulsi, Ginger, Fenugreek, Indian Goose berry and Ashoka. Phytochemistry - active principles and methods of their testing - identification and utilization of the medicinal herbs; <i>Catharanthus roseus</i> (cardiotonic), <i>Withania somnifera</i> (drugs acting on nervous system), <i>Clerodendron phlomoides</i> (anti-rheumatic) and <i>Centella asiatica</i> (memory booster).	15

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3	Analytical pharmacognosy: Drug adulteration - types, methods of drug evaluation - Biological testing of herbal drugs - Phytochemical screening tests for secondary metabolites (alkaloids, flavonoids, steroids, triterpenoids, phenolic compounds).	10
4	Medicinal plant banks micro propagation of important species (ashwagandha, neem and tulsi- Herbal foods-future of pharmacognosy). National and state institutes related to the activity.	10

### Suggested readings

- Arber, A. (1999). Herbal plants and Drugs. Mangal Deep Publications.
- Chopra, R.N., Nayar S.L. and Chopra, I.C. (1956). Glossary of Indian Medicinal Plants, C.S.I.R, New Delhi.
- Green, A. (2000). Principles of Ayurveda, Thomsons, London.
- Kokate, C.K. (1999). Pharmacognosy, Nirali Prakashan.
- Miller, L. and Miller, B. (1998). Ayurveda and Aromatherapy. Banarsidass, Delhi.
- Sivarajan V.V. and Balachandran I. (1994). Ayurvedic drugs and their plant source. Oxford IBH publishing Co.

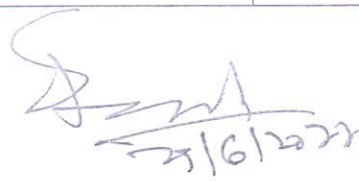
### iii) Nursery and Gardening

Credit: 3

#### Course outcome

1. Develop conceptual of nursery and gardening.
2. Gain knowledge about developing commercial enterprise of nursery.

Unit	Topic	No. of lecturers/ hrs (45)
1	Nursery: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants. Seed: Structure and types - Seed dormancy; causes and methods of breaking dormancy-Seed storage: Seed banks, factors affecting seed viability, genetic erosion – Seed production technology - seed testing and certification	15
2	Vegetative propagation: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants – green house - mist chamber, shed root, shade house and glass house	10

  
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3	Gardening: definition, objectives and scope - different types of gardening-landscape and home gardening - parks and its components - plant materials and design-computer applications in landscaping - Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.	10
4	Sowing/raising of seeds and seedlings - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes, and carrots - Storage and marketing procedures. National and state institutes related to the activity.	10

#### Suggested readings

- Agrawal, P.K. (1993). Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
- Bose T.K. and Mukherjee, D. (1972). Gardening in India, Oxford and IBH Publishing Co., New Delhi.
- Jules J. (1979). Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.
- Kumar, N. (1997). Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
- Sandhu, M.K. (1989). Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.

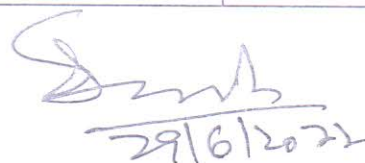
#### iv) Floriculture

Credit: 3

#### Course outcome

1. Develop conceptual skill about floriculture.
2. Gain knowledge about developing commercial enterprise of commercial floriculture.

Unit	Topic	No. of lecturers/ hrs (45)
1	Introduction: History of gardening; Importance and scope of floriculture. Nursery Management and Routine Garden Operations: Sexual and vegetative methods of propagation; Soil sterilization; Seed sowing; Pricking; Planting and transplanting; Role of plant growth regulators.	15
2	Ornamental Plants: Flowering annuals; Herbaceous perennials; Shade and ornamental trees; Cacti and succulents; Palms and Cycads; Ferns; Cultivation of plants in pots; Indoor gardening; Bonsai.	10

  
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3	Principles of Garden Designs: English, Italian, French, Persian, Mughal and Japanese gardens; Features of a garden (Garden wall, Fencing, Steps, Hedge, Edging, Lawn, Flower beds, Shrubbery, Borders, Water garden. Some Famous gardens of India.	10
4	Commercial Floriculture: Factors affecting flower production; Production and packaging of cut flowers; Flower arrangements; Methods to prolong vase life; Cultivation of Important cut flowers (Carnation, Aster, Chrysanthemum, Dahlia, Gerbera, Gladiolous, Marigold, Rose, Liliun, Orchids). Diseases and Pests of Ornamental Plants. National and state institutes related to the activity.	10

#### Suggested readings

- Randhawa, G.S. and Mukhopadhyay, A. (1986). Floriculture in India. Allied Publishers.

