

**FACULTY-WISE VOCATIONAL/SKILL DEVELOPMENT COURSES FOR
SECOND YEAR**

1. FACULTY OF ARTS

1. AESTHETICS		
Course Outcomes: After the completion of the course the students will be able:		
<ul style="list-style-type: none"> To develop a careful investigation of the qualities belonging to the objects and events. Students will be able to response the objects and event aesthetically. Thoughts and feeling colored in an aesthetic response will enrich the knowledge of the students to the realm of art. 		
Max. Marks: 100	Credit: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Aesthetics , Arts and Philosophy, Art and Beauty	2T+4P
II	Concept of Aesthetics in Western Art : Plato, Aristotle	2T+4P
III	Baumgarten, Hegel.	2T+3P
IV	Croce, Tolstoy	2T+3P
V	Concept of Aesthetics in Indian Art.	2T+3P
VI	Theory of Rasa according to Bharat Muni and Abhinavagupta, Rasa-Dhwani by Anandavardhan.	2T+4P
VII	Other Notable Aesthetician's view : Bhattalolatta's, Shankuk, Bhattanayaka	2T+4P
VIII	Bhamaha, Vamana, Kshemendra and Kuntak.	2T+4P

Suggested Reading:

- Dr. Mamta Chaturvedi - Saundryashastra
- Neelkant – Saundrya-shastra ki pashchatya parampra
- Dr. Rajendra Vajpayee- Saundrya

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

2. HISTORY OF ARTS : PRE-HISTORIC TO RASHTRAKUTA		
Course Outcomes:		
<ul style="list-style-type: none"> To enable students to recognize and understand major monuments, artists, methods and theories, and be able to assess the qualities of works of art and architecture in their historical and cultural settings. How the then social problems should become subjects of Art 		
Max. Marks: 100	Credit: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Primitive art with reference to Indian Painting - Outline of History of man and civilization, with special reference to important cultures i.e. Pre-historic Painting ,	2T+4P
II	Indus Valley	2T+4P
III	Mauryan Period : Pottery, Sculptures & Architectures	2T+3P
IV	Stupas : Sanchi, Bharhut, Amrawati, Nagarjungkonda & Dhamek etc.	2T+3P
V	Gandhar & Mathura Sculptures	2T+3P
VI	Gupta Period : Pottery, Sculptures & Architectures	2T+4P
VII	Caves Art : Jogimara, Ajanta, Bagh, Sittanwasal, & Sigiriya	2T+4P
VIII	Allora & Elephanta Caves	2T+4P

Suggested Reading:

- V.S. Agrawal – Indian Art
- V.S. Agrawal – Studies in Indian Art
- Edith Tomory – A History of Fine Arts in India and West
- V.S. Agrawal & Bhartiya Kala (Hindi)
- N.P. Joshi & Prachin Bharatiya Murtikala (Hindi)
- World Heritage Monuments and Related Edifices in India, Volume 1 ‘Alī Jāvid, Tabassum Javeed, Algora Publishing, 2008
- Southern India: A Guide to Monuments Sites & Museums, by George Michell, Roli Books Private Limited, 1 May 2013
- Ancient India, Ramesh Chandra Majumdar, Motilal Banarsidass Publ., 1977
- Bharatiya Sthapatya Evam Kala Art And Architecture Of Ancient India By Dr. Udaynarayan Upadhyay, Prof. Gautam Tiwari · 2007 Publisher: Motilal Banarsidass Publishers Pvt. Limited
- Bhartiya Vastukala Ka Itihas by Krishna Dutta Vajpai, 1979, Hindi samiti, Lucknow,

UP

- The Ancient and Medieval Architecture of India: a study of Indo-Aryan civilization by E.B.Havell, (1915). John Murray, London.
- J.C. Harle – Art of Indian Subcontinent
- A. Ghosh – Ajanta Murals

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

3. HISTORY OF ART : PALA TO PANDYA & NAYAKA PERIOD		
Course Outcomes: <ul style="list-style-type: none">• Students will recognize and understand major monuments, methods and theories, and be able to assess the qualities of works of art and architecture in their historical and cultural settings. How the then social problems should become subjects of Art.		
Max. Marks: 100	Credit: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Pala Manuscript Painting, Jain Manuscript Painting, Gujarti Style, ApbhranshStyle	2T+4P
II	Chalukya Period : Temple at Badami, Pattadkal and Aihole	2T+4P
III	Pallava Period : Ratha Temple, Shore Temple & Gangavtaran Pannel -Mahabalipuram, Kailashnath Temple- Kanchipuram	2T+3P
IV	Chola Period: Sculpture and Architecture - Bronze Sculpture, Brihadeshwar Temple at Tanjaur & Gangaikondcholpuram, Airawteswara Temple at Darasuram and Kumbheswar at Kumbhkonam.	2T+3P
V	Chandel Period - Khajuraho Temple	2T+3P
VI.	Kalinga Architectures : Sun Temple- Konark, Lingraj Temple-Bhuwneshwar, Jagannath Temple- Puri	2T+4P
VII.	Jain Temple of Mount Tabu & Ranakpur, Rajsthan.	2T+4P

VIII.	Hoysaleswara Temple- Halevid, Minakshi Temple- Madurai, Islamic Architecture.	2T+4P
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Suggested Reading:

- Studies in Jaina Art and Iconography and Allied Subjects By Umakant Premanand Shah, 1995, Abhinav Prakashan , Vadodara
- Jain Manuscript Painting by John Guy ,January 2012, Department of Asian Art, The Metropolitan Museum of Art
- A Brief History of Indian Painting by Lokesh Chandra Sharma, 2008, Krishna Prakashan , Meerut
- The Heritage of Indian Art A Pictorial Presentation By Vasudeva S. Agrawala
- Art of TibiA Catalogue of the Los Angeles County Museum of Art Collection By Los Angeles County Museum of Art, Pratapaditya Pal, Hugh Richardson · 1983
- M.N.P. Tiwari & Kamal Giri - Madhyakalin Bharatiya Murtikala (Hindi)
- Krishna Deva – Khajuraho
- C.P. Sinha – Art of Bihar
- A.P. Srivastava & Ellora Ki Brahman Dev Pratimayen (Hindi)
- R.S. Gupta & B.D. Mahajan – Ajanta, Ellora an Aurangabad Caves
- Aschwin D. Lippi – Indian Medieval Sculpture
- Bhanu Agrawal - Bharatiya Chitrakala Ke Mula Srota (Hindi)
- A.K. Coomarasawamy – Introduction to Indian Art
- Siva Swarup Sahai - Bharatiya Kala (Hindi)
- Stella Kramrisch – Indian Sculpture
- Rai Krishna Das - Bharatiya Chitrakala (Hindi)
- Vachaspati Gairola - Bharatiya Chitrakala (Hindi)
- Boardman, John, ed., The Oxford History of Classical Art, 1993, OUP, ISBN 198143869
- Craven, Roy C., Indian Art: A Concise History, 1987, Thames & Hudson (Praeger in USA), ISBN 0500201463
- Harle, J. C., The Art and Architecture of the Indian Subcontinent, 2nd edn. 1994, Yale University Press. (Pelican History of Art), ISBN 0300062176
- Huntington, Susan L. (1984). The "Pāāla-Sena" Schools of Sculpture. Brill Archive. ISBN 90-04-06856-2.
- V.S. Agrawal – Indian Art
- V.S. Agrawal – Studies in Indian Art
- V.S. Agrawal & Bhartiya Kala (Hindi)
- N.P. Joshi & Prachin Bharatiya Murtikala (Hindi)

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5

Attendance/ Presentation	5
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4. PHOTOGRAPHY/ LETTERING

Course Outcomes:

- Recognize the concepts of photography & its applications. Practice the handling of the camera and its functions such as aperture, shutter speed and ISO. Explore different camera angles, camera movements and camera shots. Understand the indoor and outdoor lighting by using photographic concepts. Explore the use of photographic concepts in the fields of advertising, animation, art direction. /Students will be able to understand the basics of creating letters. Learning the basics of lettering, they will be able to create new experimental fonts.

Max. Marks: 100

Credit: 03

Min. Passing Marks:40

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

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Understanding Indoor & outdoor lighting; Camera controls- Aperture, shutter speed, focus. Or Latin Alphabates ; Sans and Sarif Font in Black (WaterProof Ink)	3T+6P
II	Advertising Photography (Product)- USP of a products should reflect in the composition. Arrangement of the product with props and set Minimum 05 photographs (size 8x12 inch). or Devnagari Alphabets ; Sans and Sarif Font in Black(Water Proof Ink)	3T+6P
III	Photo feature with minimum 10 photographs (size 8x12 inch) on subjects like Historical monuments, Fort, Museum, Picnic Spot, Temple and its surroundings etc. or A Sentence Composition in Latin Script ; Sans and Sarif Font in Black (Water Proof Ink)/Poster Color	3T+6P
IV	Micro Photography on subjects like Jewellery, Stationary, Micro Objects etc. or A Sentence Composition in Devnagari Script ; Sans and Sarif Font in Black (Water Proof Ink)/ Poster Color	3T+6P
V	Photo feature with minimum 10 photographs (size 8x12inch) on Live Models and Human Expression or	3T+6P

	Creative Lettering : In Color	
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Suggested Reading:

- Langford Michael , (1997), Basic Photography 6th revised edition ,US/UK, Focal Press
- Praker David, (2006), Basics Photography : Composition, Worthing UK, AVA Publishing
- David Praker (2008), Basic Photography: working in Black & White : Worthing UK, AVAPublishing
- Hansen Michael & Tater Mohit, (2013) Point & Shoot: Digital Photography : Basics for Beginners & Amateurs: Europe, CreateSpace Independent Publishing Platform
- Ducker Robert & Key Teresa (2012) Bob’s Basic Photography: Texas, Bob Media.com
- Bavister Steven , (2000), Digital Photography- A beginners guide UK, Collin & Brown
- Bedford Edward J, (2003), Nature Photography for Beginners , Montana, Kessinger Publishing.
- Martina flor, The Golden Secrets of Lettering (2017) , Princeton Architectural Press, ISBN-10161689573X

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

5. HISTORY OF INDIAN ART- RAJSTHANI, MUGHAL & PAHARI STYLE

Course Outcomes:

- Learning the three painting style of Indian heritage, students will be able to differentiate them easily how they are different due to their cultural and regional changing. It will help the students enhancing their art approach how the cultural and regional set up is important to make a distinctive identification.

Max. Marks: 100

Credit: 03

Min. Passing Marks: 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Rajsthani Painting- Background of Rajsthani Painting, Mewar School : Mewar Harauti School: Bundi-Kota Kalam	2T+4P
II	Dhundhar School : Amber, Jaipur & Alwar Kalam Marwar School : Jodhpur, Bikaner & kishangarh Kalam	2T+4P
III	Mughal Period : Background of Mughal Art- Irani/Persia School, Baber, Humayun	2T+3P
IV	Akbar period : Painting & Architecture, Jahangir period : Painting & Architecture,	2T+3P
V	Shah Jahan period : Painting & Architecture, Aurangzeb period : Painting & Architecture,	2T+3P
VI	Deccan Kalam: Bijapur, Ahmadnagar And Golkonda	2T+4P
VII	Pahari Painting - Background of Pahari Painting, Guler Kalam, Kangara Kalam, Basohali Kalam	2T+4P
VIII	Chamba Kalam, Kullu Kalam, Garhwal Kalam	2T+4P

Suggested Reading:

- Early Mughal painting by Milo Cleveland Beach , Published: 1987, Publisher: Asia Society
- Indian court painting, 16th-19th century by Steven Kossak, 1997, Metropolitan Museum of Art
- Four Centuries of Rajput Painting Mewar, Marwar and Dhundhar Indian Miniatures from the Collection of Isabella and Vicky Ducrot By Vicky Ducrot, Dr. Daljeet, Daljeet Kaur, Published: 2009
- Evenson, Norma (1989). The Indian Metropolis. New Haven and London: Yale University press
- Vastu-Silpa Kosha, Encyclopedia of Hindu Temple architecture and Vastu/S.K. Ramachandara Rao, Delhi, Devine Books, (Lala Murari Lal Chharia Oriental series)

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
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Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

6. HISTORY OF INDIAN ART- DEVELOPMENT OF MODERN ART		
Course Outcomes:		
<ul style="list-style-type: none"> In this course, students will study development of Indian modern art. 		
Max. Marks: 100	Credit: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Company Painting, Raja Ravi Varma	2T+4P
II	Renaissance: Bengal School of Art – E.B. Havell, Abanindranath Tagore	2T+4P
III	Nadlal Bose, Asit Kumar Haldar	2T+3P
IV	Shailendra Nath Dey, Kshitindranath Majumdar	2T+3P
V	D.P. Rai Chaudhary, Sudhir Ranjan Khastgir,	2T+3P
VI	Artist of Individual Style : Gagnendranath Tagore, Amrita Sher-Gil,	2T+4P
VII	Rabindranath Tagore, Ramkinkar Baij,	2T+4P
VIII	Folk Artist – Jamini Roy.	2T+4P

Suggested Reading:

- A History of Indian Painting : The Modern Period by Krishna Chaitanya pages 36 & 37 ISBN8170173108

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5

Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

7. COPY & STUDY OF NOTABLE ARTIST'S WORK		
Course Outcomes:		
<ul style="list-style-type: none"> Preparing their copy of notable Master's artworks is a good tool to learn and understand the nuances of art. Students will be able to understand the characteristics of the master's artwork by absorbing the artistic expressions of the artists. By studying the copy of the works of Indian artists as well as European artists, students will develop an understanding of their art. 		
Max. Marks: 100	Credit: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Oil Paintings of Raja Ravi Varma, Amrita Sher-Gil,	2T+4P
II	Leonardo da Vinci, Caravaggio, Johannes Vermeer or John Constable	3T+3P
III	Wash Painting of Abanindranath Tagore, Kshitindranath Majumdar or B.N. Arya	2T+4P
IV	Water Color Painting: Milind Mulick,	3T+3P
V	Tempera/ Gouache Painting of Jamini Roy or K.G. Subramanyan / Miniature Painting (Rajsthani, Mughal or Pahari)	2T+4P

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

The artefacts of the notable Master will be selected and his imitations will be made in the studio under the direction of the teacher.

8. HISTORY OF INDIAN ART- MODERN ART GROUP & ITS ARTISTS

Course Outcomes:

- In this course, students will study the role of Indian modern art group & its artist how they proceed the Indian art forward in the globalization era.

Max. Marks: 100

Credits: 03

Min. Passing Marks: 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Calcutta Group-43 : Nirode Mazumdar, Rathin Maitra, Prankrishna Pal,	4+4
II	Gopal Ghosh, Paritosh Sen, Prados Das Gupta	3+5
III	PAG Group : F.N. Suza, S.H. Raza, M.F. Husain,	4+4
IV	K.H. Ara, H.A. Gade, S.K. Bakre	3+5
V	Delhi Shilpi Chakra Group: B.C.Sanyal, K.S.Kulkarni, Dhanraj Bhagat, P.N. Mago	4+4
VI	K.G.Subramanyan, Ram Kumar, Satish Gujral,	3+4
VII	Group-1890	3+4
VIII	Cholmandalam : K.C.S. Paniker	2+4

Suggested Readings:

- Bhattacharya, Sunil Kumar (1 January 1994). "2. Revivalism and the Impact of the West". Trends in modern Indian art. M.D. Publications Pvt. Ltd. pp. 7–11. ISBN 978-81-85880-21-1. Retrieved 14 December 2011.
- Contemporary Indian Artists By Geeta Kapur · 1978 Publisher: Vikas Original from: the University of Michigan
- The Making of Modern Art The Progressives By Well-Known Art Historian and Independent Curator Yashodhara Dalmia, Yashodhara Dalmia, Rudolf von Leyden · 2001 Publisher: OUP Oxford Original from: the University of Michigan
- Vrihad Adhunik Kala Kosh by Vinod Bhardwaj, Published: 2006, Publisher: Vāṇī Prakāśana (Hindi)
- Aaj ki Kala By Prayag Shukla, Published: 2007, Publisher: Rajkamal Prakashan (Hindi)
- Kala Ke Praneta by Sachirani Gurtu, Published: 2007, Publisher: India Publikeshan House (Hindi)

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

9. INDIAN FOLK & TRIBAL ART		
Course Outcomes:		
<ul style="list-style-type: none"> In this course, students will study the various forms of Indian folk & tribal arts that create a special enthusiasm. It convinces how the depiction of a pure & true environment is important to an art work. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Folk Art: Madhubani Painting of Bihar	2T+4P
II	Patachitra of Odisha	2T+4P
III	Tanjore Painting of Tamil Nadu	2T+3P
IV	Kalamkari of Andhra Pradesh	2T+3P
V	Tribal Art: Warli Painting of Maharashtra, Saura Painting of Odisha	2T+3P
VI	Gond Painting of Madhya Pradesh, Pithora Painting of Madhya Pradesh	2T+4P
VII	Various Forms of Traditional Floor Art: Rangoli, - Maharashtra Saathiya- Gujarat Sona Rakhana or Chowk Purana- U.P. Mandana- Rajasthan	2T+4P
VIII	Alpana- W.Bengal Muruja/Jhota/Chita- Odisha Aripa- Bihar, Aipana- Uttarakhand	2T+4P

Suggested Readings:

- Tanjore Painting, A Chapter in Indian Art History by N. S. 'Kora' Ramaswami
- Indian Folk and Tribal Paintings (2008), Charu Smita Gupta, ISBN-13 : 978-8174364654
- Indian Folk and Tribal Art (2020), Anup Kumar, B R Publisher, ISBN-13 : 978-9388162135
- Indian Folk Art (1985), Mode Heinz, ISBN-13 : 978-0881680102
- Madhubani Art : Indian Art Series, Bharti dayal, Publisher- Niyogi Books, ISBN-10 : 9789385285080
- The mystical World of Warlis(2018), Madhukar vadu,, Publisher- notion press, ISBN-13: 978-1644298268