#### v) Medicinal Botany

Credit: 3

#### Course outcome

1. Understand the traditional Indian medicinal systems and their importance.
2. To learn the strategies for the conservation of medicinal plants.
3. Gain knowledge about developing commercial enterprise of herbal medicines.

Unit	Topic	No. of lecturers/ hrs (45)
1	History, Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences; Definition and Scope-Ayurveda: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments, Siddha	10
2	Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations.	10

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3	Conservation of endangered and endemic medicinal plants. Definition: endemic and endangered medicinal plants, Red list criteria; In situ conservation: Biosphere reserves, sacred groves, National Parks; Ex situ conservation: Botanical Gardens, Ethnomedicinal plant Gardens. Propagation of Medicinal Plants: Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding	15
4	Ethno-botany and Folk medicines. Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany. folk medicines of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases- Jaundice, cardiac, infertility, diabetics, Blood pressure and skin diseases. National and state institutes related to the activity.	10

#### Suggested readings

- Jain, S.K. (1989). Method of Approaches in Ethnobotany. Lucknow.
- Jain, S.K. (2010). A Manual of Ethnobotany. Scientific Publishers.
- Jain, S.K. and Mudgal, V. (1999). A handbook of Ethnobotany. Dehradun.
- Krattigar, F. Anatole (1994). Widening Perspectives on Biodiversity. Dehradun.
- Martin, G.J. (1994). Ethnobotany: A Method Manual. London.
- Pande, P.C., Pokharia D.S. and Bhatt J.C. (1999 Ed.). Ethnobotany of Kumaun Himalaya. Jodhpur.
- Purohit, S.S. and Vyas, S.P. (2008). Medicinal Plant Cultivation: A Scientific Approach, 2nd edn. Agrobios, India.
- Trivedi, P.C. (2006). Medicinal Plants: Ethnobotanical Approach, Agrobios, India.
- Wariko, K. (1995). Society and culture in the Himalaya. New Delhi.
- Yamin, F. (1995). The Biodiversity Conservation and Intellectual Property Rights. Switzerland.

#### vi) Conservation and Management of biodiversity (Conservation and Natural Resource Management) Credit: 3

##### Course outcome

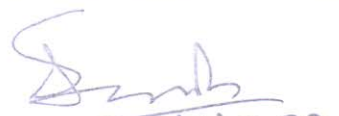
1. Understand the importance, benefits and services of biodiversity.
2. To learn the strategies for the conservation of biodiversity.

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Unit	Topic	No. of lecturers/ hrs (45)
1	Plant diversity and its scope- Genetic diversity, Species diversity, Plant diversity at the ecosystem level, Agrobiodiversity and cultivated plant taxa, wild taxa. Values and uses of Biodiversity: Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, Uses of plants, Uses of microbes	10
2	<b>Loss of Biodiversity;</b> Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agrobiodiversity, Projected scenario for biodiversity loss. <b>Management of Plant Biodiversity:</b> Organizations associated with biodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations, Biodiversity information management and communication.	15
3	<b>Conservation of Biodiversity:</b> Conservation of genetic diversity, species diversity and ecosystem diversity, <i>In situ</i> and <i>ex situ</i> conservation, Social approaches to conservation, Biodiversity awareness programmes, Sustainable development	10
4	<b>Role of plants in relation to Human Welfare</b> a) Importance of forestry their utilization and commercial aspects b) Avenue trees, c) Ornamental plants of India. d) Alcoholic beverages through ages. Fruits and nuts: Important fruit crops their commercial importance. Wood and its uses. National and state institutes related to the activity.	10

#### Suggested readings

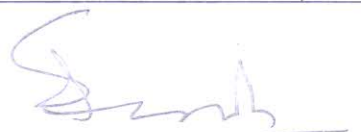
- Barbour, M.G., Burk, J.H. and Pitts, W.D. (1987). Terrestrial Plant Ecology. Benjamin/Cummings Publication Company, California
- Baskin and Baskin, (2001). Seeds: Ecology, Biogeography and Evolution of Dormancy and Germination Elsevier
- Kormondy, E.J. (2017). Concept of Ecology. Pearson India.
- Krishnamurthy, K.V. (2004). An Advanced Text Book of Biodiversity – Principles and Practices. Oxford and IBH Publications Co. Pvt. Ltd. New Delhi.
- Odum, E.P. (1983). Basic Ecology Saunders, Philadelphia
- Singh, J.S. Singh S.P. and Gupta, S.R. (2014). Ecology, Environment and Resource Conservation. S. Chand and Company Pvt. Ltd., New Delhi.
- Smith, R.L. (1996). Ecology and Field Biology Harper Collins, New York.