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

10. CONTEMPORARY IDEOLOGIES FOR PROFESSIONAL SOCIAL WORK		
Course Outcomes:		
<ul style="list-style-type: none"> To understand history and evolution of social work profession, both in India and the West. To develop insights into the origin and development of ideologies and approaches to social change. To develop Skills to understand contemporary reality in its historical context. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Contemporary Ideologies: Social Change, Neo-Liberalism.	2T+4P
II	Globalization, Postmodernism, Feminism,	2T+4P
III	Renaissance of the civil society, Multiculturalism, Ideology of sustainable & people centered Development.	2T+5P
IV	Contemporary Ideologies professional Social Work Profession: Marginalization of vulnerable groups, Emerging ideologies of professional social work. Spirituality & social work	2T+5P
V	Social Reformers: Jyotiba Phule, Mahatma Gandhi, Dr. B.R. Ambedkar, Baba Amte, Medha Patkar, Justice Ranade, Panditarama bai	2T+5P
VI	Social Reform Movements: Narmada Bachao Andolan, Chipko Movement, Naxalbari Movement	2T+4P
VII	Social movements in India, peasant movement Movements related to problems of natural and man-made displacements, ethnic identity.	2T+4P

Suggested Readings:

1. Surendra Singh (Chief Editor). (2012): Encyclopedia of Social Work in India.

- Lucknow: NewRoyal Book Company.
- Singh, D. K. and Bhartiya, A.K. (2010). Social Work: Concept and Methods. Lucknow: NewRoyal Book Company.
 - Annie Pullen-Sansfaçon (2013), The Ethical Foundations of Social Work, Stephen Cowden Routledge
 - Banks, S. (1995). Ethics and Values in Social Work: Practical Social Work Series, London:Macmillan Press Ltd.
 - Desai, Murli, (2006). Ideologies and social Work: Historical and Contemporary Analyses,Rawat Publication, New Delhi.
 - Tata Institute of Social work Educators forum (TISSWEF) 1997: Declaration of Ethics for Professional Social Workers, The Indian Journal of social work 58 (2) 335-341

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

11. DYNAMICS OF HUMAN BEHAVIOR		
Course Outcomes:		
<ul style="list-style-type: none"> To understand and develop insight about sociological concepts for professional social work practice. Able to understand preventive and remedial measures for contemporary social problems. Able to understand role of social work in addressing social problems. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Concept of human growth, development and Understanding Human Behavior: Factors affecting human behavior; Methods of study human behavior;	2T+4P
II	Theories of development & behavior – Freud’s Psychoanalytical theory, Psycho-sexual theory & Erikson’s Psychosocial theory, theory of classical conditioning.	2T+4P
III	Biological Bases of Behavior: Role of heredity, traits theory, Role	2T+5P

	of endocrine glands, Role of central nervous systems	
IV	Psycho-Social Bases of Behavior: Role of environment: Pre-natal & Post natal, Social factors affecting behavior, Socialization Process	2T+5P
V	Human Growth & Development: Life span approach to the understanding of human growth & behavior,	2T+5P
VI	Principles of growth & development, Stages of development: from conception to old age.	2T+4P
VII	Basic psychological processes: Learning, Motivation, Frustration.	2T+4P

Suggested Readings:

1. Chowdary, D.P. 1992 Aging and the aged, New Delhi: Inter India Pub.
2. Kakar, Sudhir, 1978, Images of the Life cycle & adulthood in India, In Anthony,
3. Colette, C (Eds) The Child in his family Wiley, 319- 332.
4. S.V.Kale Child Psychology & child Guidance
5. S.K. Mangal - General Psychology 6. James C. Coleman, Psychology & effective Behaviour

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

12. CONCEPTUAL FRAMEWORK OF EDUCATION		
Course Outcomes: On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> • To understand the meaning, nature, scope and aims of education. • To explain the factors of education and their interrelationship. • To become aware of different agencies of education that influence education. • To be acquainted with the Constitutional values and Educational provisions. Distinguish between different levels of the Education System. • Explain the present status of different levels of Education. • Identify the level of Education and concern governing/regulatory bodies. • Differentiate the needs and importance of different levels of Education. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	<u>EDUCATION: CONCEPT AND AIMS</u> <ul style="list-style-type: none"> • Concepts of Education-Meaning, Nature. • Education in the context of: Prachin Bhartiya Gyan Parampara: The Way of Life, Concept of Guru and Shiksha. Vidya-Gyan Teaching. Training vs. Education. Influencing Factors of Education. Aims of Education: Individualistic, Social, Democratic and Vocational. 	2T+4P
II	<u>FUNCTIONS OF EDUCATION</u> <ul style="list-style-type: none"> • Individual and Social Development. • Transmission of Cultural Heritage. • Acquisition and Generation of Human Values. • Education for National Integration. • Education for International Understanding. • Education for HRD. 	2T+4P
III	<u>AGENCIES OF EDUCATION</u> Concept of Formal, Informal, Non-Formal Agencies.	2T+5P
IV	<u>INDIAN CONSTITUTION AND EDUCATION</u> <ul style="list-style-type: none"> • Inculcation of Constitutional Values through Education. • Constitutional Provisions for Education. 	2T+5P
V	<u>PRE-PRIMARY EDUCATION</u> <ul style="list-style-type: none"> • Concept, Objective, Importance of Pre-primary Education. • Some Models of Pre-primary Education: Dalton, Montessori, Kindergarten. • Background and Present Scenario of Pre-primary Education in India. • NEP2020 and Pre-primary Education. 	2T+5P
VI	<u>PRIMARY AND SECONDARY EDUCATION</u> <ul style="list-style-type: none"> • Concept, importance and present Scenario of Primary Education in India. • Concept, importance and present Scenario of Secondary Education in India. 	2T+4P
VII	<u>HIGHER EDUCATION</u> <ul style="list-style-type: none"> • Concept, Objective of Higher Education. • Need of Higher Education in India. • Types of Universities- Central, State, Deemed, Private, Open. • Present Scenario of Higher Education in India. 	2T+4P

Suggested Readings:

	<ul style="list-style-type: none"> • Main Characteristics. • Merits and Demerits of Education System. • Contribution to Modern Indian Education. 	
III	<p><u>EDUCATION IN COLONIAL PERIOD</u></p> <p>Some Landmarks of British Period: A brief description of</p> <ul style="list-style-type: none"> • Indian University Commission. • Gokhale Bill. • Wardha Yojna. 	3T+2P
IV	<p><u>POST-INDEPENDENT ERA OF INDIAN EDUCATION:</u></p> <p>Role of following commissions-</p> <ul style="list-style-type: none"> • Vishv Vidyalaya Ayog (Radha Krishnan Commission) • Madhyamik Shiksha Ayog (Mudaliar Commission) • Education and National Development (Kothari Commission) • National Policy of Education 1986 • Janardan Committee • National Knowledge Commission • National Education Policy 2020. 	3T+6P
V	<p><u>PROBLEMS PRE-PRIMARY EDUCATION SYSTEM</u></p> <ul style="list-style-type: none"> • Unsatisfactory Conditions of Preprimary Schools. • Training of Pre-primary Teachers. • Unavailability of Teaching Material. • Loopholes of Supervision and Administration. • Problem of Uniformity. 	2T+6P
VI	<p><u>PROBLEMS PRIMARY AND SECONDARY EDUCATION SYSTEM</u></p> <ul style="list-style-type: none"> • Problems of Access and Equity. • Problems of Multilingualism, Child's Home Language and the Language of School- Classroom, Textbooks etc. • Mass vs Class- Gap in Standards, Financial Load on Parent, Syllabus. • Problem of Non-Availability of Technical and Vocational Guidance at Secondary Level and NSQF. • Problems due to Cyber World and Increasing Stress. 	2T+6P
VII	<p><u>PROBLEMS OF HIGHER EDUCATION SYSTEM</u></p> <ul style="list-style-type: none"> • Problems of Access - Gender (Masculine, Feminine and Transgender) and Caste, Class, Religion, Region. • Problem of over-emphasis on Examination System in India, Information Explosion and its Validation. • Problem related with Students- Aimlessness, 	3T+4P

	Intolerance, Aggression, Unemployment and Competition.	
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Suggested Readings:

- Altekar A. S. *Education in Ancient India*. Varanasi, Nandkishore & Brothers. 1963
- Bakshi S.R. & Mahajan, L. *Encyclopedic History of Indian Culture and Religion: Education in ancient India*, New Delhi, Deep & Deep Publications. 2000
- Govinda, R and M, Bandyopadhyay. *Access to Elementary Education: Analytical Overview*, New Delhi: OUP. 2011
- Human Development Report retrieved from <http://hdr.undp.org/en/reports/>
- Lal R.B. & Sharma K.K. 'History, Development and Problems of Indian Education', R.Lal Book Depo, Meerut, 2015.
- Mitra, V. *Education in Ancient India*. Delhi, Arya Book Depot. 1964
- Mookerji, R.k. *Ancient Indian Education: Brahmanic and Buddhist*. Delhi, Motilal Banarsidass. 1947
- Ramchandran, P. & Ramkumar, V. 'Education in India', NBT, N, Delhi, 2014.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

14. PHILOSOPHICAL-SOCIOLOGICAL-POLITICAL-ECONOMIC PERSPECTIVES OF EDUCATION		
Course Outcomes: On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> ● Define Education and Philosophy. ● Explain difference between Darshan and Philosophy. ● Identify significant features of the Indian and Western philosophies. ● Illustrate the relevance of the Indian and Western philosophical for modern educational system and society. ● Compare the Indian and Western Philosophical thoughts. ● Define pluralism and diversity in Indian society. ● Relate Education with Political and Economic issues. ● Distinguish between Fundamental Rights and duties. ● Value role of Education for Sustainable Development 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<u>EDUCATION AND PHILOSOPHY</u> <ul style="list-style-type: none"> • Meaning and Concept of Philosophy and ‘Darshan’; Difference between Philosophy and ‘Darshan’, its relationship with Education. • Branches of Philosophy and Education. 	2T+6P
II	<u>A BRIEF INTRODUCTION TO ANCIENT INDIAN PHILOSOPHIES</u> <ul style="list-style-type: none"> • Vedant. • Bhagavad Geeta. 	2T+6P
III	<u>A BRIEF INTRODUCTION TO WESTERN SCHOOLS OF PHILOSOPHIES</u> <ul style="list-style-type: none"> • Idealism. • Naturalism. • Pragmatism 	3T+2P
IV	<u>SOME PROMINENT EDUCATIONAL THINKERS</u> <ul style="list-style-type: none"> • Mahatma Gandhi. • Swami Vivekanand. • B.R. Ambedkar. • Rousseau. • Dewey. 	3T+6P
V	<u>INTRODUCTION TO INDIAN SOCIETY</u> <ul style="list-style-type: none"> • Concept of Pluralism and Diversity in Indian Society. • Social Stratification of Indian Society: Caste, Class, Gender. 	2T+6P
VI	<u>SCHOOL , EDUCATION AND SOCIETY</u> <ul style="list-style-type: none"> • School as Social Organization. • Social Change and Education. • Social Mobility and Education. 	2T+6P
VII	<u>POLITICAL PERSPECTIVES OF EDUCATION</u> <ul style="list-style-type: none"> • Fundamental Rights and Duties. • Directive Principles. • Right to Education 	3T+4P
VIII	<u>ECONOMIC PERSPECTIVES OF EDUCATION</u> <ul style="list-style-type: none"> • Education as Development Indicator. • Education for Sustainable development • UN-MDG ,SDG 	3T+4P

Suggested Readings:

- Archer, M.S. *Social Origins of Educational Systems*, New Delhi: Sage. 1984
- Brubacher, John S. (ed) . *Modern Philosophy of Education*, New Jersey: Prentice Hall Inc., Englewood Cliffs.12 Hours. 1962

- Cohen, B. *Educational Thought: An Introduction*. Macmillan, Britain. 1969
- Dewey, J. *The School and Society*. Chicago, The University of Chicago Press. 1915
- Durkheim, E. *Education and Sociology*. New York: The Free Press. 1956
- Elmhirst, L.K. *Rabindranath Tagore: Pioneer in Education*. Delhi: Sahitya Chayan. 1994
- Freire, P. *Pedagogy of the Oppressed*. London, Penguin Books. N.p. 1970
- Kneller, G.F. *Foundations of Education*. London and New York, John Wiley and Sons, Inc. 1963
- Kumar, K. *The Political Agenda of Education: A Study of Colonialist and nationalist Ideas*. New Delhi, Sage Publications. 1991
- Shukla, S. and Kumar, K. *Sociological Perspective in Education*. New Delhi, Chanakya Publications. 1985

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

15. PSYCHOLOGICAL PERSPECTIVES OF EDUCATION		
Course Outcomes: On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> • Define Education and Psychology. • Relate Education and Psychology • Compare characteristics and needs of different stages of development. • Name different approaches of learning. • Distinguish between different psychological traits. • Identify Individual Differences. • Examine the importance Mental Health. • Illustrate Teaching Learning Process. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	<u>EDUCATION AND PSYCHOLOGY</u> <ul style="list-style-type: none"> • Psychology: Concepts and Scopes. • Relations of Education and Psychology. • Importance of Educational Psychology. • Methods of Studying Educational Psychology. 	2T+6P
II	<u>PROCESS OF DEVELOPMENT</u> <ul style="list-style-type: none"> • Development/Meaning and Forms. 	2T+6P

	<ul style="list-style-type: none"> • Growth and Development. • Stages of Development. • Forms of Development-Physical, Mental, Emotional, Social, Motor Development, Language Development. 	
III	<u>UNDERSTANDING THE LEARNING</u> <ul style="list-style-type: none"> • Meaning, Nature and Factors Influencing the Education. • Learning Styles: VARK. • Thorndike's laws of learning. • Transfer of Learning and its classroom implications. • Learning Theories: Pavlov's Classical Conditioning Theory, Skinners Operant Conditioning Theory, Thorndike Trial and Error Theory, Gestalt Theory and their Educational Implications. 	3T+2P
IV	<u>FOUNDATIONS OF BEHAVIOURS AND THEIR ROLES</u> <ul style="list-style-type: none"> • Instincts. • Sensation, Perception and Concept. • Motivation. • Memory. • Attention and Interest. • Thinking, Reasoning and Imagination. • Habit. • Fatigue 	3T+6P
V	<u>INDIVIDUAL DIFFERENCES</u> <ul style="list-style-type: none"> • Meaning, Types and Causes of Individual Differences. • Individual Differences and Education. 	2T+6P
VI	<u>SPECIAL NEED LEARNERS</u> <ul style="list-style-type: none"> • Mentally Retarded. • Gifted Children. • Divyang (Handicapped). 	2T+6P
VII	<u>MENTAL HEALTH AND ADJUSTMENT</u> <ul style="list-style-type: none"> • Concept and need of studying mental health. • Affecting Factors of Mental Health. • Mental Health and Education. • Adjustment: Meaning and Process. 	3T+4P
VIII	<u>TEACHING AND LEARNING PROCESS</u> <ul style="list-style-type: none"> • Concept of Teaching. • Relation between Learning and Teaching. • Conditioning vs Teaching. • The Objectives of Education is Learning. • Role of Teacher in Teaching- Learning. 	3T+4P

Suggested Readings:

- Anastasi, A. Psychological Testing. New York, Macmillan Publishing Co. Inc. 1976
- NCERT Curriculum and Evaluation, New Delhi, NCERT 1990

- Norris, N. Understanding Educational Evaluation, Kogan Page Ltd. 1990
- Thorndike, E.L., & E.P., Hagen. Measurement and Evaluation in Psychology and Education. New York, John Wiley and Sons Inc. 1969
- Secolsky, C. Handbook on Measurement and Evaluation in Higher Education. U.K. Routledge. 2011
- Sindhu, K.S. New approaches to measurement and evaluation, New Delhi, Sterling Publication. 2007
- Singh, H.S. Modern educational testing. New Delhi: Sterling Publication. 1974

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

16. EDUCATIONAL STATISTICS		
Course Outcomes: On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> ● Define Statistical terms. ● Prepare graphical charts. ● Interpret the results various operations of statistics. ● Survey and collect data. ● Analyze the data with Suitable Statistical methods. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION TO STATISTICS History of Statistics Definition and Need of Statistics. Types of Statistics Symbols in Statistics	2T+6P
II	PRESENTATION AND ORGANIZATION OF DATA Organization of data: Simple array	2T+6P

	Frequency array Frequency Distribution Class Interval: Inclusive and exclusive	
III	GRAPHICAL REPRESENTATION OF DATA Bar diagram Histogram Pie chart	3T+2P
IV	MEASURES OF CENTRAL TENDENCY Definition, Uses, Computation of: Mean, Median, Mode	3T+6P
V	MEASURES OF RELATIVE POSITION Concept of Relative Position Percentile Rank Percentile	2T+6P
VI	MEASURES OF VARIABILITY Definition, Uses, Computation: Range, Mean Deviation, Standard Deviation.	2T+6P
VII	CORRELATION Meaning, Types, Uses Computation of Coefficient of Correlation- Spearman's Rank Difference Method.	3T+4P
VIII	NORMAL PROBABILITY CURVE Concept and Characteristics.	3T+4P

Suggested Readings:

- Agresti & Finlay, *Statistical Methods for the Social Sciences*. New Jersey, Prentice Hall. 2010
- Garret H.E., *Psychological Tests, Methods, and Results* Nabu Press, 2011.
- Garret H.E., *Statistics in Psychology and Education*, Paragon International Publishers, 2005(Hindi& English)
- Ott and Longnecker. *Statistical methods and data analysis*. CA: Duxbury Pacific Grove, 2001
- Patel, R.S. *Statistical techniques for data analysis*. (n.p.) Academic Publishing GmbH & Co. 2012
- Shavelson, R.J. *Statistical reasoning for the behavioral sciences*. Boston, Allyn and Bacon. 1988