  
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## Course outcomes

1. To learn the proper documentation and presentation of traditional knowledge about plants.
2. To use important plants by the tribal communities for various purposes.
3. To learn the conservation of wild growing plants and their socioeconomic impacts.

Unit	Topic	No. of lecturers/ hrs (45)
1	<b>Ethno-botany:</b> Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, and their life styles. Plants used by the tribals: a) Food plants b) Intoxicants and beverages c) Resins and oils and miscellaneous uses	10
2	<b>Methodology of Ethnobotanical studies</b> a) Field work b) Herbarium c) Ancient Literature d) Temples and sacred places e) Indigenous knowledge system	10
3	<b>Role of ethno-botany in modern Medicine</b> Medico-ethnobotanical sources in India; Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) <i>Azadirachta indica</i> b) <i>Ocimum sanctum</i> c) <i>Vitex negundo</i> d) <i>Gloriosa superba</i> e) <i>Tribulus terrestris</i> f) <i>Pongamia pinnata</i> g) <i>Cassia fistula</i> h) <i>Indigofera tinctoria</i> . Role of ethnobotany in modern medicine with special example <i>Rauwolfia serpentina</i> , <i>Trichopus zeylanicus</i> , <i>Artemisia</i> , <i>Withania</i> . Role of ethnic groups in conservation of plant genetic resources. Endangered taxa and forest management (participatory forest management).	15
4	<b>Ethnobotany and legal aspects</b> Ethnobotany as a tool to protect interests of ethnic groups. Sharing of wealth concept with few examples from India. Biopiracy, Intellectual Property Rights and Traditional Knowledge. National and state institutes related to the activity.	10


  
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### Suggested readings

- Colton C.M. (1997). Ethnobotany-Principles and applications. John Wiley and sons Chichester.
- Jain S.K. (1981). Glimpses of Indian. Ethnobotany, Oxford and I B H, New Delhi.
- Jain S.K. (1989). Methods and approaches in ethnobotany. Society of Ethnobotanists, Lucknow, India.
- Jain S.K. (1990). Contributions of Indian ethnobotany. Scientific publishers, Jodhpur.
- Jain S.K. (1995). Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
- Rajiv K. Sinha (1996). Ethnobotany The Renaissance of Traditional Herbal Medicine – INA –SHREE Publishers, Jaipur).
- Rama Ro, N and A.N. Henry (1996). The Ethnobotany of Eastern Ghats in Andhra Pradesh, India. Botanical Survey of India. Howrah.


### viii) Mushroom Cultivation

Credit: 3

#### Course outcome

1. Understand the economic importance of mushroom cultivation.
2. To learn the basic tools and techniques used in mushroom cultivation.
3. To learn the skills for developing commercial enterprise of mushroom cultivation.

Unit	Topic	No. of lecturers/ hrs (45)
1	Introduction, history. Nutritional and medicinal value of edible mushrooms; Poisonous mushrooms. Types of edible mushrooms available in India- <i>Volvariella volvacea</i> , <i>Pleurotus citrinopileatus</i> , <i>Agaricus bisporus</i> .	10
2	Cultivation methods: Infrastructure: substrates (locally available) Polythene bag, vessels, Inoculation hook, inoculation loop, low cost stove, sieves, culture rack, mushroom unit (Thatched house) water sprayer, tray, small polythene bag. Pure culture: Medium, sterilization, preparation of spawn, multiplication. Mushroom bed preparation - paddy straw, sugarcane trash, maize straw, banana leaves. Factors affecting the mushroom bed preparation - Low cost technology, Composting technology in mushroom production	15
3	Storage and nutrition: Short-term storage (Refrigeration - upto 24 hours) Long term Storage (canning, pickels, papads), drying, storage in salt solutions. Nutrition- Proteins - amino acids, mineral elements nutrition - Carbohydrates, Crude fibre content - Vitamins.	10
4	Food preparation: Delicacies of mushroom and its value addition, Research Centres - National level and Regional level. Cost benefit	10

  
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ratio - Marketing in India and abroad, Export Value. National and state institutes related to the activity.	
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#### Suggested readings

- Bahl, N. (2000). Hand book of Mushrooms. Oxford & Ibh Publishing Co. Pvt Ltd.
- Marimuthu, T. Krishnamoorthy, A.S. Sivaprakasam, K. and Jayarajan. R. (1991). Oyster Mushrooms, Department of Plant Pathology, Tamil Nadu Agricultural University, Coimbatore.
- Swaminathan, M. (1990). Food and Nutrition. Bappco, The Bangalore Printing and Publishing Co. Ltd., No. 88, Mysore Road, Bangalore - 560018.
- Tewari, P. and Kapoor, S.C. (1988). Mushroom cultivation, Mittal Publications, Delhi.