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

17. EDUCATIONAL ADMINISTRATION AND MANAGEMENT		
Course Outcomes: On completion of this course, learners will be able to:		
<ul style="list-style-type: none"> • Describe different Educational Organizations. • Compare Administration, Management and Supervision. • Differentiate between inspection and supervision. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	EDUCATIONAL ORGANIZATIONS Meaning and Types. Characteristics of Educational Organizations.	2T+6P
II	EDUCATIONAL ADMINISTRATION Meaning, Concept and Types of Educational Administration. Administration vs Management. Principles of Educational Administration. Administrative Skills.	2T+6P
III	DEVELOPMENT OF EDUCATIONAL ADMINISTRATION AND MANAGEMENT Classical School New Classical School New Management	3T+2P
IV	FUNCTIONS OF EDUCATIONAL ADMINISTRATION POSDCORB : Meaning and Functions.	3T+6P
V	EDUCATIONAL LEADERSHIP Meaning, Nature of Educational Leadership.	2T+6P

	<p>Styles of Educational Leadership- Autocratic, Democratic and Laissez-faire</p> <p>Centralization vs Decentralization</p> <p>Decision Making.</p>	
VI	<p>EDUCATION PLANNING:</p> <p>Meaning and Nature of Educational Planning.</p> <p>Approaches of Educational Planning.</p>	2T+6P
VII	<p>EDUCATIONAL FINANCE</p> <p>Need and Significance.</p> <p>Sources of Finance.</p>	3T+4P
VIII	<p>EDUCATIONAL SUPERVISION</p> <p>Meaning and Nature of Educational Supervision.</p> <p>Inspection vs Supervision.</p> <p>Types of Educational Supervision.</p>	3T+4P

Suggested Readings:

- Bhatnagar S.S. & Gupta P.K. (Educational Administration and Management(n.p.).
- Khawas, E. Accountability and Quality Assurance: New Issues for Academic Inquiry, International Handbook of Higher Education, vol. (1) Springer Verlag, Berlin 2006
- Kudesia, U. Chandra(n.d.) Education Administration Management (n.p.).
- Sharma, R.A. (n.d.). Education Administration and Management. Meerut, Loyal Book Depot.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

18. MILESTONES AND NEW DIMENSIONS OF INDIAN EDUCATION

Course Outcomes: On completion of this course, learners will be able to:

- List and differentiate the different education programs and schemes.
- Use MOOCs and SWAYAM.
- Collect and use material from OERs.
- Review e-journals and e-Magazines.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<p>MILESTONES: MAIN PROGRAMS AND SCHEMES</p> <ul style="list-style-type: none"> • ICDS • RMSA. • RUSA. • NMEICT. • RTE. • PMMMNMTT. 	2T+6P
II	<p>MILESTONES: EDUCATIONAL INSTITUTIONS OF INDIA</p> <ul style="list-style-type: none"> • VISHVABHARTI • SNTD Women's University • IGNTU • JRHU • MGCGV • Pondicherry Ashram. • Navodaya Vidyalaya. • Eklavya Vidyalaya • Ashram Paddhati Vidyalaya • Kasturba Vidyalaya 	2T+6P
III	<p>VISHVABHARTI</p> <ul style="list-style-type: none"> • SNTD Women's University • IGNTU 	3T+2P

	<ul style="list-style-type: none"> • JRHU • MGCGV • Pondicherry Ashram. • Navodaya Vidyalaya. • Eklavya Vidyalaya • Ashram Paddhati Vidyalaya • Kasturba Vidyalaya 	
IV	<p>INITIATIVES AND INNOVATIONS</p> <ul style="list-style-type: none"> • EDUSAT, EDUCOM. • MOOCS, SWAYAM, OERs. • E-journals and e-Magazines. • NAD, NIRF, e-Pathshala. 	3T+6P
V	<p>SOCIETAL TRENDS AND EDUCATION</p> <ul style="list-style-type: none"> • Inclusion-. • Human Rights. • Value and Moral. • Women Empowerment • Effect of Pandemics on society and Education. 	2T+6P
VI	<p>CULTURAL TRENDS AND EDUCATION</p> <p>Social Media: Role in enhancement of Demographic changes, Globalization and Peace.</p> <p>Cultural Education</p>	2T+6P
VII	<p>ENVIRONMENT: CONCEPT AND CONCERNS</p> <ul style="list-style-type: none"> • Environment and Ecosystems. • Environmental Pollution and its types • Traditional Environmental Awareness. • Ozone layer depletion. • Global Warming. • Climate change 	3T+4P

	<ul style="list-style-type: none"> • Meaning, Definition and importance of sports Sociology • Culture and sports • Socialization and sports • Gender and Sports. 	
III	<p>History:</p> <ul style="list-style-type: none"> • History and development of Physical education in India: pre and post-independence. • Eminent person of Sports – Major Dhayan Chand, K.D. Jadhav, Abhinav Bindra, Karnam Malleshwari, Sushil Kumar, Bijendra Singh, Rajyavardhan Singh Rathore, Yogeshwar Datt, Vijay Kumar, Gagan Narang, Marry Kom, Saina Nehwal, P. V. Sindhu, Anuj Kumar, Alka Tomar & Sanjeev Kumar. <p>National awards of India – Rajeev Gandhi Khel Ratan Awards, Arjun Award, Major Dhyanchand Award, Dronacharya Award, Maulana Abul Kalam Azad Trophy,</p> <p>Sports schemes of India</p>	3T+2P
IV	<p>Olympic Games , Asian Games and Commonwealth Games:</p> <ul style="list-style-type: none"> • Olympics Movement: Ancient Olympic, Modern Olympic, Revival, Aims, Objectives, Spirit, Torch Relay, Flag, Motto, Opening and Closing Ceremonies. • Asian Games. • Commonwealth Games. 	3T+6P
V	<p>Health Education:</p> <ul style="list-style-type: none"> • Meaning, Definition and Dimensions of Health. • Meaning, Definition objectives, Principles and importance of Health Education. • Role of Different Agencies in Promoting Health (WHO, UNICEF). • Meaning of Nutrients, Nutrition, and Balance Diet • Health and drugs 	2T+6P
VI	<p>Wellness and Life Style</p> <ul style="list-style-type: none"> • Importance of wellness and life style. • Role of Physical Activity Maintaining Healthy Life Style. • Stress Management. • Obesity and Weight Management. 	2T+6P
VII	<p>Fitness :</p> <ul style="list-style-type: none"> • Meaning, Definition and types of fitness • Component of physical fitness • Factor affecting physical fitness • Development and maintenances of fitness 	3T+4P
VIII	<p>Posture:</p> <ul style="list-style-type: none"> • Meaning, Definition of Posture. • Importance of Good Posture. • Causes of Bad Posture. • Postural Deformities – Kyphosis, Lordosis, Scoliosis, Round Shoulder, Knock Knee, Bow Leg, Flat foot, Claw Foot (causes and remedial exercise). • Fundamental Movements of Body Parts • Anatomical standing position. 	3T+4P

Suggested Readings:

- Barrow Harold M., “Man and movements principles of Physical Education”, 1978.
- Difiore, J.(1998). Complete guide to postnatal fitness. London: A & C Black,.
- Dynamics of fitness. Madison: W.C.B. Brown.
- General methods of training. by - Hardayal Singh
- Giam, C.K &The, K.C. (1994). Sport medicine exercise and fitness. Singapore: P.G. Medical Book.Mcglynn, G., (1993)
- Kamlesh M.L., “Physical Education, Facts and foundations”, Faridabad P.B. Publications.
- Krishana Murthy V. and Paramesara Ram, N. “Educational Dimensions of Physical. Education”,2nd Revised edition, Print India, New Delhi 1990.
- Singh, S.N. (2019). Sharirik Siksha Ke Sidhant Evam Aadhar, Khel Sahitya Kendra, Daryaganj,New Delhi
- Methodology of training. by – Harre
- Ravanes R.S., “Foundation of Physical Education”, Houghton Millin Co. Boston USA (1978)
- Pandey, K.G. (2011). Sharirik Siksha, Shri Gyan Sagar Publication, Meerut
- Science of sports training. by - Hardayal Singh
- Sharkey, B. J.(1990). Physiology of fitness, Human Kinetics Book.
- Track & Field. by – Gerhardt schmolinsky, Leipzig college of physical culture (DHFk)

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Suggested Online Courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM” in India and Abroad.
- Rajarshi Tandon open University

20. PHYSICAL EDUCATION FOR DIVYANG		
Course Outcomes: This subject will help the students to understand the needs of the disabled (DIVYANG) people and make them ready to tackle any situation which comes in front of them while dealing disabled people. This subject can also teach Inclusion in sports for adapted people.		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		

Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION: <ul style="list-style-type: none"> • Meaning and Definition. • Aims and Objective. • Need and Importance of Physical Education. • Adapted Physical Education 	2T+6P
II	Physical Disabilities: <ul style="list-style-type: none"> • Causes of Mental Retardation • Functional Limitations. 	2T+6P
III	Mental Retardation: <ul style="list-style-type: none"> • Causes. • Characteristics. • Functional Limitations. 	3T+2P
IV	Outdoor Activities: <ul style="list-style-type: none"> • Outdoor program for the disabled. • Rhythmic and Dance Activities. 	3T+6P
V	<ul style="list-style-type: none"> • Aquatic Activity Program for disables. 	2T+6P
VI	Rehabilitation: <ul style="list-style-type: none"> • Functional and Occupational rehabilitation of DivyangStudents • Psychological Rehabilitation of Divyang Students 	2T+6P
VII	Programs: <ul style="list-style-type: none"> • Personality Development Program for DIVYANG. • Social Welfare Program for Disabled 	3T+4P
VIII	Inclusion in sports for Adapted People: <ul style="list-style-type: none"> • Recreational sports/ games for Divyang Students • Competitive sports/ games for Divyang Students 	3T+4P

Suggested Readings:

- C, Blauwet, (2007). Promoting the Health and Human Rights of Individuals with a Disability through the Paralympic Movement. (ICSSPE,) at 21. (Blauwet- Promoting the Health).
- Barton, L. (1993) „Disability, empowerment and physical education“, in J. Evans (ed.), Equality, Education and Physical Education. London: The Falmer Press.
- Guttmann, L. (1976) Textbook of Sport for the Disabled. Oxford: HM & M Publishers.
- K, DePauw & S. Gavron, (2005). Disability and Sport. (2nd Ed) Illinois: Human Kinetics.
- R, Metts. (2000). Disability Issues, Trends and Recommendations for the World Bank (Washington D.C.: World Bank,).
- Sport England (2000) Young People with a Disability and Sport. London: Sport England.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5

Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Suggested Online Courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM”
- India and Abroad.
- Rajarshi Tandon open University

21. FASHION (APPAREAL DESIGNING)		
Course Outcomes:		
To provide opportunity to all the candidates to work with local/ regional and famous designers.		
To create skilled candidate who could work from home too or they can establish their own boutique. Many standard companies provide lots of opportunity in this area.		
Max. Marks: 100	Credits: 03	Min. Passing Marks:
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures
		Theory + Practical
Unit I	Introduction To Indian Fashion Industry, The basics of designing, elements of art and principles of design. The process of designing apparels	3T+10P
Unit II	The principles of clothing construction-importance of drafting, pattern making using flat pattern techniques and draping	2T+10P
Unit III	Apparel designers of India and their styles and design work	2T+8P
Unit IV	Fabric types, fabric preparatory steps for stitching a garment- preshrinking, straightening, layout, pinning, marking, and cutting. handling different fabrics for clothing construction	2T+10P
Unit V	Fundamentals of sewing, appropriate sewing techniques of different components of garments, seams and its finishing, attaching different fasteners, disposal of fullness-darts, gathers, tucks and pleats, neckline finishing	3T+12P
Unit VI	Fabric selection for children -infants and toddlers Costumes of men and women of different states of India including accessories, The traditional woven textiles of India The traditional dyed and printed textiles of India	3T+10P

Suggested Readings:

- Research and Publication Ethics- Book by Sudhir Gupta and Sushil Kamboj Alexis

Press LLC, 21-Oct-2020

- Marsh JT: Textile Finishes
- Trotman Er: Dyeing and Chemical Technology of Fibers
- Joseph M: Introduction to Textiles
- Corbman P Bernard: Textiles- Fiber to Fabric
- Hollen & Saddler: Introduction to Textile
- J. Hall: The Standard Handbook Of Textiles, Wood Head Publication, 2004 J.E. Smith: TextileProcessing -Printing, Dyeing, Abhishek Publishing, 2003
- Kate Broughton: Textile Dyeing, Rockport Publishers, 1996
- W.S. Murphy: Textile Finishing, Abhishek Publication, 2000
- Naik. D. Shailiaja: Traditional Embroideries of India, New Age International Publishers, 1996
- Naik.D. Shailiaja, Jacquie. A. Willson: Surface Designing of Textile Fabrics, New Age InternationalPublishers, 2006
- Bhargay, Bela. Vastra Vigyaan, Univ. Book House Pvt. Avam Dhulai Kala, University Book HousePvt Ltd. Jaipur
- Patni.Manju, Vastra Vigyaan Avam Paridhan ka Parichay, Star Publications, Agra.
- Cutting Tailoring and Dress Making: National open School, B-31-B Kailash Colony, New Delhi -1100048.
- R Bhatia & C Arora (1999), Introduction to Clothing and Textile, Printed by Macho Printery,Raopura, Baroda.
- Complete Guide to Sewing by Reader's Digest: published by The Reader's Digest Association(Canada) Ltd. Montreal-Pleasantville, NY, 2002.
- Helen J Armstrong, Pattern Making for Fashion Design, Prentice Hall
- Gerry Cooklin, Introduction to Clothing Manufacture, Blackwell Science, UK, 1991
- Metric Pattern cutting & Grading by Winfred Aldrich.
- Khanuja, Reena. Vastra Vigyaan ke Sidhant, Agrawal Publication, Agra

Suggested Digital platforms/ web links for reading:

- <http://heecontent.ups dc.gov.in/Home.aspx>
- https://onlinecourses.swayam2.ac.in/cec21_hs14/preview
<https://www.skillshare.com/browse/fashion-design?via=class-details-about-page>
- Suggested equivalent online courses:
- https://onlinecourses.swayam2.ac.in/cec21_hs14/preview
- <https://www.skillshare.com/browse/fashion-design?via=class-details-about-page>

Suggested Continuous Evaluation:

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	7
Minor field work/excursion/lab visit/technology dissemination etc.	8

22. BOOK PUBLICATION

Course Outcomes:

- To create well rounded and skilled professionals who aspire to make a career in publishing through entrepreneurship or getting a satisfactory job.

Max. Marks: 100

Credits: 03

Min. Passing Marks: 35

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures
Unit I	Introduction to Publishing, Scope of Publication	2T+0P
Unit II	Editorial Theory & Practice, Proof Reading, and corrections	2T+10P
Unit III	Managing a Publication Enterprise	3T+15P
Unit IV	Production & Design in Publishing	2T+15P
Unit V	Plagiarism, Copyright, IPR Legal and Ethical Issues in Publishing ISBN/ E-ISBN	4T+15P
Unit VI	E- Books, Audio Books Book Review, Marketing of Book, and Book Launch Ceremony	2T+05P

Suggested Readings:

- प्रबंधन और उदयमित, वी क शेखर, साईटिफिक पब्लिशर
- औद्योगिक प्रबंधन और उद्यमिता, वी.के. शिआ, ओ.पी. हरकु साईटिफिक पब्लिशर
- Desai Vasant, Entrepreneurship Development and Management, Himalaya Publishing House 4. Robert J. Calvin, Entrepreneurial Management, Create space Independent Publication
- Ahmad, Ali J - "Entrepreneurship in Developing and Emerging Economies", Sage Publishing (2018)
- Sharma R.C - "Human Resource Management" Sage Publishing (2019),
- Sengupta Amitabha - "Human Resource Management", Sage Publishing (2018)
- Guthrie, Richard, Publishing: Principles and Practice, Sage Publication New Delhi Monyok.
- Objectives of Reading, Writing & Listening Skills by Pavni Jain.

Suggested Digital platforms/ web links for reading:

- <https://www.youtube.com/watch?v=FJMPfmjXh1Y>
- <https://www.noticebard.com/online-certificate-course-book-publishing-national-book-trust/>
- https://www.skillshare.com/browse/publishing?coupon=GOOG1MFREE&utm_source=Google&utm_medium

Suggested equivalent online courses:

- <https://www.noticebard.com/online-certificate-course-book-publishing-national-book-trust/>
https://www.skillshare.com/browse/publishing?coupon=GOOG1MFREE&utm_source=Google&utm_medium=paidsearch&utm_campaign=Croud_Search_Google_IN_BOF_Non-Brand_DSA-Categories&utm_term=&matchtype=b&gclid=CjwKCAjw_JuGBhBkEiwA1xmbRd5k8Vyc61UGScbKiDM9DYSU
- [iXnhEfxpSc5VjV9L0ypIL4Mz-YGtxoCRmQQA vD_BwE](https://www.noticebard.com/online-certificate-course-book-publishing-national-book-trust/)

Suggested Continuous Evaluation:

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	7
Minor field work/excursion/lab visit/technology dissemination etc.	8

23. VEDIC MATHEMATICS

Course Outcomes:

- Help Students to get job through competitive Exam.
- Enhance the teaching and learning skill.
- Become Entrepreneur.
- Students can Start their own Vedic Maths Skill centre to teach school students.
- Help in removing Phobia of Mathematics.
- Women Empowerment, Job opportunity.
- Become a GOVT certified Trainer / Teacher of Vedic Maths.
- Perhaps the most striking feature of the Vedic system is its coherence.
- Children become more creative.
- The features of Vedic math encourage students to be creative in doing their math.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Unit	Topic	No. of Lectures (Theory+ Practical)
I	High Speed Multiplication. Faster Division, Algebra: Linear, Simultaneous, Quadratic and Miscellaneous Equations	6L+2T
II	Accelerated Addition, Instant Subtractions, Squares Cubes Square Roots	6L+2T
III	Cube Roots, Digital Roots, Math Meditation - Doing Math Calculations without Pens and Paper, Divisibility	8L+3T

IV	Calendars, Pythagoras Theorem, Recurring Decimals Determinants, Triples, Coordinate geometry Calculus	10L+3T
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Suggested Reading:

- Vedic Mathematics, Sixteen simple Mathematical Formulae from the Vedas, Jagadguru Swami Sri Bharatikrsna Tirthajimaharaja Motilal Banarsidass Publishers Pvt. Ltd.
- K. Krishna Prasad, An Empirical Study on Role of Vedic Mathematics in Improving the Speed of Basic Mathematical Operations, International Journal of Management in Education(IJMIE), volume 6(1)161-171.

Course Books published in Hindi / English

- **Enjoy Vedic Mathematics**, Shriram M. Shriram M. Chauthaiwale and Dr. Ramesh Kolluru, Sri Sri Publications Trust, 2013.
- **Vedic Mathematics**, Dr. Ramamurthy N, CBH Publications, 2014
- **Vedic Mathematics**, Kenneth R Williams, Motilal Banarsidass Publishers Pvt. Ltd., 2005.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	10
Attendance/ Presentation	5

Course prerequisites:

- To study this course, a student must have qualified 10+2 from any recognized board.
- Facilities: Smart and Interactive Class
- Other Requisites: Video collection, Books, CDs, Access to On-line resources, Display Charts.

24. COMPUTER SKILLS FOR ECONOMIC RESEARCH & COMMUNICATION	
Course Outcomes:	
1. This course will help students learning in Word Processing and Presentation of data.	
2. This course will help students to get familiar with Internet.	
3. This course will help students in writing the correspondence.	
Credits: 3 Credits	Skill Development Course
Max. Marks: 100	Min. Passing Marks:40
Total No. of Lectures – Practical (in hours per week) : 03	
Unit	Topics
	No. of Lectures

I	Word Processing of Data – Opening & Saving of documents, Text Creation and Manipulation, Formatting the Text, Mail Merging the Document, Creating Labels, Inserting Table and Charts.	
II	Presentation of Data - PowerPoint presentation creation, Creating of Slides, Inserting data, tables, graphs in presentation of data.	
III	Data Analysis: Data entry in Spreadsheet. Formatting of data. Statistical Functions for data analysis using MS-EXCEL.	
IV	Surfing the Internet using browsers, using of e-mail, Letter Writing for correspondence –Social Correspondence, Memorandum, Job Application Letter, Preparation of Resume, Placing Order, Preparing Quotations.	
V	Transferring of Data: Transferring data from computer to various secondary drives, uploading data to Google drive etc.	

Suggested Readings:

1. Sanders, D.H.: Computers Today, McGraw Hill, New York.
2. Sinha, P.K.: Computer Fundamentals, BPB Publications, New Delhi.
3. Rajaraman, V.: Fundamentals of Computers, Prentice Hall of India, New Delhi.

Suggested online link:

www.ignou

www.swayam

www.inflibnet

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

25. FIELD SURVEY TECHNIQUES & REPORT WRITING		
Course Outcomes:		
1. This course will help students learning in Data collection Methods.		
2. This course will help students to know the various sampling techniques.		
Credits: 3 Credits		Skill Development Course
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures – Practical (in hours per week) : 03		
Unit	Topics	No. of Lectures
I	Survey data: Definition & Collection Techniques (Telephonic Surveys, Face-to-face Surveys, and Online Surveys, Paper Surveys, Cross Sectional Surveys, Longitudinal Surveys, Retrospective Surveys).	
II	Survey Data Analysis Methods – (Cross Tabulation, Trend Analysis, Co-joint Analysis, Gap Analysis, SWOT Analysis, Text Analysis).	
III	Concept of Data Collection. Types of Data – Qualitative and Quantitative. Methods of Primary data collection – Questionnaire, Interview, Focus Group Interview, Observation, Survey, Case Studies, Diaries.	
IV	Census and Sample. Sampling Techniques – Probable and Non-Probable (Simple random Sampling, Systematic Sampling, Stratified sampling, Clustured Sampling, Convenience Sampling, Quota Sampling, Purposive or Judgement Sampling, Snowball Sampling).	
V	Report Writing: Objectives, Importance, Features, Steps, Element of Research Report. Ordering of Reference, Bibliography	

Suggested Readings:

1. R.N.Trivedi&D.P.Shukla : Research Methodology (in Hindi).
2. Kumar : Research Methodology.
3. पारसराय, अनुसंधानपरिचय ।
4. एच० के कपिल, अनुसंधानविधियां, एच०पी० भार्गवबुकहाऊसआगरा
5. Tandon : Research Methodology in Social Sciences.
6. Kothari, D.S. : Research Methodology.
7. Yojna.
8. Economic Times, Financial Express and other Newspapers.
9. Economic Magazines.
10. Reports of various agencies.
11. Cauvery,R., ed.al., Research Methodology, S. Chand, New Delhi.
12. Sharma, Manoj, Research Methodology, Anmol Publications, New Delhi, 2004.

Suggested online link :

www.ignou

www.swayam

www.inflibnet

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

26. ISSUES OF URBAN GOVERNMENT		
Course Outcomes: Urban governance: plays a critical role in shaping the physical and social character of urban regions; influences the quantity and quality of local services and efficiency of delivery; determines the sharing of costs and distribution of resources among different groups.		
Max. Marks: 100	Credits: 3	Min. Passing Marks: 33
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
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:

- <https://ndl.iitkgp.ac.in/>
- <http://epgp.inflibnet.ac.in/>
- <http://egyankosh.ac.in/>
- <https://www.digitalindia.gov.in/services>
- <https://rtionline.gov.in/>
- <https://www.india.gov.in/topics/law-justice>

27. PUBLIC POLICY		
Course Outcomes: It aims to provide interface between public policy and administration in India. Students will be able to understand Political Process as well as Policy formulation process and the difficulties in implementation of Programmes and Policies promised in Manifestoes.		
Max. Marks: 100	Credits: 3	Min. Passing Marks: 33
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
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:

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

- Chakrabarty Bidyut& Chand Prakash (2017) ‘Public Administration in a Globalizing World: Theories &Practices’ SAGE, NewDelhi
- Jayal, N.G (1999) ‘Democracy and The State: Welfare, Secular and Development in Contemporary India’,Oxford, Oxford University Press, New Delhi
- Sharma M.P., &Sadan B.L. ‘LokPrashasan: SiddhantevamVyavhar’ Kitab Mahal, Allahabad
- Singh H. & Singh M. ‘Public Administration in India, Theory and Practice’, Sterling Publication 1990 NewDelhi

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>

II. FACULTY OF COMMERCE AND MANAGEMENT

1. FINANCIAL MANAGEMENT			
Course Outcomes:			
This course familiarize students with the financial concepts, techniques, tools and decision making in business enterprises. The course provides a working knowledge of the tools and analytical conventions used in the practice of corporate finance. It focuses on capital structure decisions, budgeting and corporate financial modelling.			
Max. Marks: 100		Credits: 03	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Financial Management: Meaning, nature and scope of finance; financial goal - profit vs. wealth maximization; Investment, Financing and Dividend decisions - Finance functions - organization structure - functions of finance manager in 21st century - Modern role - treasurer and controller. Emerging role of finance managers - Sources of long term finance.	4	6
II	Value and Return - time preference for money - Future value - single cash flow - annuity - annuity of a future sum(sinking fund)Present value - single cash flow - annuity - uneven cash flow - growing annuity	3	2

III	Capital Budgeting: Nature of investment decisions; Investment evaluation criteria - net present value, internal rate of return, profitability index, payback period, accounting rate of return: NPV and IRR comparison; Capital rationing; Risk analysis in capital budgeting.	4	6
IV	Cost of Capital: Meaning and significance of cost of capital: Calculation of cost of debt, preference capital, equity capital and retained earnings; Combined cost of capital (weighted); Cost of equity and CAPM; Leverages: Meaning and types of leverages in business - Financial leverage and its impact on EPS - Operating leverage - combined leverage - degree of leverages - working capital leverages - practical use of leverages.	4	6
V	Capital Structure decisions - Capital Structure & Market value of a firm. Theories of capital structure - NI approach, NOI approach, Modigliani Miller approach, traditional approach. Arbitrage process in capital structure. Planning the capital structure: EBIT and EPS analysis. ROI & ROE analysis. Capital structure policy. Working capital Management - concepts of working Capital - Operating and cash conversion cycle - permanent and variable working capital - Determinants of working capital - issues in working capital - Estimating working capital needs - Receivables management - Inventory management - Cash management - Working capital finance.	4	6

Suggested Reading:

1. I.M. Pandey (2011). Financial Management 9/e. Mumbai. Vikas Publications.
2. Prasanna Chandra (2011). Financial Management 6/e. Mumbai. Tata Mc Graw Hill.
3. Brearly and Myers (2004). Principle of Corporate Finance- 7/e. Mumbai Tata Mc Graw Hill
4. Sudhindra Bhat (2011). Advanced Financial Management, New Delhi Excel Books.
5. Vanhorne (2010). Financial Management & Policy. New Delhi Pearson.
6. Ashwath Damodaran (2008). Corporate Finance –Theory & Practive- John Wiley.
- 7.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

2. MANAGEMENT PRINCIPLES AND APPLICATIONS

Course Outcomes:

On successful completion of the course, the Students will be able to

- a) Understand and identify the different theories of organizations, which are relevant in the present context.
- b) Design and demonstrate the strategic plan for the attainment of organizational goals.
- c) Differentiate the different types of authority and chose the best one in the present context.
- d) Compare and chose the different types of motivation factors and leadership styles.
- a) Choose the best controlling techniques for better productivity of an organization.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction to Management Introduction-Meaning and importance of Management- Managerial Functions- Essence of Manager ship-Evolution of the Management thoughts: Classical organizational theories- Neo-Classical theories-Modern organizational theories.	4	6
II	Planning Introduction-Meaning-Nature-Purpose-Types of plans- Planning process; Strategic planning: Concept-Process-Importance and Limitations; Environmental Analysis and diagnosis: Meaning-importance and Techniques (SWOT/TOWS/WOTS-UP-BCG Matrix- Competitor Analysis); Decision-making-Concept-Importance-Committee and Group decision making Process.	3	2
III	Organizing Introduction-Meaning-Concept and Process of Organizing – An overview-Span of management-Different types of authority (line, staff and functional)-Decentralization- Delegation of authority; Formal and Informal Structure-Principles of Organizing; Network, Organization Structure.	4	6
IV	Staffing and Leading Introduction- Staffing: Concept of Staffing-Staffing Process; Motivation: Concept- Importance-extrinsic and intrinsic motivation-Major Motivation theories: Maslow's Need-Hierarchy Theory-Hertzberg's Two-factor Theory-Vroom's Expectation Theory; Leadership: Concept- Importance-Major theories of Leadership (Likert's scale theory, Blake and Mouten's Managerial Grid theory, House's Path Goal theory, Fred Fielder's situational Leadership), Transactional leadership, Transformational Leadership, Transforming	4	6

	Leadership; Communication: Concept-purpose-process-Oral and written communication- Formal and informal communication networks-Barriers to communication-Overcoming barriers to communication.		
V	Controlling and Coordination Control: Concept-Process-Limitations-Principles of Effective Control-Major Techniques of control – Ratio Analysis, ROI, Budgetary Control, EVA, PERT/CPM, Emerging issues in Management; Coordination: Meaning-Nature-Importance-Principles of Coordination.	4	6

Suggested Reading:

1. Harold Koontz and Heinz Weihrich (2017), Essentials of Management: An International and Leadership Perspective, McGraw Hill Education, 10th Edition.
2. Stephen P Robbins and Madhushree Nanda Agrawal (2009), Fundamentals of Management: Essential Concepts and Applications, Pearson Education, 6th Edition.
3. James H. Donnelly, (1990) Fundamentals of Management, Pearson Education, 7th Edition.
4. B.P. Singh and A.K.Singh (2002), Essentials of Management, Excel Books
5. P C Tripathi & P N Reddy (2005), Principles of Management, TMH Publications, 3rd Edition.
6. Koontz Harold (2004), Essentials of Management, Tata McGraw Hill.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

3. MARKETING MANAGEMENT

Course Outcomes:

On successful completion of the course, the Students will be able to

- a) Understand the basic concepts of marketing and asses the marketing environment.
- b) Analyse the consumer behaviour in the present scenario and marketing segmentation.
- c) Discover the new product development & identify the factors affecting the price of a product in the present context.

- d) Judge the impact of promotional techniques on the customers & importance of channels of distribution.
- e) Outline the recent developments in the field of marketing.

Max. Marks: 100 **Credits: 03** **Min. Passing Marks:40**

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction to Marketing Introduction-Nature-Scope-Importance of Marketing; Concepts & Approaches of Marketing; Need-Want-Demand-Customer Value-Customer Creation; Evolution of marketing; Selling vs Marketing; Marketing Environment: Concept-importance-Micro and Macro Environment. Marketing Management-Meaning-importance.	4	6
II	Consumer Behaviour & Market segmentation Nature and Importance-Consumer buying decision process; Factors influencing consumer buying behaviour; Market segmentation: Concept, importance and bases; Target market selection-Positioning concept-Importance and bases; Product differentiation vs. market segmentation. Marketing Mix: Product-Price-Place & Promotion.	3	2
III	Product and Pricing Product: Concept and importance-Product classifications-Concept of product mix; Branding-packaging and labelling; Product-Support Services; Product life-cycle; New Product Development Process; Consumer adoption process. Pricing: Significance. Factors affecting price of a product. Pricing policies and strategies.	4	6
IV	Promotion and Distribution Nature and importance of promotion; Communication process; Types of promotion: advertising, personal selling, public relations & sales promotion, and their distinctive characteristics; Promotion mix and factors affecting promotion mix decisions. Distribution Channels and Physical Distribution: Channels of distribution - meaning and importance; Types of distribution channels; Functions of middle man; Factors affecting choice of distribution channel; Wholesaling and retailing; Types of Retailers; e-retailing, Physical Distribution.	4	6

V	Recent Developments in Marketing Social Marketing, online marketing, direct marketing, services marketing, green marketing, Rural marketing; Consumerism, Search Engine Marketing-Mobile Marketing- Marketing Analytics-Social Media Marketing-Email Marketing-Live Video Streaming Marketing- Network Marketing, any other recent developments in Marketing.	4	6
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Suggested Reading:

1. Philip Kotler (2015), Principles of Marketing. 13th edition. Pearson Education.
2. Saxena Rajan, (2017) Marketing Management, Tata McGraw-Hill Publishing Company Ltd., New Delhi. Fifth Edition.
3. Kumar Arun & MeenakshiN (2016), Marketing Management, Vikas Publishing House Pvt. Ltd., New Delhi. Third Edition
4. Panda Tapan (2008), Marketing Management, Excel books, New Delhi, Second Edition.
5. Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit. Marketing: Concepts and Cases. (Special Indian Edition), McGraw Hill Education
6. William D. Perreault, and McCarthy, E. Jerome., Basic Marketing. Pearson Education.
7. Majaro, Simon. The Essence of Marketing. Pearson Education, New Delhi.
8. Iacobucci and Kapoor, Marketing Management: A South Asian Perspective. Cengage Learning
9. Chhabra, T.N., and S. K. Grover. Marketing Management. Fourth Edition.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

4. BUSINESS MATHEMATICS

Course Outcomes:			
On successful completion of the course, the Students will be able to			
a) Understand the number system and indices applications in solving basic business problems.			
b) Apply concept of commercial arithmetic concepts to solve business problems.			
c) Make use of theory of equation in solving the business problems in the present context.			
d) Understand and apply the concepts of Set Theory, Permutations & Combinations and Matrices solving business problems.			
e) Apply measurement of solids in solving simple business problems.			
Max. Marks: 100		Credits: 03	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Number System and Indices Introduction - Meaning - Natural Numbers - Even & Odd Numbers - Prime, Rational Number and its features & Irrational Numbers - simple problems on finding sum of natural, Odd and Even numbers- HCF and LCM, problems thereon; Indices-Introduction, Laws of indices, application of laws for simplification, simple problems.	4	6
II	Commercial Mathematics Introduction - Meaning of Simple and Compound interest and problems thereon,- Annuities, types & problems on present and future value of annuity; Ratios and Proportions-meaning and problems thereon-problems on speed, time and work.	3	2
III	Theory of Equation Introduction - Meaning-Problems on Linear equations and solving pure and adfected quadratic equations (factor and Sridharacharya methods only), problems on Simultaneous equations (Elimination method only).	4	6
IV	Set Theory, Permutations & Combinations and Matrices Introduction - Meaning & types of sets-Laws of Sets-Venn diagram-problems thereon; Meaning and problems on permutations and combinations; Matrices-Meaning & types of Matrices, simple problems on addition, subtraction and multiplication.	4	6
V	Measurement of Solids Introduction - Meaning and problems on Area and perimeter/circumference of Triangle, Square, Rectangle, Circle, Cone and Cylinder..	4	6

Suggested Reading:

1. Saha and Rama Rao, Business Mathematics, HPH.
2. S.N.Dorairaj, Business Mathematics, United Publication.

3. R. Gupta, Mathematics for Cost Accountants.
4. S. P. Gupta, Business Mathematics.
5. Madappa and Sridhara Rao, Business Mathematics.
6. Padmalochana Hazarika, Business Mathematics.
7. Dr.B.H.Suresh, Quantitative Techniques, Chetana Book House.
8. Dr. Padmalochan Hazarika, A Textbook of Business Mathematics, S. Chand, NewDelhi, No. 4, 2016.
9. A. P. Verma, Business Mathematics, Asian Books Private Limited, New Delhi, No. 3, January 2007.
10. D. C. Sancheti & V. K. Kapoor, Business Mathematics, S. Chand, New Delhi, 2014
11. A Lenin Jothi, Financial Mathematics, Himalaya Publications, Mumbai, No. 1, 2009.
12. B. M. Aggarwal, Business Mathematics, Ane Books Pvt. Ltd., No. 5, 2015

Suggested Online Link: As suggested by College or University.