#### ix) Intellectual Property Rights

Credit: 3

1. Understand the basic concepts of intellectual property rights.
2. To learn the procedure for obtaining the intellectual property rights.

Unit	Topic	No. of lecturers/ hrs (45)
1	<b>Introduction to intellectual property right (IPR)</b> Concept and kinds. Economic importance. IPR in India and world: Genesis and scope, some important examples. IPR, WTO TRIPS and WIPO.	10

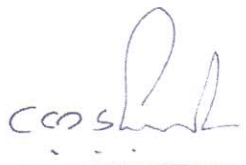
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2	<p><b>Patents</b></p> <p>Objectives, Rights, Patent Act 1970 and its amendments. Procedure of obtaining patents, Working of patents, Infringement.</p> <p><b>Copyrights</b></p> <p>Introduction, Works protected under copyright law, Rights, Transfer of Copyright, Infringement.</p> <p><b>Trademarks</b></p> <p>Objectives, Types, Rights, Protection of goodwill, Infringement, Passing off, Defenses, Domain name.</p> <p><b>Geographical Indications</b></p> <p>Objectives, Justification, International Position, Multilateral Treaties, National Level, Indian Position.</p>	10
3	<p><b>Protection of Traditional Knowledge</b></p> <p>Objective, Concept of Traditional Knowledge, Holders, Issues concerning, Bio-Prospecting and Bio-Piracy, Alternative ways, Protectability, need for a Sui-Generis regime, Traditional Knowledge on the International Arena, at WTO, at National level</p>	10
	<p>Traditional Knowledge Digital Library.</p> <p><b>Industrial Designs</b></p> <p>Objectives, Rights, Assignments, Infringements, Defenses of Design Infringement</p>	
4	<p><b>Protection of Plant Varieties</b></p> <p>Plant Varieties Protection-Objectives, Justification, International Position, Plant varieties protection in India. Rights of farmers, Breeders and Researchers. National gene bank, Benefit sharing. Protection of Plant Varieties and Farmers' Rights Act, 2001.</p> <p><b>Information Technology Related Intellectual Property Rights</b></p> <p>Computer Software and Intellectual Property, Database and Data Protection, Protection of Semi-conductor chips, Domain Name Protection.</p> <p><b>Biotechnology and Intellectual Property Rights.</b></p> <p>Patenting Biotech Inventions: Objective, Applications, Concept of Novelty, Concept of inventive step, Microorganisms, Moral Issues in Patenting Biotechnological inventions.</p>	15


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### Suggested readings

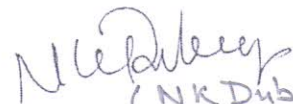
- Acharya N.K. (2001). Textbook on intellectual property rights, Asia Law House.
- Ganguli P. (2001). Intellectual Property Rights: Unleashing the Knowledge Economy, Tata McGraw-Hill.
- Guru M. and Rao M.B. (2003). Understanding Trips: Managing Knowledge in Developing Countries, Sage Publications.
- Miller, A.R. and Davis M.H. (2000). Intellectual Property: Patents, Trademarks and Copyright in Nutshell, West Group Publishers.
- Watal, J. (2003) Intellectual property rights in the WTO and developing countries, Oxford University Press, Oxford.

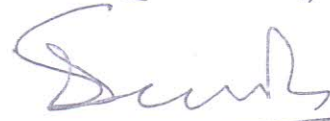
  
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Prof. & Head  
Dept. of Botany  
D.S.B. Campus  
Kumour, University  
Nainital - 263001

- ix. Eliel, E.L. and Wilen, S.H., "Stereochemistry of Organic Compounds", Wiley, 1994, 1<sup>st</sup> edition.
- x. Boyd, Morrison and Bhattacharjee, "Organic Chemistry", Pearson Education India, 2010, 7<sup>th</sup> edition.
- xi. Mukerji, S.M., "Reaction mechanism in Organic Chemistry", Laxmi Publications, 2007, 3<sup>rd</sup> edition.
- xii. Singh, Jagdamba and Yadav, L.D.S., "Undergraduate Organic Chemistry" Pragati Prakashan, India, 2011, Vol 1.
- xiii. Loudon, G. Marc, "Organic Chemistry", Oxford University Press, 2008, 4<sup>th</sup> edition.