Suggested equivalent online courses:

Swayam, Coursera

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

5. CORPORATE ADMINISTRATION
<p>Course Outcomes:</p> <p>On successful completion of the course, the Students will be able to</p> <ol style="list-style-type: none"> a) Understand the framework of Companies Act of 2013 and different kind of companies. b) Identify the stages and documents involved in the formation of companies in India. c) Analyse the role, responsibilities and functions of Key management Personnel in Corporate Administration. d) Examine the procedure involved in the corporate meeting and the role of company secretary in the meeting. e) Evaluate the role of liquidator in the process of winding up of the company.

Max. Marks: 100		Credits: 03	Min. Passing Marks:40	
Total No. of Lectures-Tutorials-Practical (in hours per week): 03				
Unit	Topic	No. of Lectures		
		Theory Hours	Practical Hours	
I	Introduction to Company Introduction - Meaning and Definition – Features – Highlights of Companies Act 2013 - -Kinds of Companies – One Person Company-Private Company-Public Company- Company limited by Guarantee-Company limited by Shares- Holding Company- Subsidiary Company-Government Company- Associate Company- Small Company- Foreign Company- Global Company-Body Corporate-Listed Company.	4		6
II	Formation of Companies Introduction - Promotion Stage: Meaning of Promoter, Position of Promoter & Functions of Promoter, Incorporation Stage: Meaning & contents of Memorandum of Association & Articles of Association, Distinction between Memorandum of Association and Articles of Association, Certificate of Incorporation, Subscription Stage – Meaning & contents of Prospectus, Statement in lieu of Prospects and Book Building, Commencement Stage – Document to be filed, e-filing, Register of Companies, Certificate of Commencement of Business; Formation of Global Companies: Meaning – Types – Features – Legal Formalities– Administration.	3		2
III	Company Administration Introduction - Key Managerial Personnel – Managing Director, Whole time Directors, the Companies Secretary, Chief Financial Officer, Resident Director, Independent Director, Auditors – Appointment – Powers - Duties & Responsibilities. Managing Director – Appointment – Powers – Duties & Responsibilities. Audit Committee, CSR Committee. Company Secretary - Meaning, Types, Qualification, Appointment, Position, Rights, Duties, Liabilities & Removal or dismissal.	4		6
IV	Corporate Meetings Introduction - Corporate meetings: types – Importance - Distinction; Resolutions: Types –Distinction; Requisites of a valid meeting – Notice – Quorum –Proxies - Voting - Registration of resolutions; Role of a company secretary in convening the meetings.	4		6
V	Winding Up Introduction – Meaning- Modes of Winding up –Consequence of Winding up – Official Liquidator – Role & Responsibilities of Liquidator – Defunct Company – Insolvency Code.	4		6

Suggested Reading:

1. S.N Maheshwari, Elements of Corporate Law, HPH.
2. Balchandran, Business Law for Management, HPH
3. Dr. P.N. Reddy and H.R. Appanaiah, Essentials of Company Law and Secretarial Practice, HPH.
4. K. Venkataramana, Corporate Administration, SHBP.
5. N.D. Kapoor: Company Law and Secretarial Practice, Sultan Chand.
6. M.C. Bhandari, Guide to Company Law Procedures, Wadhwa Publication.
7. S.C. Kuchal, Company Law and Secretarial Practice.
8. S.C. Sharm, Business Law, I.K. International Publishers

Suggested Online Link: As suggested by College or University.

Suggested equivalent online courses:

Swayam, Coursera

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

6. FINANCIAL ENVIRONMENT

Course Outcomes:

On successful completion of the course, the Students will be able to

- a) Understand the fundamentals of Indian Economy and its significance.
- b) Evaluate the impact of monetary policy on the stakeholders of the Economy.
- c) Assess the impact of fiscal policy on the stakeholders of the Economy
- d) Examine the status of inflation, unemployment and labour market in India
- e) Inference the financial sector reforms in India

Max. Marks: 100	Credits: 03	Min. Passing Marks:40
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Total No. of Lectures-Tutorials-Practical (in hours per week): 03			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Fundamentals of India Economy Introduction - Production & Cost-Demand & Supply-Perfect & Imperfect Competition- Monopoly-National Income Accounting-Business Cycle-Open Economy-Utility theory-GDP-GNP-impact- other Marco financial indicators.	4	6
II	Monetary Policy Introduction - Meaning-objectives-qualitative & quantitative measures for credit control. Influence of policy rates of RBI: Repo-Reverse repo- Marginal standing facility and Bank rate. Influence of reserve ratios of RBI: CRR-SLR-Exchange rates-lending/deposit rates- design & issues of monetary policy-LAF - RBI Role, functions and its Governance	3	2
III	Fiscal Policy Introduction - Meanings-objectives- public expenditure-public debt-fiscal & budget deficit- Keynesian approach-fiscal policy tools-fiscal policy effects on employment-supply side approach-design & issues of fiscal policy-fiscal budget- Role of Ministry of Finance in Fiscal Policy.	4	6
IV	Inflation, Unemployment and Labour market Introduction - Inflation: Causes of rising & falling inflation-inflation and interest rates- social costs of inflation; Unemployment – natural rate of unemployment-frictional & wait unemployment. Labour market and its interaction with production system; Phillips curve- the trade-off between inflation and unemployment-sacrifice ratio-role of expectations adaptive and rational	4	6
V	Financial Sector Reforms: Introduction - Financial sector reforms - Recommendation & action taken -SARFESI Act-Narasimham Committee I & II-Kelkar Committee- FRBM Act - Basel-BIS-history-need-mission-objectives-Basel norms I, II & III- criticism of Basel norms-Implementations of Basel norms in India- impact of Basel norms on Indian banks.	4	6

Suggested Reading:

1. V K Puri and S K Mishra, Indian Economy, HPH.
2. Datt and Sundharam's, Indian Economy, S Chand
3. Ramesh Singh, Indian Economy, McGraw Hill education.
4. Khan and Jain, Financial Services, McGraw Hill Education, 8th edition
5. RBI working papers
6. Mistry of Finance, GOI of working papers
7. SEBI Guidelines Issued from time to time.

Suggested Online Link: As suggested by College or University.

Suggested equivalent online courses:

Swayam, Coursera

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

7. BASIC PROGRAM ON STOCK MARKETS			
Course Outcomes:			
This course provides the participants with adequate knowledge of the stock exchange. The Objective of the course is to equip the participant with necessary stock market theoretical and practical know-how so that students can apply the same in researching equity markets for wealth creation. It introduces the participants to the process of how to find and analyze companies, determine the risk of a stock investment or trade, proper entry and exit time of the stock, understand why markets move the way they do.			
Max. Marks: 100		Credits: 03	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	FINANCIAL SYSTEM AND SERVICES: Nature and role of financial structure - Financial system and financial markets - Financial system and economic development -Indian financial system: an overview; Investment alternatives and evaluation; Reforms in financial system, Investment banking; Credit Rating; Factoring and Forfaiting; Housing Finance; Leasing and hire purchase; Financial inclusion and Microfinance.	4	6
II	Stock exchanges and its Functions : Meaning, Nature, Functions of Secondary Market – Organization and Regulatory framework for stock exchanges in India – SEBI : functions and measures for secondary market – Overview of major stock exchanges in India - Listing of Securities: Meaning – Merits and Demerits – Listing requirements, procedure, fee – Listing of rights issue, bonus issue, further issue – Listing conditions of BSE and NSE – Delisting.	3	2

III	Trading , settlement and Surveillance System In Stock Exchanges ; Different trading systems – BSE - BOLT System – Different types of settlements - Pay-in and Pay-out – Bad Delivery – Short delivery – Auction – NSE – NEAT system options – Market types, Order types and books – De-mat settlement – Physical settlement – Institutional segment – Funds settlement – Valuation debit – Valuation price – Bad and short delivery Risk management system in BSE & NSE – Margins – Exposure limits – Surveillance system in BSE & NSE – Circuit breakers.	4	6
IV	DEMAT & MUTUAL FUNDS : Demat and Depository, Concept and performance of Mutual funds ; Regulation of Mutual funds (with special reference to SEBI guidelines) ; Designing and marketing of mutual fund schemes ; Latest mutual funds schemes in India – an overview ; Mutual Fund Evaluation and Tax aspects of Mutual Fund Investments	4	6
V	DERIVATIVES & COMMODITY MARKET: Introduction to derivatives and futures, introduction to option, introduction to commodity market, introduction to currency market.	4	6

Suggested Reading:

- Prasanna Chandra. Investment Analysis and Portfolio management, Tata McGraw Hill, 3 rd Edn., 2008
- Julian Walmsley. New Financial Instruments, John Wiley & Sons, 2nd edition, Inc 1998.
- Bharati V. Pathak. The Indian Financial System: Markets, Institutions and Services, Pearson education, 3rd edn.
- Bhole I. M. Financial Markets and Institutionals: Tata McGraw Hill, New Delhi.
- Chandler M. V. and Goldfeld S. M: Economics of Money and Banking: Harper and Row, New York.

Suggested Online Link: As suggested by College or University.

Suggested equivalent online courses:

Swayam, Coursera

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: To study this course, a student must have had Intermediate in any stream.

8. PRINCIPLES AND PRACTICES OF BANKING		
Course Outcomes:		
<ul style="list-style-type: none"> • To impart knowledge of banking practices and instruments. • To impart knowledge about the basic principles of banking. • To provide the participants with knowledge and skill required to start career as a Banking professional. 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 35
Total No. of Lectures-Tutorials-Practical (in hours per week): 03		
Unit	Topic	No. of Lectures
		Theory+ Practical
Unit I	Introduction: Definition of Bank - Basic functions of Bank. Banking System in India. Commercial Banks, Private Sector Banks, Public Sector Banks, Foreign Banks, Regional Rural Banks, Co-operative Banks. Reserve Bank of India.	4T+6P
Unit II	Retail & Wholesale Banking: concepts and difference between retail and wholesale banking Instruments of retail banking, Types of accounts : Deposit Accounts-Savings Accounts, Current Accounts, Fixed Deposit Accounts. Opening and operation of Accounts. Nomination. KYC requirements. Pass Book. Minors. Partnerships & Companies Enumerating various products & services dealt with by banks by citing some important products offered by them. Comparison of different types of deposit accounts with their advantages and disadvantages. Discussion on procedures of opening, operation and closing of bank accounts. In depth discussion on KYC norms which banks have to compulsorily adhere to along with documents required for this purpose PRACTICAL Filling up of KYC forms. Discussion on various documents normally used to open different types of deposit accounts and how to fill it up. Cash management including input on fake notes	4T+6P
Unit III	Banking Negotiable Instruments:	4T+4P

	<p>Cheques, Banker's Cheques, Demand Drafts, ATM & Debit Cards, Credit Cards, Charged Cards, Crossing of Cheques, Endorsement, Checking of Cheques for passing for payment</p> <p>PRACTICAL: Demonstrating Cheques, Banker's Cheques, Demand Drafts, ATM & Debit Cards, Credit Cards, Charged Cards, Crossing of Cheques, Endorsement, Checking of Cheques Filling up of different banking instruments like cheque, pay-in-slip, RTGS, NEFT.</p> <p>Visit to various bank branches make a comparison of any three products offered by those banks.</p> <p>Do's and Don'ts for banks</p>	
Unit IV	Relationship between Banker and Customer. Special Types of Customers. Internet Banking: Meaning, Benefits, mobile banking, E payment. Customer grievance, Banking Ombudsman	2T+4P
Unit V	Visit Bank or Websites of Two Different Commercial Banks	2T+4P
<p>(One Public Sector and one Private Sector Banks) offering Retail Banking Products. Get details of the various Retail Banking Products offered by them.</p> <p>Prepare a Comprehensive Report for each of these Banks Covering the following Retail Banking products (one Asset Product and one Liability Product) best suited for people in different stages of life cycle. Five client categories to be selected:</p> <p>(a) A young executive who has just joined the job after studies.</p> <p>A young housewife with 1 small girl child.</p> <p>A middle aged middle level Senior Executive in a Private Firm having two school going children and dependent parents.</p> <p>(d) A elderly lady staying alone with no dependents, and</p> <p>(e) A member of the armed forces in mid 30s.</p> <p>Based on the above the above, justify your selections for each of them. List the documents to be submitted by the customer for applying for each product. You can obtain sample forms from any of the appropriate.</p> <p>Suggest two (one Asset Product and one Liability Product) best suited for Each</p>		

Suggested Reading:

- Agarwal, O.P., Banking and Insurance, Himalaya Publishing House
- Suneja, HR, Practical and Law of Banking, Himalya Publishing House
- Saxena, G.S. Legal Aspects of Banking Operations, Sultan Chand and Sons
- Varshney, P.N., Banking Law and Practice, Sultan Chand and Sons
- Bhatia, Elements of Banking and Insurance, PHI Learning
- Bhole, L.M: Indian Financial System – Chung Publications, Allahabad. . (2000),
- Sayers, R.J. Modern Banking, OUP, New Delhi (1962)

- Gupta, S.B. :Monetary Economics, S. Chand & Company, New Delhi.(1983)

Suggested Online Link:

- <https://www.icicibank.com>
- [State Bank of India \(onlinesbi.com\)](https://www.onlinesbi.com)
- <https://m.rbi.org.in/home.aspx>
- [//www.indiatoday.in/amp/information/story/list-of-documents-individuals-can-submit-for-sbi-kyc-1634360-2020-01-01](https://www.indiatoday.in/amp/information/story/list-of-documents-individuals-can-submit-for-sbi-kyc-1634360-2020-01-01) [The Investors Book - Learn about Investing & Business related terms](#)
- <https://rbi.org.in/>

Suggested equivalent online courses: <https://swayam.gov.in/>

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	7
Minor field work/excursion/lab visit/technology dissemination etc.	8

Course Prerequisites:

- No pre-requisite required, open to all
- To study this course, a student must be 12th pass.

9. OFFICE MANAGEMENT & SECRETARIAL PRACTICE

Course Outcomes:

The course will assist the understudies with knowing and comprehend the advanced office strategies and practices and help them in building up the abilities required for keeping up and treatment of office records and data. To instill the calling aptitudes among the understudies this course will assist the understudies with handling the workplaces in the generally present-day and gifted way. The course is a work offering in different fields of trade and business.

Max. Marks: 100	Credits: 03	Min. Passing Marks: 35
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Total No. of Lectures-Tutorials-Practical (in hours per week):

Unit	Topic	No. of Lectures
		Theory+ Practical
Unit I	Office Accommodation and Environment - Office building: size, layout, safety and security measures - Reception: Importance, shape and size,	4T+6P

	control - Communication : Feature, classification, barriers. - Arrangement and adjustment: Furniture, allotment of seats, chambers, cabins rooms etc. - Handling of correspondence and market registers, filling forms and stationery.	
Unit II	Office Machines, manuals, charts and reports - Kind of office machines (typewriter, duplicating computers and word processors), calculators, etc. - Objectives and advantages of various machines. - Use of machines, installing, handling, maintenance. - Objectives and advantages of office manuals charts, preparation and play of manuals and charts. - Kind of reports, report preparation, enquiries.	4T+6P
Unit III	Secretary : Definition, need and importance, appointment and dismissal, work, duties, rights and liabilities, memorandum of association and secretary, articles of association and secretary, prospectus and secretary.	4T+4P
Unit IV	Company management and administration : Definition, importance and kinds, directors : qualification and number, appointment, removal, powers, duties and liabilities, remuneration, prevention of oppression and mismanagement, compromise, arrangement, reconstruction and amalgamation, winding up and dissolution of companies, jurisdiction, consequences, petition, liquidator.	2T+4P
Unit V	Finance: Share and debentures, application, allotment, transfer and transmission, calls and forfeiture, dividend and interest, account and audit, taxes.	2T+4P

Suggested Reading:

- Office Management. By R. S. N. Pillai, Bagavathi · 2008, ISBN:9788121922524, 8121922526
- Secretarial Practice - 18Th Edition, By M. C. Kuchhal · 2009

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	7
Minor field work/excursion/lab visit/technology dissemination etc.	8

Course Prerequisites:

- No pre-requisite required, open to all
- To study this course, a student must be 12th pass.

10. BUSINESS ECONOMICS II

Course Outcomes: On completion of this course, the students will be able to:

- 1 Describe various concepts of macroeconomic variables and their measurement.
2. Describe various concepts of macroeconomic variables and their measurement.
3. Understand the application of circular flow of Income and their linkage with macro economy.
4. Analyse unemployment, Inflation, and relevance with macro economy.
5. Integrate various economic policies in analysing the business environment.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<p>Introduction to Macroeconomics</p> <p>Meaning, Nature & Scope and importance of Macro Economics, Interdependence between Microeconomics & Macroeconomics , Meaning and interdependence of production, consumption & investment</p>	3T+5P
II	<p>Measuring National Output and National Income Structure of Macro Economy, Different sectors of the economy, Circular Flow of Income & Product, Leakages & Injections in the Circular Flow, Concepts relating to National Income Related Aggregates. Methods of calculation of National Income Output method, Methods of calculation of National Income method, Methods of calculation of National Income-expenditure method, precautions in estimating national income by various methods. Difficulties in estimation of national income</p>	4T+5P
III	<p>Consumption and Investment</p> <p>Components of Consumption, Determinants of Consumption, Consumption function, components of Investment, Determinants of Investment, and Investment function</p>	3T+20P
IV	<p>Unemployment and Inflation</p> <p>Types and causes of unemployment, Measures to solve unemployment problem, Inflation Meaning and types, Explanation of Inflation- demand pull inflation & cost push inflation, Effects of Inflation on distribution of income & wealth and on output & growth, Methods to control Inflation.</p>	2

V	International Trade, Comparative Advantage, & Protectionism International Trade, Reasons for International Trade, Absolute cost theory, Comparative cost theory, Free Trade versus Protection, Cases for protection, Benefits of FDI.	
VI	The Balance of Payments and Exchange Rates Balance of Payments, Meaning and Components, Difference between BOP & BOT, Causes of disequilibrium in BOP Measures to correct disequilibrium in BOP, Meaning of Foreign Exchange Rate, Types of Exchange Rate- Fixed & Flexible Exchange Rate System, and Purchasing Power Parity Theory	
VII	Globalization. Long-Run and Short-Run Concerns: Economic Growth, Productivity Globalization, Long-Run and Short-Run Concerns: Economic Growth, Productivity, New Economic Policy, Privatization, Liberalization, Globalization, Economic Growth & Development, Meaning of Economic Growth Meaning of Economic Development , New view- HDI, Features of underdeveloped economies, Factors determining economic growth, Harrod-Domar Growth Equation, Obstacles to Economic Development , Imbalance between capital & population.	2T
VIII	Evolution, Functions and Role of WTO Evolution, Functions and Role of WTO	

Suggested Readings:

Text Book

1. Mankiw, N. G., (2008). *Principle of Macroeconomics* (6th ed.). New Delhi: Cengage India Publishers.
2. Gupta, G.S., *Macroeconomics: Theory and Applications*, (4th ed.). New Delhi: McGraw Hill Education (India) Private Limited.

Reference Books

1. Blanchard, O., & Johnson, D. (2017). *Macroeconomics* (6th ed.). Pearson Education.

2. Samuelson, P.A. & Nordhaus, W.D. (2005). Macroeconomics (18th ed.), McGraw-Hill/Irwin

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

11. CORPORATE ACCOUNTING			
Course Outcomes: On completion of this course, the students will be able			
<ol style="list-style-type: none"> To demonstrate the applicability of the concept of Corporate Accounting to understand the managerial Decisions and Corporate Capital Structure To apply the accounting standards and Analysis associate with Financial Data in the corporate To analyse the data associated with accounting for amalgamation and internal reconstruction of an organization To integrate how the preparation and presentation of final account and understanding of financial position. 			
Max. Marks: 100		Credits: 03	Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week): 03			
Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Accounting For Share Capital: Meaning and Importance of Corporate Accounting, Issue and Forfeiture Of shares, Redemption of shares, Underwriting and lien on shares, Buyback of shares, Issue and Redemption of preference shares Issue and redemption of debentures redemption out of profits and out of capital; Acquisition of a business Profit prior to incorporation accounting treatment and under writing.	3	5
II	ACCOUNTING STANDARDS: International and Indian accounting standards Importance and need for Accounting standards; Valuation of shares Necessity for valuation Factors effecting valuation of shares The nature of a company, Different types of companies, Accounting regulation of companies, Other important regulatory organizations, General purpose financial reports, the reporting entity concept and differential reporting	4	5
III	Accounting For Amalgamation and Internal reconstruction:	3	20

	Introduction about amalgamation, absorption and reconstruction (Both internal and external) calculation of purchases consideration, accounting treatment.		
IV	Final Accounts: Objectives of preparation of final accounts, preparation and presentation of final accounts of joint stock companies as per company law requirements, The elements of financial statements, Recognition criteria for the elements, Measurement and classification of the elements, Dividends, Reserves, Accounting policies, The statement of profit or loss and other comprehensive income, Retained earnings and the statement of changes in equity, The statement of financial position	5	30
V	Valuation of Goodwill: Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method.		

TEXT BOOKS

1. Ghosh, T P,(2008), “Accounting standards and corporate accounting practices”, 8th Edition, Delhi Taxmann

2. Ahmed, Naseem, (2007) , ” *Corporate Accounting*”, 5th Edition, New Delhi Atlantic

REFERENCE BOOKS

1. Mukherjee, A, (2010), *Corporate Accounting*”, 8th Edition, Tata McGraw Hill, New Delhi.

2. Maheshwari, S N, (2015), ” *Corporate Accounting*”, 5th Edition, Vikas, Delhi.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

12. ACCOUNTING FOR MANAGERS

Course Outcomes:

On completion of this course, the students will be able to

1. Demonstrate the applicability of the concept of Accounting to understand the managerial Decisions and financial statements
2. Apply the Financial Statement Analysis associate with Financial Data in the organization.
3. Analyse the complexities associated with management of cost of product and services in the Organization.
4. Integrate the concepts of accounting and costing could integrate while identification and resolution of problems pertaining to DM Sector.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

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

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Basics of Accounting & its Principles; & Depreciation Accounting: Meaning, Need, Role and Significance of Accounting, Basic Accounting Concepts (AS-1 & 9) and Conventions (Overview of Indian GAAP, US GAAP, IAS, IFRS), Asset-Liability Equity Relationship (ALE). Introduction to Accounting Cycle-Preparation of Journal, Ledger, Trial Balance. Depreciation, Depletion and Amortization (AS-6), Preparation of financial statements with adjustments.	4	7
II	Understanding & Preparation of Financial Statements: Understanding & analysis of company accounts; Analysis of Financial statements of Holding & Subsidiary Companies	4	7
III	Financial Statements Analysis: Analysis and Interpretation of Financial Statements-Ratio Analysis, Common-Size Statement, Du-Pont Analysis, Cash-Flow Statement (AS-3).	4	7
IV	Costing: & Managerial Decision Making: Cost Concepts, Cost Sheet, Material Costing, Labour and Overhead Costing, Absorption Costing, Activity Based Costing, Inventory Valuation (AS-2). Marginal Costing- PV Ratio, BEP Analysis, Relevant Costing, Standard Costing, Budgetary Control, EVA, MVA.	4	8

Suggested Reading:

1. Lal , J ; Srivastava , S (2004) , “ *Financial Accounting; Principles and Practices*”, 4th Edition , S Chand, New Delhi
2. Robert N Anthony, David Hawkins, Kenneth A. Merchant(2013), “*Accounting: Text and Cases*”, 13thEd, McGraw-Hill Education

3. Charles T. Horngren and Donna Philbrick (2017), “*Introduction to Financial Accounting*”, 11th Edition, Pearson Education.
4. Monga, J, R, “*Financial Accounting: Concepts and Applications*” (2017)Mayur Paper Backs, 2th Edition, New Delhi.
5. Tulsian, P.C; Tulsia, Bharat (2015). , “*Financial Accounting*” , 10th Edition ,Pearson Education

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

13.ENTREPRENEURSHIP

Course Outcomes:

On successful completion of this course, student shouldbe able to:

1. Define basic terms,
2. Analyse the business environment in order to identify businessopportunities,
3. Identify the elements of success of entrepreneurial ventures,
4. Consider the legal and financial conditions for starting a businessventure,
5. Evaluate the effectiveness of different entrepreneurial strategies,
6. Specify the basic performance indicators of entrepreneurialactivity,
7. Explain the importance of marketing and management in smallbusinesses venture,
Interpret their own business plan.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures	
		Theory Hours	Practical Hours
I	Introduction to Entrepreneurship Definition of Entrepreneur, Entrepreneurial Traits, and Entrepreneur vs. Manager, Entrepreneur vs. Entrepreneur. The Entrepreneurial decision process. Role of Entrepreneurship in Economic Development, Ethics and Social responsibility of Entrepreneurs.	2	4

	Opportunities for Entrepreneurs in India and abroad. Womanas Entrepreneur		
II	Creating and Starting the Venture Sources of new Ideas, Methods of generating ideas, creating problem solving, product planning and development process	2	5
III	The Business Plan Nature and scope of Business plan, Writing Business Plan, Evaluating Business plans, Using and implementing business plans. Marketing plan, financial plan and the organizational plan, Launching formalities.	2	5
IV	Financing and Managing the new venture Sources of capital, Record keeping, recruitment, motivating and leading teams, financial controls. Marketing and sales controls. E-commerce and Entrepreneurship, Internet advertising	3	6
V	New venture Expansion Strategies and Issues Features and evaluation of joint ventures, acquisitions, merges, franchising. Public issues, rights issues, bonus issues and stock splits.	2	6
VI	Institutional support to Entrepreneurship Role of Directorate of Industries, District Industries, Centers (DICs), Industrial Development Corporation (IDC), State Financial corporation (SFCs), Commercial banks Small Scale Industries Development Corporations (SSIDCs), Khadi and village Industries Commission (KVIC), National Small Industries Corporation (NSIC), Small Industries Development Bank of India (SIDBI)	2	6

Suggested Reading:

- Diochon, Monica; Anderson, Alistair R. (1 March 2011). "Ambivalence and ambiguity in social enterprise; narratives about values in reconciling purpose and practices". *International Entrepreneurship and Management Journal*. 7 (1): 93–109. doi:[10.1007/s11365-010-0161-0](https://doi.org/10.1007/s11365-010-0161-0). hdl:[10059/613](https://hdl.handle.net/10059/613). ISSN 1555-1938. S2CID 144081539.
- Gaddefors, Johan; Anderson, Alistair R. (1 January 2017). "Entrepreneursheep and context: when entrepreneurship is greater than entrepreneurs". *International Journal of Entrepreneurial Behavior & Research*. 23 (2): 267–278. doi:[10.1108/IJEBR-01-2016-0040](https://doi.org/10.1108/IJEBR-01-2016-0040). hdl:[10059/2299](https://hdl.handle.net/10059/2299). ISSN 1355-2554.
- Alvarez, Sharon A.; Busenitz, Lowell W. (1 December 2001). "The entrepreneurship of resource-based theory". *Journal of Management*. 27 (6): 755–775. doi:[10.1177/014920630102700609](https://doi.org/10.1177/014920630102700609). ISSN 0149-2063. S2CID 220587830.
- "[Business Dictionary definitionyuuggtvgn](#)". *Business Dictionary*. Archived from the original on 16 November 2018. Retrieved 21 January 2016.

- AK Yetisen; LR Bob Volpatti; AF Coskun; S Cho; E Kamrani; H Butt; A Khademhosseini; SH Yun (2015). "Entrepreneurship". Lab Chip. 15 (18): 3638–3660. doi:10.1039/c5lc00577a. PMID 26245815.
- Katila, Riitta; Chen, Eric L.; Piezunka, Henning (7 June 2012). "All the right moves: How entrepreneurial firms compete effectively" (PDF). Strategic Entrepreneurship JNL. 6 (2): 116–132. doi:10.1002/sej.1130. Retrieved 18 May 2017.
- Belicove, Mikal E. (2 August 2012). "How to Properly Close Your Business".
- Audretsch, David B.; Bozeman, Barry; Combs, Kathryn L.; Feldman, Maryann; Link, Albert N.; Siegel, Donald S.; Stephan, Paula; Tassej, Gregory; Wessner, Charles (2002). "The Economics of Science and Technology". The Journal of Technology Transfer. 27 (2): 157. doi:10.1023/A:1014382532639. S2CID 143820412.
- Lindgren, Monica; Packendorff, Johann (1 January 2009). "Social constructionism and entrepreneurship: Basic assumptions and consequences for theory and research". International Journal of Entrepreneurial Behavior & Research. 15 (1): 25–47. doi:10.1108/13552550910934440. ISSN 1355-2554.
- Neergaard, Helle; Uihøi, John P. (2007). Handbook of Qualitative R Methods in Entrepreneurship. Edward Elgar Publishing. ISBN 978-1-84720-438-7.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

14. Advanced Web Development

Course Outcomes: After completion of the course, Students to learn to work as freelancers in web design or prepare to become employed at a website design firm.

Max. Marks: 100 **Min. Passing Marks:**40

Total No. of Lectures-Tutorials-Practical (in hours per week): 03

Unit	Topic	No. of Lectures (Theory+ Practical)
I	JavaScript - Introduction, Programming Vs Scripting, basic programming constructs in JavaScript, objects, tokens	
II	JavaScript Events, Objects, Client Validations, Cookies, dynamic html (DHTML)	
III	Introduction to JQuery (Basic structure and accessing rule), Accessing JQuery libraries	
IV	Introduction to AJAX, sample web page using AJAX	

V	Server Configuration for server side programming, WAMP/XAMPP, Introduction to PHP	
VI	Introduction to mobile application development	
VII	PHP - Language constructs: Identifier, Loops, String, Variables and Arrays, Functions, Email using PHP, Classes in PHP.	
VIII	Advanced PHP – Attributes: Date & Time, Image Uploading, File handling in PHP, Errors handling in PHP Mini project.	
IX	MySQL (Database)- Basics of SQL queries. Creating, replacing, updating and deleting data in database using PHP/MySQL	

Suggested Reading:

- Deitel, Deitel and Nieto, Internet and World Wide Web – How to program, Pearson Education, 2000.
- Chris Bates, “Web Programming, building internet applications”, 2ndEdition, WILEY, Dreamtech, 2008.

Suggested equivalent online courses: Coursera & Swayam

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline and basics of web Web Development.

III. FACULTY OF SCIENCE

1. PHARMACOGNOSY AND HERBAL PREPARATIONS

Course Outcomes:

After the completion of the course the students will be able:

1. Understand the instruments, techniques, lab etiquettes and good lab practices for field work.
2. Develop skills for identifying organic supplements and preparing them from raw materials for safe agriculture/horticulture.
3. Will understand the pathology associated with crops and their pre-harvest & post-harvest management.
4. Can start own enterprise on organic farming.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

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

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Ethnomedicine, Ayurveda, Modern medicine	6T+0P
II	Methods of herbal medicine preparation To Develop Capsules of herbs/ To Develop Herbal oils/ Develop Poultrice/cream	2T+24P
III	Pharmacognosy: Organoleptic studies of plants: Morphological studies of vegetative and floral parts. Microscopic preparations of root, stem and leaf. Stomatal number and stomatal index. Vein islet number. Palisade ratio. Fibres and vessels (maceration). Starch test Proteins and lipid test	3T+6P
IV	Determination of the percentage of foreign leaf in a drug composed of a mixture of herbs Dimensions of Calcium oxalate crystals in powdered crude drug.	3T+12P
V	Preliminary phytochemical tests for alkaloids, Terpenoids, Glycosides, Volatile oils, Tannins & resins.	3T+12P

Suggested Readings:

- Pharmacognosy - G. E. Trease and W.C. Evans. Saunders Edinburgh, New York.
- Pharmacognosy-Tyler, Brady, Robbers.

- Modern Methods of Plant Analysis- Peach & M.V. Tracey, Vol. I & II.

Suggested equivalent online courses: Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

2. QUANTITATIVE ANALYSIS		
Course Outcomes: After the completion of the course the students will be able:		
<ul style="list-style-type: none"> • Understand the laboratory methods and tests related to estimation of caloric value and calculation of BMR in percentage. • Making a diet plan for working women. • Calculation of in BMR percentage. • Estimation of caloric value in food samples 		
Max. Marks: 100	Credits: 03	Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Estimation of calorific value of food samples (fruits, bakery products, eggs, nuts, sweets, junk food etc. by Bomb Calorimeter	4T+8P
II	Water testing Determination of pH and Electrical Conductivity of water Determination of Alkalinity Determination of Hardness (Total, Permanent & Temporary) Determination of Calcium Determination of Magnesium Determination of Carbonates & Bi-carbonates Determination of Chemical Oxygen demand (C.O.D.) Determination of Biochemical Oxygen Demand (B.O.D.)	4T+10P
III	Microbiological Testing	4T+8P

	Determination of pH and Electrical Conductivity of soil Determination of Total and differential count of microorganisms Microscopic identification of nematodes and Protozoans from selected vegetables	
IV	Nutritional case studies Determination of Basal Metabolic Rate and Energy –case study Study of Deficiency disease of vitamins & minerals- case study	4T+8P
V	Preparation of diet plan –case study(working men/women, professionals,students etc.) Balanced Diet/Immunity Booster Diet for – patient/senior citizen/ pregnantwoman with reference to Giloy, Tulsi ,Ginger	4T+6P

Suggested Reading:

1. Standard Methods for Examination of Water & waste water APHA-AWWAWPCF
2. Manual of Water & waste water analysis, NEERI, Nagpur
3. Text book of water and waste water engineering by H.K. Hussien
4. Water supply & sanitary engineering by Birdie
5. Practical methods in ecology & Environmental science by R.K. Trivedi, P.K. Goel, C.L. Trisa
6. Manual of Nutrition &Dietetics by Monika Arora.
7. Text book of soil chemical analysis by Murray Heses P.R.
8. Chemistry of soil by Firman E. Bear
9. A text book of analysis by T.C. Barua
10. Analytical agricultural chemistry by J.S. Kanwar, S.L. chopra

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites:

To study this course, a student must have had the chemistry in 12th Class.

3. FOOD PROCESS TECHNOLOGY AND FOOD MICROBIOLOGY

Course Outcomes: On successful completion of the subject, the students will be able to

1. Apply knowledge of food technology and microbiological studies to design new process.
2. Understand methodology of herbal medicine preparation.
3. Able to develop herbal oil, poultice, cream, etc.