**Suggested online links:**

1. [https://onlinecourses.nptel.ac.in/noc22\\_cy36/preview](https://onlinecourses.nptel.ac.in/noc22_cy36/preview)
2. [https://onlinecourses.swayam2.ac.in/cec20\\_lb01/preview](https://onlinecourses.swayam2.ac.in/cec20_lb01/preview)
3. <https://www.youtube.com/watch?v=ZeV3V0DjupQ&list=PLmxSS9XYst20arjxnrlpnL0P99AnswmSs>
4. <https://www.youtube.com/watch?v=zGk6VeTfpuE&list=PLmxSS9XYst21tCVeVKQ9nZdW3OO-20iNW>
5. <https://www.youtube.com/watch?v=zUwbVaBaxTY&list=PLmxSS9XYst22fU510ryKCEZNxuVkia6-v>
6. <https://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm>
7. <https://www.youtube.com/watch?v=AYD7YJqQ0Q&t=23s>
8. <https://www.youtube.com/watch?v=0LaLl1wskEg>

**Suggested Continuous Evaluation Methods:** Students can be evaluated on the basis of score obtained in a mid-term exam, together with the performance of other activities which can include short exams, in-class or on-line tests, home assignments, group discussions or oral presentations.

Evaluation method	Marks
Mid-term exam/ in-class or on-line tests/ home assignments/ group discussions/ oral presentations	15 marks
Overall performance throughout the semester, Discipline, participation in different activities) & Attendance	10 marks

**Course prerequisites:** To study this course, a student must have studied the Science/chemistry of class 10<sup>th</sup>.

**Suggested equivalent online courses:**

**Further Suggestions:** .....

## Vocational/Skill Development UG Semester-I

**Course Title: Basics of Analytical Chemistry-I**

<b>Programme/Class:</b> Certificate in Science	<b>Year:</b> First	<b>Semester:</b> I
Paper-I Skill Development in Chemical Analysis		
<b>Course Code:</b>	<b>Course Title:</b> Basics of Analytical Chemistry-I	

**Course outcomes:** The course will be of four stages; from level I to level IV. The purpose of the course is to develop skill for handling analytical equipment/glassware, sampling and analysis of the samples, data analysis and presentation of the results in scientific format.

<b>Credits:</b> 3	Skill Development
Max. Marks: 25+75	Min. Passing Marks:.....

Total Number of Hours = 45

Unit	Contents	Number of Hours
1	<b>Analytical approaches:</b> Types of errors, precision & accuracy, Significant figures; significant figures in Arithmetics-addition, subtraction, multiplication and division. Mean and standard deviation.	10
2	<b>Laboratory Apparatus:</b> Laboratory burner; Bunsen burner, air flow regulation, obtaining warm gentle flame with the burner, hottest flame of the burner. Cutting and bending of glass tubing/glass rod, fire polishing of glass tubing or rod.	10
3	<b>Steps in Chemical Analysis:</b> Sampling, sample preparation, analysis, interpretation and preparation of report.	4
4	<b>Use of Measuring Equipments:</b> Pipette, burette, chemical balance, least count.	4
5	<b>Chemical Concentration:</b> Normality, molarity, preparation of solution of defined normality/molarity of a given compound and from a given solution of different strength, percent composition, part per million (ppm), part per billion (ppb), calculations.	12
6	<b>Titration:</b> Types of titrations, end point, equivalence point, Indicators-types and theory.	5

**Recommended Texts:**

- Nivaldo, J. and Tro, Ho Yu Au-Yeung, Introductory Chemistry, Pearson India Education, 2017, 5<sup>th</sup> edition.
- Timberlake, K. C., and Timberlake, W., Basic Chemistry, Pearson India Education, 2017, 4<sup>th</sup> edition.
- Pavia, D.L., Lampman, G. M., Kriz, G. S, and Engel, R.G., Microscale and Macroscale Techniques in the Organic Laboratory, Harcourt College Publishers, 2001, 1<sup>st</sup> edition.
- Harris, D. C., Exploring Chemical Analysis, W. H. Freeman and Company, New York, 1993, 4<sup>th</sup> edition.
- Harris, D. C. Quantitative Chemical Analysis, W. H. Freeman and Company, New York, 2010, 8<sup>th</sup> edition.

**Suggestive digital platforms web links**

- <https://www.labster.com/chemistry-virtual-labs/>
- <https://www.vlab.co.in/broad-area-chemical-sciences>
- <http://chemcollective.org/vlabs>

**Suggested Continuous Evaluation Methods:** Students can be evaluated on the basis of score obtained in a mid-term exam, together with the performance of other activities which can include short exams, in-class or on-line tests, home assignments, group discussions or oral presentations.