Max. Marks: 100

Credits: 03

Min. Passing Marks:40

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

Unit	Topic	No. of Lectures (Theory+ Practical)
I	<p>Principles of Food Process Technology, Methods of Food Preservation, Asepsis, Removal of Microorganisms, Maintenance of Anaerobic Conditions.</p> <p>Preservation by Use of High Temperature – Factors affecting Heat Resistance, Heat Resistance of Microorganisms and their Spores. Determination of Heat Resistance, TDT Curves (Thermal Death Time Curves), 12D concept, Heat Preservation, Determination of Thermal Processing, Heat Treatments employed in Processing Foods, Canning.</p>	3T+ 2P
II	<p>Preservation by Low Temperatures – Growth of Microorganisms at Low Temperatures, Preparation of Food for Freezing, Temperature employed in Low Temperature Storage, Freezing of Food & Freezing Effects, Effect of Subfreezing and Freezing Temperatures on Microorganisms.</p> <p>Preservation by Food Additives – The Ideal Antimicrobial Preservatives, Added Preservatives, Developed Preservatives.</p>	3T+ 2P
III	<p>Food Processing of different kinds of foods</p> <p>Cereals & Cereal Products, Cereal grains & Meal, Flours, Bread, Cakes and other Bakery Products-Macaroni and Tapioca</p> <p>Sugar & Sugar Products-Sucrose, Maple Sap & Syrup, Honey, Candy Preservation of Meat & Meat Products, Fish and Other Sea Foods, Blue foods Eggs and Poultry, Milk and Milk Products</p> <p>Miscellaneous foods- example: Fatty Foods, Essential Oils, Bottled Beverages etc. Preservation by Carbonation, Filtration & Improved Equipment for manufacture of Preserves</p>	4T+8P
IV	<p>Food Processing of regional and seasonal Fruits and Vegetables</p>	5T+10P

	<p>Fruits and Fruit Products - Apple, Apricot, Banana Black Berries, Cherries, Fig, Grapes, Guava, Greengage, Jack-fruit, Litchi, Loquat, Mango, Orange, Papaya, Peach, Pear, miscellaneous Minor Fruits, Processing Minor and Lesser known fruit, Fruit Juices, Squashes & Cordials, Fruit Beverages, Fermented Beverages, Jams, Jellies and Marmalades.</p> <p>Vegetables- Asparagus, Beans, Beetroots, Cabbage, Carrot, Cauliflower, Gram, Mushroom, Okra (Lady Finger), Peas, Potato, Tomato, Turnip, Tomato Product etc. Some important Preserves e.g.: Amla, Apples, Bael, Ber (Indian Jujube),</p> <p>Carrot, Cherry, Candied Citrus Peels, Ginger Candy, Karounda, Mango, Pear, Petha</p> <p>(Pumpkin), Pineapple, Strawberry.</p>	
V	<p>Food Processing by Dry Vacuum: – Methods of Drying, Factors in the Control Drying, Treatment of Foods before Drying, Procedures after Drying, Microbiology of Dried Food, Intermediate Moisture Food.</p> <p>Food Preservation by Use of Radiation – Radiations of Interest in Food Preservation, Principles of Destruction of Microorganisms by Radiations, Processing of Food for Irradiation, Application of Radiation, Radappertization, Radacidation, Radurization of food, Effect of Irradiation on Food Constituents, Storage stability of Irradiated Foods.</p>	3T+5P
VI	<p>Food Microbiology & its relevance to everyday life – General morphology of microorganism – General characteristics of bacteria, fungi, virus, protozoa, algae.</p> <p>Control of microorganisms – Growth curve – Effect of environmental factors on growth of microorganisms – pH, water activity – oxygen availability, temp. & others.</p>	3T+ 2P
VII	<p>Microbial Spoilage and contamination – sources, types, effects on the following: Cereals & cereals products .Sugar & Sugar products. Vegetables & Fruit, Meat and meat products, Fish & other sea foods, Eggs & poultry. Milk & milk products , Canned foods</p>	3T+ 2P
VIII	<p>Microbes as food- Probiotics, Prebiotics, Symbiotic & Neutraceuticals). Relevance of Microbiological standards for foods & safety.</p>	3T+ 2P

Suggested Reading:

- William C. Frazier 2014 Food microbiology Published by McGraw Hill Education (India) Pvt. Ltd.
- Prescott's Microbiology 10th Edition. By Joanne Willey and Linda Sherwood and Christopher J. Woolverton
- Microbiology: An Introduction, Global Edition. Edited by Gerard J. Tortora

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites:

To study this course, a student must have had the chemistry in class 12th, Physics in Class 12.

4. SENSORY EVALUATION & POST HARVEST FOOD TECHNOLOGY		
Programme: Diploma in Sensory Evaluation and Post-Harvest Food Technology		Year: II
Subject: Food Science		Credits: 03
Course Outcomes: : This paper will give a broad outline of –		
<ul style="list-style-type: none"> • factors affecting food acceptance • sensory assessment of food quality, type of panelist • sensory testing of food • processing technology of food product like milk & milk product , cereal & cereal product 		
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Factors affecting Food Acceptance-Sensory. Psychosocial and Physiological Sensory Assessment of Food Quality:-Appearance of Food - Visual perception, Color of Foods, Odour & Smell, Flavor, Texture, Taste	3T+ 2P
II	Types of Panelist – Trained & Untrained Panelist Data Analysis.	3T+ 2P

III	Sensory Testing of Foods:-Threshold Test, Difference Test, Ranking Test, Scoring Test Hedonic Test, Acceptance and Preference Test Consideration for Testing Sensory Evaluation-Testing Area, Testing Setup, Lighting Testing Schedule, Preparation of Sample, Cooling & Order of Presentation, Choosing & Training of Panelist	4T+8P
IV	Processing Technology of Cereals and Legumes losses, Storage, Handling and Processing. Processing Technology of Oil Seeds.	5T+10P
V	Processing Technology of Fruits and Vegetables, Fresh and Other Types. Processing Technology of Milk and Milk Products. Processing Technology of Meat, Fish, Poultry and Eggs.	3T+5P
VI	Fermentation Technology, Enrichment and Fortification Technology, High Protein Food Technology Quality Control in Food Industry- Methods of Evaluation and Control of the various aspects of quality of raw material manufacturing process, Testing of Finished Products	3T+ 2P
VII	Physical Principles underlying Food Processing Operations including Thermal Processing. Ionizing Radiations, Refrigeration, Freezing, Dehydration etc. Chemical Principles in Food Processing, Chemical changes in Food that effect the Texture, Color, Flavor, Odour. Stability and Nutritive Quality during Processing and Storage.	3T+ 2P
VIII	Extruded Foods, Processing Technology of spices.	3T+ 2P

Suggested Reading:

1. Shakuntala Manay 2008 Food Facts & Principle Second Edition Published by New Age International (P) Ltd.
2. Norman N. Potter & Joseph H. Hotchkiss Food science Published by Dennis R. Heldman University of Missouri 5th Edition.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites:

To study this course, a student must have had the chemistry in class 12th.

5. FOOD MANUFACTURING AND ENTREPRENEURSHIP		
Programme: Diploma in food manufacturing and entrepreneurship		Year: II
Subject: Food Science		Credits: 03
Course Outcomes: : This paper will give a broad outline of –		
<ul style="list-style-type: none"> • Market & consumer research, product development, Type of Product. • Chemical & Physical of food, • Transportation, • Food Laws & Equipment Advertising & marketing • Evaluation of Food Packaging, Packaging method & performance & specification . 		
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Market and Consumer Research. Needs and types of food consumption and trends. Economic,Physiological, Anthropological and Sociological Dimensions of food consumption pattern. Traditional foods-Status and need for revival in the context of determined non-traditional foods,urbanization and such factors.	3T+ 2P
II	Product development: Primary Processing, Secondary Processing. Types of products e.g. Quick cooking, Fast foods, fabricated foods and Convenience foods. Chemical and Physical properties of food, Shelf life studies and shelf life prediction, Sanitizationand waste disposal.	3T+ 2P
III	Transportation, Types/Modes, Optimization of Transportation taking into account, Type ofproduct, Distance, Storage facilities etc. Food Laws Equipment and Space.Costing of product. Advertising and Marketing	4T+8P
IV	Evaluation of Food PackagingImportance of Packaging	5T+10P
V	Packaging Criteria, Appearance, Protection, Function, Cost, Material and Forms of Packaging, methods & Performances	3T+5P
VI	Packaging Specification & Control of Packaging QualityFood & Food Packaging Interaction, Food Packaging and Law	3T+ 2P

VII	Packaging evaluation Package Life Theory & Testing Packaging Materials Shelf Life Testing.	3T+ 2P
VIII	Project work to be submitted at the end of the course. For each topic student will be taken to different types of food manufacturing industries and food service establishments. (Visit to Food Industry , market)	3T+ 2P

Suggested Reading:

1. Norman N. Potter & Joseph H. Hotchkiss Food science Published by Dennis R. Heldman University of Missouri 5th Edition.
2. Food Packaging & Material by Mahadeviam Gowramma

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites:

To study this course, a student must have passed Semester-I, Theory paper.

6. FOOD TESTING AND QUALITY CONTROL	
Programme: Diploma in Food Testing & Quality Control	Year: II
Subject: Microbiology	Credits: 03
Course Outcomes:	
The student at the completion of the course will be able to: <ul style="list-style-type: none"> • To understand the history, relevance of food basics. • To learn and understand the food and its functions. • To understand the food from plant sources. • To gain knowledge by processing of food from various plant sources. • To understand the food from animal sources. • To understand the milk and its products. • To learn and understand the types of food. • To enable the students to get sufficient knowledge about food industry 	
Max. Marks: 100	Min. Passing Marks: 40

Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction and history Food chemistry, history, water structure and relations in food components.	6T+0P
II	Carbohydrates and Lipids Carbohydrates: monosaccharide, oligosaccharides and polysaccharides, starch and cellulose derivatives as food constituents, sugar and related products nutritional value, lipids: components, food lipids and health, antioxidants.	2T+24P
III	Structure and function of Proteins & Vitamins Proteins structure and functions, enzymes structure and functions, vitamins structure, types and functions, minerals and nutritional aspects, vegetables and fruits, bioavailability of nutrients.	3T+6P
IV	Food pigments and colors Food oxidants, food pigments, natural and synthetic food colors, flavoring agents, sweeteners, emulsifiers and stabilizers, spices and herbs.	3T+12P
V	Food preservatives Food preservatives, organic foods, advantages and disadvantages of organic food, food fortification.	3T+12P
VI	Adulteration of food Food adulteration, types of adulteration: intentional adulteration, incidental adulteration.	
VII	Food laws & standards Food laws, food standardization and regulation agencies in India, national standards, international standards.	
VIII	Evaluation of food quality Evaluation of food quality, sensory tests, types of tests, objective evaluation and instruments used for texture evaluation.	

Suggested Readings:

1. Voet D and Voet JG. Principles of Biochemistry. John Wiley and sons New York.
2. Moat AG and Foster J. W. Microbial Physiology. John Wiley and Sons, New York.
3. Willey J, Sherwood L. and Woolverton C. Prescott's Microbiology, McGraw Hill
4. U. Satyanarayan. Biochemistry, Elsevier
5. Robinson Dairy Microbiology. Jay JM Modern Food Microbiology. Van Nostraaand Reinhold Co., New York.
6. Andrew Proctor Alternatives to conventional food processing, RSC pub.
7. Frazer WC and Westhoff DC Food Microbiology. Mcgraw Hill, New York.
8. Srilakshmi B Food Science, New Age Publication.

Suggested equivalent online courses: Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
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Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

To study this course, a student must have qualified 10+2 from any recognized board.

Facilities: Smart and Interactive Class

Other Requisites: Video collection, Books, CDs, Access to On-line resources, Display Charts

Lab Requisites: Mortar- Pestle, Soxhlet, Test tubes, Stand, Pipettes, Petri plates, measuring cylinder,

Chemicals as per protocol, Oven, Centrifuge, Spectrophotometer, Microscope, Forceps, Scalpel, Slides,

Coverslips, Basic laboratory facilities for Chemistry and Botany.

7. COMPUTER APPLICATION AND BIOINFORMATICS		
Programme: Computer application and bioinformatics		Year: II
Subject: Microbiology		Credits: 03
Course Outcomes:		
The student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • Adjust to protocols and guidelines relevant to the assistant role in computational and bioinformatics practices/techniques. • Recognize the boundary of the bio-informatician responsibility • Exhibit managing potential to the quality and safety • Be aware of relevant legislation, standard, policies and procedures followed in the lab Practical and internship on all units with skill partners. 		
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to computers: <ul style="list-style-type: none"> • Components, Classifications, Generations of computer • Internal representation of data (binary, octal and hexa-decimal system, bits and bytes) • Operating system- Disc operating systems (DOS), UNIX/Linux, WINDOWS and its upgraded versions; Mobile operating system 	6T+0P
II	Introduction to networking: <ul style="list-style-type: none"> • Types of Networking (LAN: local area network, WAN:wide area network, MAN: metropolitan area network) • Client-Server Architecture • Network topologies and Internet 	2T+24P
III	Microsoft (MS) office and its applications: <ul style="list-style-type: none"> • MS Excel and its applications for statistical analyses with particular reference to agricultural data (tabular and graphical representation of data, analyses of variance, regression and correlation) • MS Word and its application for document preparation • MS Power Point and its application for preparing presentations 	3T+6P
IV	An overview of bioinformatics: <ul style="list-style-type: none"> • Definition and scope of bioinformatics, kind of data used in bioinformatics • Biological databases (nucleic acid, protein sequence and protein structure database); multiplicity of data and redundancy • Bioinformatics websites; PubMed and other databases; 	3T+12P

	on-line access to abstracts and full text of articles; onlinebooks; free and paid access	
V	Sequence analysis: <ul style="list-style-type: none"> • Sequence Alignment, Introduction to sequence analysis, Sequence database similarity searching algorithms, localalignment, global alignment • FASTA, BLAST (BLASTP, BLASTN, BLASTX, TBLASTN, TBLASTX) and similarity searching scores. 	3T+12P

Suggested Readings:

- Gear, CW (1980). Computer Organization and Programming. McGraw-Hill Inc., New York.
- Gotefried, B.S. (1986). Theories and Problems of Programming with BASIC. Schaum's Outline Series, McGraw-Hill BookCompany, Singapore.
- Lipschutz, M.M and Lipschutz, S. (1981). Theories and Problems of Data Processing. Schaum's Outline Series, McGraw-HillBook Company, Singapore.
- Subramanian, N. (1986). Introduction to Computer. Fundamentals of Computer Science. Tata McGraw-Hill PublishingCompany Ltd., New Delhi.
- Rajaraman, V. Fundamentals of Computers. Prentice-Hall of India (Pvt.) Ltd., New Delhi.
- Mount, D.W. (2004). Bioinformatics: Sequence and Genome Analysis, 2/e. Cold Spring Harbor laboratory Press, USA.
- Rastogi, S.C., Mendiratta, N. and Rastogi, P. (2003). Bioinformatics: Concepts, Skills and Applications. CBS Publishers, NewDelhi.

Suggested equivalent online courses: Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

8. NUTRITIONAL THERAPY	
Programme: NUTRITIONAL THERAPY	Year: II
Subject: Microbiology	Credits: 03
Course Outcomes: The student at the completion of the course will be able to: <ul style="list-style-type: none"> • Adjust to protocols and guidelines relevant to the assistant role in nutritional therapy practices/techniques. • Recognize the boundary of the nutritional therapist responsibility. 	

<ul style="list-style-type: none"> • Exhibit managing potential to the quality and safety. • Be aware of relevant legislation, standard, policies and procedures followed in the lab • Practical and internship on all units with skill partners. 		
Max. Marks: 100		Min. Passing Marks:40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to Nutrition: <ul style="list-style-type: none"> • Sources of Nutrition, Nutritional requirements of a healthy person. • Therapeutic nutrition, Nutritional supplements, artificial nutrition, Enteral Nutrition, Parenteral Nutrition. • Functional foods, types of functional foods, Nutraceuticals 	6T+0P
II	Introduction to Therapeutic nutrition: <ul style="list-style-type: none"> • Use of Therapeutic nutrition in Nausea, Vomiting, Swallowing problems, Weight loss and related problems. • Allergies, Food allergies, Diagnosis and intolerance, Dietary management of food allergies, Pea nut allergy, Cow milk allergy. Digestive disorders and diets 	2T+24P
III	Therapeutic nutrition and management: <ul style="list-style-type: none"> • Diabetes, types of diabetes, complications associated with diabetes, Therapeutic nutrition and management of diabetes. • dietary fat and cholesterol, Renal/kidney conditions, kidney stones, eating the right amount of energy 	3T+6P
IV	An overview of metabolic conditions: <ul style="list-style-type: none"> • Cancer, dietary factors associated with cancer, therapy and nutrition. • Nutritional side effects and dietary management. • metabolic conditions of liver; Hepatitis, Cirrhosis, Gallbladder 	3T+12P
V	Food for man: <ul style="list-style-type: none"> • Food for man: use of microbes and microbial enzymes in the improvement of nutritive quality of food. • Probiotics and Prebiotics. • Microbiological criteria for food, Fruit juices, Food control. 	3T+12P

Suggested Readings:

- Adams M. R. & Moss M. O. Food Microbiology, Royal Society of Chemistry Publication, Cambridge. Pergamon Press.
- Hobbs B. C. & Roberts D. Food poisoning and Food Hygiene, Edward Arnold (A division of Hodder and Stoughton London).

- Robinson R. K. Dairy Microbiology, Elsevier Applied Sciences, London.
- Jones, S., Quinn S., Textbook of Functional Medicine.
- Jonathan V. Wright (latest Edition) Dr Wright's book of nutritional therapy
- William C Frazier, Food Microbiology, McGraw Hill.
- Mount, D.W. (2004). Bioinformatics: Sequence and Genome Analysis, 2/e. Cold Spring Harbor laboratory Press, USA.

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

9. FOOD PROCESSING, PRESERVATION & PACKAGING		
Programme: FOOD PROCESSING, PRESERVATION & PACKAGING.		Year: II
Subject: Microbiology		Credits: 03
Course Outcomes:		
The student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • Adjust to protocols and guidelines relevant to the assistant role in Food Processing, Preservation and Packaging /Techniques • Recognize the boundary of the Food Processing, Preservation and Packaging responsibility. • Exhibit managing potential to the quality and safety. • Be aware of relevant legislation, standard, policies and procedures followed in the labPractical and internship on all units with skill partners 		
Max. Marks: 100		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	Introduction to food processing, food container manufacturing, food canning, food science and highprocessing techniques Shelf life of processed food Food processing of cereals Legumes, oil seeds, fruits and vegetables	6T+0P

	Dairy products, dairy processing biotechnology, membrane technology in dairy processing and fermentation Flesh food technology, food additives, extruded food, and food radiation.	
II	Introduction to preservation, types of preservation Natural and artificial preservative agent, class I, II and III preservative agents Methods of preservation, thermal process, Vacuum drying and dehydration, cooking and freezing Food preservation by chemicals, minimal processing of fresh foods,	2T+24P
III	Emerging techniques in food processing Modified atmosphere packaging, genetic engineering.	3T+6P
IV	Emerging technologies for minimally processed fresh fruit juices Pulse electric field, high hydrostatic pressure	3T+12P
V	Environmental aspects of food processing technology Food packaging wastes and its environmental aspects environmental impact on packaging, Food processing industry, safety in food processing,	3T+12P

Suggested Readings:

1. J. Scott Smith and Y.H. Hui., Food processing principles and applications. Blackwell publishing
2. B.S. Khatkar, Food Science and Technology, Daya publishing house Delhi
3. Martin R Adams and Maurice O Moss Food Microbiology. The Royal Society of Chemistry. Cambridge UK
4. William C frazier, Dennis C Westh off. Food microbiology. McGraw Hill Education private Limited New Delhi

Suggested Online Link:

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

10. ANATOMY AND EXERCISE PHYSIOLOGY		
Programme: ANATOMY & EXERCISE PHYSIOLOGY		Year: II
Subject: Science		Credits: 03
Course Outcomes:		
The student at the completion of the course will be able to: Understand human structure and function as well as effects of exercise on various human body systems.		
Max. Marks: 100		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION : <ul style="list-style-type: none"> ● Meaning Definition and Importance of Anatomy and Physiology in the field of Physical Education & Sports ● Brief introduction of Cell, Tissue, Organ and system 	2T+4P
II	TISSUE <ul style="list-style-type: none"> ● Types of Tissue ● Connective & Epithelial Tissue 	3T+4P
III	SKELETAL SYSTEM: <ul style="list-style-type: none"> ● Structural and functional classification of bones. ● Types of joints ● Effects of Exercise on Muscular System 	2T+6P
IV	MUSCULAR SYSTEM: <ul style="list-style-type: none"> ● Types of Muscle ● Structural and functional classification of Muscles. ● Types of joints ● Effects of Exercise on Muscular System 	2T+6P
V	CIRCULATORY SYSTEM: <ul style="list-style-type: none"> ● Structure and function of human heart ● Circulation of blood ● Effects of exercise on circulatory system 	2T+6P
VI	RESPIRATORY SYSTEM : <ul style="list-style-type: none"> ● Structure and function of respiratory system ● Effects of exercise on respiratory system ● The effects of altitude on the respiratory system. 	2T+6P
VII	DIGESTIVE SYSTEM: <ul style="list-style-type: none"> ● Structure and function of digestive system ● Importance of Digestive system. ● Mechanism of Digestive System. 	2T+6P
VIII	GENERAL PHYSIOLOGICAL CONCEPTS : <ul style="list-style-type: none"> ● Vital Capacity-VC ● Second Wind ● Oxygen Debt ● Fatigue 	3T+4P

	<ul style="list-style-type: none"> • Types of Fatigue • Blood Pressure 	
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Suggested Readings:

- Goldberg, L. and D.L. Elliot (2000) The Healing Power of Exercise, National Health & Wellness Club, New York, U.S.A.
- Jain, J. (2004) Khel Dawaon Ka (New Delhi : Delhi University Press).
- Robbins, G., D. Powers and S. Burgess (2002), A Wellness Way of Life, McGraw Hill, New York, USA.
- Schindler, J.A. (2003) How to Live 365 Days a Year (Boston: Running Press).
- Koley, Shyamal (2007), Exercise Physiology — A Basic Approach (New Delhi: Friends Publications).
- Jain AK (2002). Anatomy & Physiology for Nurses. Arya Publishers, Delhi.
- Moried EN (2007). Essential of Human Anatomy & Physiology. Ed. 8th Dorling Kindersley, India.
- Prives M and Others (2004). Human Anatomy Vol. I & II Paragon, Delhi.
- Seeley & Others (2008). Anatomy & Physiology. McGraw Hill, Boston.
- Singh, S. N. (2019). Sharir Rachna Evam Vyayam Kriya Vigyan, Khel Sahitya Kendra, Daryaganj, New Delhi

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

Suggested Online Courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM” in India and Abroad.
- Rajarshi Tandon open University

11. SPORTS PSYCHOLOGY AND RECREATIONAL ACTIVITIES	
Programme: SPORTS PSYCHOLOGY & RECREATIONAL ACTIVITIES	Year: II
Subject: Science	Credits: 03

Course Outcomes:

The student at the completion of the course will be able to: Understand various aspects of psychology apply to sports person and how to organize sports and recreational activities.

Max. Marks: 100**Min. Passing Marks:** 40**Total No. of Lectures-Tutorials-Practical (in hours per week):**

Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION: <ul style="list-style-type: none"> • Meaning, Importance and scope of sports psychology • General characteristics of various stages of growth and development. • Psycho-sociological aspects of human behavior in relation to physical education. 	2T+4P
II	PERSONALITY: <ul style="list-style-type: none"> • Meaning and definition of personality, characteristics of personality. • Dimensions of personality, personality and sports performance 	2T+6P
III	LEARNING: <ul style="list-style-type: none"> • Nature of learning, theories of learning. • Law of learning, plateau in learning, transfer of learning 	2T+6P
IV	MOTIVATION : <ul style="list-style-type: none"> • Nature of motivation, factors influencing motivation. • Motivational techniques and its impact on sports performance. 	2T+6P
V	PLAY: <ul style="list-style-type: none"> • Meaning of Play • Definition of play • Various Theories of play 	2T+6P
VI	RECREATION : <ul style="list-style-type: none"> • Meaning and importance of recreation in physical education • Principles of recreation in physical education • Areas, classification and ways of recreation. • Use of leisure time activities and their educational values. 	2T+6P
VII	TRADITIONAL GAMES OF INDIA: <ul style="list-style-type: none"> • Meaning. • Types of Traditional Games- Gilli- Danda, Kanche, Stapu, Gutte, Posampa, Pitthoo, Vish Amrit • Importance/ Benefits of Traditional Games. • How to Design Traditional Games. • Development of Personalities by the help of Traditional Games.of 	3T+4P
VIII	INTRAMURALS: <ul style="list-style-type: none"> • Meaning. • Importance. • Conducting Extramural Competitions. 	2T+4P

Suggested Readings:

- Alliance, A. (1999). Physical Best Activity Guide, New Delhi,
- Capel, S. et al Editors (2006). A Practical Guide to Teaching Physical Education. RoutledgePublishers, USA.
- Dheer, S. and Radhika. (1991). Organisation and Administration of Physical Edu., ND: FriendsPub.
- Frost, R.B. and Others. (1992). Administration of Physical Education and Athletics, Delhi:UniversalBook.
- Gangwar, B.R. (1999). Organisation Admn. & Methods of Physical education, Jalandhar: A.P.Pub.
- Gangwar, B.R. (1999). Sharirik Shiksha Ka Prabandh Prashashan Avam Vidhiya, Jalandhar: A.P. Pub.
- Gupta R. Kumar P. & Sharma D.P. (1999). Lesson Plan in Physical Education & Sports. R.D.P.Publication. New Delhi.
- Gupta R. Kumar P. & Sharma. D.P.S. (2004). Sharirik Shiksha Mein Path Yojna. Sahyog Prakashan. New Delhi.
- Gupta R. Kumar P. & Tyagi S. (2008) Textbook on Teaching Skill & Prowess. Part I & II. FriendsPublication. India. New Delhi.
- Pandey, K.G. (2011). Sharirik Siksha, Shri Gyan Sagar Publication, Meerut

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

Suggested equivalent online courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM”
- India andAbroad.
- Rajarshi Tandon open University

12. ATHLETIC INJURIES AND PHYSIOTHERAPY	
Programme: Athletic Injuries and Physiotherapy	Year: II
Subject: Science	Credits: 03

Course Outcomes:

The student at the completion of the course will be able to: Understand Athletic Injuries and Athletic Care and Rehabilitation..

Max. Marks: 100

Min. Passing Marks: 40

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

Unit	Topic	No. of Lectures (Theory+ Practical)
I	Athletic Injuries and Athletic Care. <ul style="list-style-type: none"> • Concept and Significance. • Factors causing Injuries. • General Principles of Prevention of Injuries. 	2T+4P
II	Rehabilitation - <ul style="list-style-type: none"> • PRICER- Prevention, Rest, Ice, Compression, Elevation, Rehabilitation • DRABC- Danger, Response, Airways, Breathing, Circulation. • First aid – meaning, definition. • Importance of First aid. • Back Pain & Neck Pain and their Rehabilitation. 	2T+6P
III	Common Sports Injuries I : SOFT TISSUE INJURIES: Sprain, Strain, Contusion, Abrasion , Blister, Concussion, Abrasion, Laceration, Hematoma <ul style="list-style-type: none"> • First Aid of Soft Tissue Injuries • Bandages for Soft Tissue Injuries • Taping and Supports 	2T+6P
IV	Common Sports Injuries II: BONE & JOINT INJURIES: <ul style="list-style-type: none"> • Fracture • Dislocation • First Aid of Bone & Joint Injuries • Bandages for Bone & Joint Injuries • Taping and Supports 	2T+6P
V	Physiotherapy- <ul style="list-style-type: none"> • Definition • Guiding principles of physiotherapy. • Importance of physiotherapy • . Massage- • Meaning Types and Importance.	2T+6P
VI	Hydrotherapy- <ul style="list-style-type: none"> • Meaning and Importance. • Different methods of giving Hydrotherapy 	2T+6P
VII	Treatment modalities- <ul style="list-style-type: none"> • Introduction an understanding of treatment modalities through Electrotherapy, Infrared rays, Ultraviolet rays, short 	3T+4P

	wave diathermy, ultra sound.	
VIII	Therapeutic Exercise- <ul style="list-style-type: none"> • Meaning, Definition. • Importance. • Muscle Strengthening through Active and Passive Exercise. • Therapeutic value with Yoga asanas for rehabilitation and strengthening of the muscles. 	3T+4P

Suggested Readings:

- Alliance, A. (1999). Physical Best Activity Guide, New Delhi,
- ACSM's Guidelines for Exercise Testing and Prescription (2001), American College of Sports Medicine, New York, U.S.A.
- Anspaugh, D.J., G. Ezell and K.N. Goodman (2006) Teaching Today Health, Mosby Publishers, Chicago, USA.
- Beotra, Alka (2001-02) Drug Education Handbook on Drug Abuse in Sports, Applied Nutrition Sciences, Mumbai.
- Donatelle, R.J. and Ketcham P. (2007), Access to Health, Benjamin Cummings, Boston, USA.
- Fahey, T.D., M.P. Insel and W.T. Rath (2006), Fit & Well: Core Concepts and Labs in Physical Fitness, mcgraw Hill, New York.
- Flyod, P.A., S.E. Mimms and C. Yelding (2003) Personal Health: Perspectives and Lifestyles,
- Thomson, Wadsworth, Belmont, California, USA.
- Hoeger, W K and S.A. Hoeger (2004). Principles and Labs for Fitness and Wellness, Thomson Wadsworth, California, USA.
- Jain, J. (2004) Khel Dawaon Ka (New Delhi: Delhi University Press).

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

Suggested equivalent online courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM”
- India and Abroad.
- Rajarshi Tandon open University

13. KINESIOLOGY AND BIOMECHANICS IN SPORTS		
Programme: Kinesiology and Biomechanics in Sports		Year: II
Subject: Science		Credits: 03
Course Outcomes:		
The student at the completion of the course will be able to: Understand various aspects of Kinesiology and Biomechanics in Sports and able to apply in sports activities.		
Max. Marks: 100		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION: Meaning, Definitions, Aims, Objective. Importance of Kinesiology for games and sports.	2T+4P
II	Kinesiological Fundamental Movements. Center of Gravity. Line of Gravity.	2T+6P
III	Planes and Axes Types of muscles contraction.	2T+6P
IV	Location & Action of Muscles at Various Joints: - i) Upper extremity – Shoulder Joint , Elbow Joint iii) Lower extremity – Hip joint, Knee Joint	2T+6P
V	BIOMECHANICAL CONCEPT:INTRODUCTION: Friction: Meaning, Definitions and Types. Newton’s Law of Motion	2T+6P
VI	FORCE AND LEVERS: FORCE: Meaning, Definitions, Types, Application to sports activities. LEVERS: Meaning, Definition, Uses of them in the Human body.	2T+6P
VII	KINENIAMTICS: Meaning of Kinematics. Types- Linear and Angular, Speed, Velocity, Acceleration, Distance, Displacement.	3T+4P
VIII	KINETICS: Meaning of Kinetics, Types- Linear and Angular. Mass, Weight, Force, Momentum and Pressure.	3T+4P

Suggested Readings:

- Bartlett, R. (2007). Introduction to Sports Biomechanics. Routledge Publishers, USA.
- Blazeovich, A. (2007). Sports Biomechanics. A & C Black Publishers, USA.

- Breer & Zarnicks (1979). Efficiency of human movement. WIB Sounders Co. USA.
- Hamill, J. and Knutzen, K.M. (2003). Biomechanical Basis of Human Movement. Lippincott Williams and Wilkins, USA.
- Hay (1993). The biomechanics of sports techniques. Prentice Hall Inc. New Jersey.
- McGinnis, P. (2004). Biomechanics of Sports & Exercise. Human Kinetics, USA.
- Pandey, K.G. (2011). Sharirik Siksha, Shri Gyan Sagar Publication, Meerut
- Oatis, C.A. (2008). Kinesiology. 2nd Ed. Lippincott, Williams & Wilkins, USA.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

Course prerequisites: 10+2 in any discipline

Suggested equivalent online courses:

- IGNOU
- Other centrally/state operated Universities / MOOC platforms such as “SWAYAM”
- India and Abroad.

14. RESEARCH METHODS IN SPORTS		
Programme: Diploma Course in Research Methods		Year: II
Subject: Management		Credits: 03
Course Outcomes: After the completion of the course the students will be able: Students can be able to understand Research methods in Sports and Physical Education.		
Max. Marks: 100		Min. Passing Marks: 40
Total No. of Lectures-Tutorials-Practical (in hours per week):		
Unit	Topic	No. of Lectures (Theory+ Practical)
I	INTRODUCTION: <ul style="list-style-type: none"> • Definition, Meaning of Research. • Need and Importance of Research in Physical Education 	2T+4P
	and sports. <ul style="list-style-type: none"> • Scope of Research in Physical Education and sports. 	2T+6P
III	Type of research <ul style="list-style-type: none"> • Basic Research • Applied Research • Action Research 	2T+6P

IV	Research Problem: <ul style="list-style-type: none"> • Meaning of the term • Formation of Research problem • Limitation and D Limitation • Location and Criteria of Selection of Problem. 	2T+6P
V	Hypothesis: <ul style="list-style-type: none"> • Meaning of research Hypothesis. • Meaning of Null Hypothesis. 	2T+6P
VI	Survey Studies: <ul style="list-style-type: none"> • Meaning of Survey • Scope of survey in Research. 	2T+6P
VII	Questionnaire and Interview: <ul style="list-style-type: none"> • Meaning of Questionnaire and Interview. • Construction and development of Questions. • Procedure of conducting Interview. 	3T+4P
VIII	Research Report: <ul style="list-style-type: none"> • Meaning of Research Report. • Qualities of a good research report. • How to write Research Report 	3T+4P

Suggested Reading:

Course Books published in Hindi / English

- Author's guide: Research Methods applied to Health Physical and Recreation, Washington, D.C. 1991.
- Best John & Kahni, J.V. 1992). Research in Education, New Delhi. Prentice Hall of India (Pvt.)Ltd.
- Best, J.W. (1963). Research in education. U.S.A.: Prentice Hall.
- Clark, H. H., & Clark, D. H. (1975). Research process in physical education. Englewood cliffs, New Jersey: Prentice Hall, Inc.
- Garrett, H.E. (1981). Statistics in psychology and education. New York: Vakils Feffer and SimonLtd.
- Koul, L. (2002). Methodology of Educational Research, Vikas Publishing House, New Delhi.
- Oyster, C. K., Hanten, W. P., & Llorens, L. A. (1987). Introduction to research: A guide for the health science professional. Landon: J.B. Lippincott Company.
- Thomas, J.R., & Nelson J.K. (2005). Research method in physical activity. U.S.A: Champaign, IL: Human Kinetics Books.
- Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2011). Research method in physical activity. U.S.A: Champaign, IL: Human Kinetics Books.

Suggested Continuous Evaluation (25 Marks):

Internal Assessment	Marks
Class Interaction	5
Quiz	5
Seminar/Assignment	5
Minor field work/excursion/lab visit/technology dissemination etc.	5
Attendance/ Presentation	5