Evaluation method	Marks
Mid-term exam/ in-class or on-line tests/ home assignments/ group discussions/ oral presentations	15 marks
Overall performance throughout the semester, Discipline, participation in different activities)	05 marks
Attendance	05 marks

**Course prerequisites:** To study this course, a student must have studied the chemistry of class 12<sup>th</sup> standard

**Suggested equivalent online courses:**

[https://onlinecourses.swayam2.ac.in/cec20\\_ib01/preview](https://onlinecourses.swayam2.ac.in/cec20_ib01/preview)  
<https://nptel.ac.in/courses/104/105/104105103/>

**Further Suggestions:** .....

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\*\*OPTIONS FOR VOCATIONAL COURSES SHALL BE SUBJECT TO THE GUIDELINES ISSUED BY THE UNIVERSITY FROM TIME TO TIME.

VOCATIONAL COURSE - Basic Instrumentation Skills -I		
Programme: <i>Vocational Course</i>		Year: I Semester: I Vocational
Subject: Physics		
Course Code:	Course Title: Basic Instrumentation Skills -I	
Credits: 03	Vocational (Experiments/hands on training)	
Max. Marks: 100 External Exam: 75 Internal Assessment: 25	Min. Passing Marks: 33	
Total No. of Lectures-Tutorials-Practical (in hours per week): 3-0-0		
Unit	Topic	No. of Lectures
Unit I	<b>Errors and Mechanical Tools</b> : Instruments accuracy, precision, sensitivity, resolution, range, least count of different instruments , Errors in measurements, Types of errors. Hand tools and their Uses: Identification, specifications, uses and maintenance of commonly used hand tools: Tweezers Screwdriver (Combination Set), Pliers, Wire Cutters, Wire Strippers, Crimping Tools, Sockets & Hex drivers, Clamps, Rotary Tools: Grinders, Portable Drill Machine, Small Hand Saws.	15
Unit II	<b>Electrical &amp; Electronics Cables and Connector</b> Different type of electrical cables and their Specifications. Types of wires & cables, Standard wire gauge (SWG), Practice on different type of cable joint. Testing phase , neutral and Earth by tester and multi-meter and test lamp.	10
Unit III	<b>Domestic Wiring</b> Introduction and explanation of electrical wiring systems, cleat wiring, casing & Capping, house wiring, specification and types, rating & material, Demonstration & Practice on connecting common electrical accessories in circuits and testing them in series board., Testing & replacement of different types of fuses, switches, plug, sockets. Identification of different wiring materials and their specification, Removing of insulation from assorted wires and cable, Making a switch board with electrical accessories, Making Extension board.	20

**Suggested Reading**

1. B L Theraja : A text book in Electrical Technology
2. S. Salivahanan & N. S.Kumar : Electronic Devices and Circuits, , 3rd Edn
3. Shashi Bhushan Sinha, Handbook of Repair and Maintenance of Domestic Electronics Appliances hand book.
4. M. Lotia, Modern Basic Electrical & House Wiring Servicing

VOCATIONAL COURSE - Basic Instrumentation Skills -II		
Programme: Vocational Course		Year: I Semester: II Vocational
Subject: Physics		
Course Code:	Course Title: Basic Instrumentation Skills -II	
Credits: 03	Vocational (Experiments/hands on training)	
Max. Marks: 100 External Exam: 75 Internal Assessment: 25	Min. Passing Marks: 33	
Total No. of Lectures-Tutorials-Practical (in hours per week): 3-0-0		
Unit	Topic	No. of Lectures
Unit I	<b>Batteries and Maintenance:</b> Types of Batteries, Primary Cell, Secondary Cell, Wet charged, Dry-charged, Low maintenance, Construction of Battery, Case Cover plates, Separator, Cells, Electrolyte, Principles of Batteries, Lead Acid battery, Electrochemical reaction, Measure the voltages of the given cells/battery using analog/ digital multimeter, Charge and discharge the battery through load resistor, Maintain the secondary cells, Measure the specific gravity of the electrolyte using hydrometer.	20
Unit II	<b>Testing of Batteries:</b> Testing Factor affecting charging, Cause of battery failure, diagnosis and testing, visual inspection, Heavy load test Professional, Test a battery and verify whether the battery is ready for use of needs recharging.	10
Unit III	<b>Soldering :</b> Solders, flux and soldering technique. Different types of soldering guns related to Temperature and wattages, types of tips, Solder materials and their grading, Use of flux and other materials, Selection of soldering gun for specific requirement, Soldering and De-soldering stations and their specifications, Soldering/ De-soldering and Various Switches, Practice soldering on different electronic components, small transformer, Practice de-soldering	15

#### Suggested Reading

1. B L Theraja : A text book in Electrical Technology
2. M,G Say : Performance and design of AC machines
3. S. Salivahanan& N. S.Kumar : Electronic Devices and Circuits, , 3rd Edn
4. Shashi Bhushan Sinha, Handbook of Repair and Maintenance of Domestic Electronics Appliances hand book.
5. M. Lotia, Modern Basic Electrical & House Wiring Servicing

VOCATIONAL COURSE - Basic Instrumentation Skills -III		
Programme: <i>Vocational course</i>		Year: II Semester: III Vocational
Subject: Physics		
Course Code:	Course Title: <b>Basic Instrumentation Skills -III</b>	
Credits: 03	Vocational (Experiments/hands on training)	
Max. Marks: 100 External Exam: 75 Internal Assessment: 25	Min. Passing Marks: 33	
Total No. of Lectures-Tutorials-Practical (in hours per week): 3-0-0		
Unit	Topic	No. of Lectures
Unit I	<b>Multimeter</b> Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance. Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity.	20
Unit II	<b>Digital Multimeter</b> Block diagram and working of a digital multimeter. Working principle of time interval, frequency and period measurement using universal counter/frequency counter, time-base stability, accuracy and resolution.	10
Unit III	<b>Electronic Voltmeter</b> Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter, AC millivoltmeter: Type of AC millivoltmeters, Block diagram ac milli -voltmeter, specifications and their significance.	15

#### Suggested Reading

1. B L Theraja : A text book in Electrical Technology
2. M G Say : Performance and design of AC machines
3. S. Salivahanan & N. S.Kumar : Electronic Devices and Circuits, , 3rd Edn
4. Shashi Bhushan Sinha, Handbook of Repair and Maintenance of Domestic Electronics Appliances hand book.

VOCATIONAL COURSE - Basic Instrumentation Skills -IV		
Programme: <i>Vocational Course</i>		Year: II Semester: IV Vocational
Subject: Physics		
Course Code:	Course Title: <b>Basic Instrumentation Skills -IV</b>	
Credits: 03	Vocational (Experiments/hands on training)	
Max. Marks: 100 External Exam: 75 Internal Assessment: 25	Min. Passing Marks: 33	
Total No. of Lectures-Tutorials-Practical (in hours per week): 3-0-0		
Unit	Topic	No. of Lectures
Unit I	<b>Cathode Ray Oscilloscope:</b> Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only—no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition. Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance. Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace, introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.	20
Unit II	<b>Signal and pulse Generators</b> Block diagram, explanation and specifications of low frequency signal generator and pulse generator. Brief idea for testing, specifications. Distortion factor meter, wave analysis.	10
Unit III	<b>Impedance Bridges</b> Block diagram of bridge. Working principles of basic (balancing) RLC bridge, Specifications of RLC bridge, Block diagram and working principle as of a Q-meter, Digital LCR bridges.	15

#### Suggested Reading

1. B L Theraja : A text book in Electrical Technology
2. M G Say : Performance and design of AC machines
3. S. Salivahanan & N. S.Kumar : Electronic Devices and Circuits, , 3rd Edn
4. Shashi Bhushan Sinha, Handbook of Repair and Maintenance of Domestic Electronics Appliances hand book.

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6. *Theory and practice of Indian silvicultural systems* by L.S. Khanna

7. *Silviculture of important Indian trees* by R.S. Troup

#### SEMESTER- IV

**VOCATIONAL/SKILL DEVELOPMENT: NON-TIMBER FOREST PRODUCTS** Total Credits: 03

**Course Outcomes:** In this course student will learn about the different non-timber forest product, their use and techniques of extraction of such product from forest species.

Theory	Topics
Unit I	Types of markets for timber and non-timber forest produce; Market locations of timber and non-timber forest produce and their features; Demand forecasts; Price determination in timber and non-timber forest produce.
Unit II	Economic features of specialized timber markets in terms of degree and type of competition in buying and selling; Price spread; Costs of marketing functions involved like pre-commercial thinning, commercial thinning, harvesting, hauling, sawing, transportation, treatment of wood, carpentry, and other processing activities involved in teakwood, rosewood, matchwood, pulpwood, sandal wood, veneers; Type and degree of competition in market for services of saw mill and other intermediate wood processing industries; Price spreads across different channels of marketing.
Unit III	Economic features of specialized markets in terms of degree and type of competition for bamboo, canes, lac, gums, resins, hides and skins; Economics of gathering medicinal plants from forests; study of wild edible products (Mushroom, lingura, Kafal, Amla, Jamun, Urtica species, Buransh, Rubus spp, Berberis Ficus spp. etc.) Economics of processing medicinal plants; Domestic demand and Trade in timber and non-timber forest products.
Unit IV	International demand and trade in timber and non-timber forest produce; Market in efficiencies in timber, non-timber forest produce and measures to check in efficiencies; Role of cooperative societies in marketing of timber and non-timber forest produce; Economic policy and regulations of international timber trade; Essentials of World Trade Organization; GATT; Dunkel proposals; Intellectual property Rights and Patenting; International Timber Trade Organization (ITTO) and timber certification.

#### SEMESTER-III and IV

**MINOR ELECTIVE: REMOTE SENSING AND GIS**

Course Code: FOR/ME/SHI-IV/01

Total Credit: 6 (Th04+Pr02)

**Course Outcomes:** In this course student will learn about the different remote sensing techniques used in forest surveying.

Theory	Topics	Lectures
Unit I	Introduction, definition and importance of remote sensing; Basic of remote sensing; Platform and sensor remote sensing (active and passive system).	15
Unit II	Remote sensing satellite, image and ground truth; Systems for data collection and analysis.	15
Unit III	GIS: Basic concept, tools and components; GIS application in forestry; GPS and its uses; Advantages of RS and GIS in future prospect.	15

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<b>Unit IV</b>	Collection, storage, analysis, data and information of forest resources through remote sensing; Software used in remote sensing and GIS.	<b>15</b>
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**Practical**

1. Uses of various photo-grammetry instruments.
2. Ground truthing and satellite images.
3. GPS data collection.
4. Hands on practice on remote sensing and GIS software.
5. Visual and digital interpretation of satellite image.
6. Recognition and identification of objects on photography, compilation of map and their interpretation.

**Suggested Readings:**

1. *Textbook of Remote Sensing and Geographical Information Systems* by M. Reddy
2. *GIS Fundamentals Applications and Implementations* by K. Elangovan
3. *Fundamentals of Remote Sensing* by George Joseph.
4. *Remote Sensing of the Environment: An Earth Resource Perspective* by J.R. Jensen
5. *Remote Sensing and Image Interpretation* by T. Lilles and, R.W. Kiefer and J. Chipman
6. *Remote Sensing: Principles and Interpretation* by F.F. Sabins
7. *TextBook of Remote Sensing and Geographic Information Systems* by K.C. Sahu



  
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Faculty of Science  
Kumaun University  
Nainital

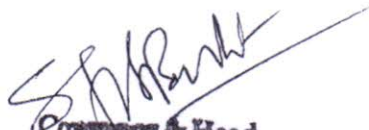
Skill Education (NEP- 2022)

1. Drawing and Color Studies Drawing & Sketching of Human Body Head (Bust) Study with Pencil and Color Landscape
2. Disaster Management
3. Mushroom Cultivation
4. Organic Farming
5. Basic Nutrition And Hygiene
6. Public Health & Hygiene
7. Fundamentals of Medical Laboratory
8. Food and Food Sources
9. Tour Package Operations & Management
10. Business Communication
11. Cost Accounting- Basics
12. Human Resource Management
13. Financial Literacy
14. Basics of Marketing
15. Critical Thinking and Writing
16. Leadership and Teamwork
17. Fundamentals of Business Economics
18. Fundamental of Accounting
19. Business Statistics
20. Fundamentals of Computers
21. Advertising Management
22. Time Management
23. Digital Literacy and Cyber Security
24. Introduction to House-Keeping
25. Fundamentals of Web Designing
26. Office Automation Tools
27. Digital Marketing & Management
28. Community Radio Technology
29. Data Science & Applications
30. Photography/ Lettering
31. Fashion (Apparel Designing)

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IV -   

32. Book Publication
33. Vedic Mathematics
34. Computer skills for Economic Research & Communication
35. Field Study Techniques & Report Writing
36. Pharmacognosy and Herbal Preparations
37. Quantitative Analysis
38. Food Process Technology and Food Microbiology
39. Food Manufacturing and Entrepreneurship
40. Food Testing and Quality Control
41. Computer Application and Bioinformatics
42. Nutritional Therapy
43. Food Processing, Preservation & Packaging
44. Athletic Injuries and Physiotherapy
45. Basics Program on Stock Market
46. Office Management & Secretarial Practice
47. Entrepreneurship
48. Advanced Web Development

  
**Convener & Head**  
Department of Zoology  
Kumaun University  
Nainital - 263002





