



KARNATAK UNIVERSITY, DHARWAD  
ACADEMIC (S&T) SECTION

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ  
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್&ಟಿ) ವಿಭಾಗ



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'A' Grade 2014

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No. KU/Aca(S&T)/JS/MGJ(Gen)/2023-24/59

Date: 04/09/2023

ಅಧಿಸೂಚನೆ

ವಿಷಯ: 2023-24ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಪದವಿಗಳಿಗೆ 5 ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್  
NEP-2020 ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.

- ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ  
ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 104 ಯುಎನ್ಇ 2023, ದಿ: 20.07.2023.  
2. ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂಖ್ಯೆ: 2 ರಿಂದ 7, ದಿ: 31.08.2023.  
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 04/09/2023

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2023-24ನೇ  
ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ಎಲ್ಲ B.A./ BPA (Music) /BVA / BTM / BSW/ B.Sc./B.Sc. Pulp &  
Paper Science/ B.Sc. (H.M)/ BCA/ B.A.S.L.P./ B.Com/ B.Com (CS) / BBA & BA ILRD ಸ್ನಾತಕ ಪದವಿಗಳ 5  
ಮತ್ತು 6ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗೆ NEP-2020ರ ಮುಂದುವರೆದ ಭಾಗವಾಗಿ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ  
ಕೋರ್ಸಿನ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ [www.kud.ac.in](http://www.kud.ac.in) ದಲ್ಲಿ ಭಿತ್ತರಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ.  
ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ್ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತ ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ  
ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಅಧೀನದ/ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ  
ಸೂಚಿಸಲಾಗಿದೆ.

ಅಡಕ: ಮೇಲಿನಂತೆ

  
ಕುಲಸಚಿವರು.

ಗೆ,

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ  
ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಮಂಡಳ (ಪಿ.ಜಿ.ಪಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ  
ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.

**B.A in Logic**  
**5<sup>th</sup> & 6<sup>th</sup> Semester**  
**Syllabus**

**Karnatak University, Dharwad.**

Program Name	BA in Logic	Semester	V
Course Title	Critical Thinking and Decision Making		
Course Code:	015LOG011 / DSCC-9	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	2 hours
Formative Assessment Marks	40	Summative Assessment Marks	60

<b>Course Pre-requisite(s):</b>		
<ol style="list-style-type: none"> <li>1. To impart to the learners basic knowledge of critical thinking.</li> <li>2. To explore the arguments for decision making.</li> <li>3. To understand the problem and solutions.</li> </ol>		
<b>Course Outcomes (COs):</b> After the successful completion of the course, the Student will be able to:		
CO1: understand the reasoning process well and to apply it upon arguments or decision procedures to find out the truth.		
CO2: understand the given problem and its solution in future life.		
CO3: introduce the ideas of terms showing a clear distinction among them.		
CO4: Know how to organize data in a particular situation.		
CO5: Know dilemma in finding solution within limitations.		
<b>Contents</b>		<b>56 Hrs</b>
<b>Unit – 1</b>	<b>Chapter No. 1:</b> An Introduction to Critical thinking and skills.	4
	<b>Chapter No. 2:</b> Critical thinking – Cognitive Basis.	5
	<b>Chapter No. 3:</b> Beliefs, Claims, issues and arguments.	5
<b>Unit – 2</b>	<b>Chapter No. 4:</b> (a) Critical thinking and its components. (b) Critical thinking: A second order activity.	5
	<b>Chapter No. 5:</b> Clear thinking.	4
	<b>Chapter No.6:</b> Vagueness, Ambiguity, Generality and Definition of terms.	5
<b>Unit – 3</b>	<b>Chapter No.7:</b> (a) Identification and Analysis of the problem. (b) Organizing the data and identifying the errors.	5
	<b>Chapter No. 8:</b> Argumentative essays.	4
	<b>Chapter No. 9:</b> Problem Analysis, Decision making and wrapping up for solution: Evaluating the argument: validity, soundness and strength reflecting upon the issues with sensitivity and fairness.	6
<b>Unit – 4</b>	<b>Chapter No.10:</b> Identification and analysis of the problem through case studies.	4
	<b>Chapter No.11:</b> Identifying inconsistencies, understanding dilemma and looking for appropriate solution within limitations.	5
	<b>Chapter No.12:</b> Evaluating Decision options from multiple perspectives.	4

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
To know the Critical thinking and skills.	√	√	√	√											
Understanding the cognitive basis to given problems and its solutions.		√	√	√											
Learn the ideas of clear thinking, Vagueness, Ambiguity Generality and Definition of terms.				√	√	√									
Understanding the Problem Analysis and Decision making.							√	√	√	√					
Evaluating Decision options from multiple perspectives.								√	√		√	√			

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10X 2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Hurley, Patrick. J: <i>A Concise Introduction to Logic</i> , Cengage learning, 2014.
2	Hurley, Patrick. J: <i>Introduction to Logic</i> , Cengage learning, Thomson Press (India) Ltd
3	Stephen Edmonds: <i>Critical Thinking</i> , Pearson schools, 1977.
4	Dewey, John: <i>How we Think : A Restatement of the Relation of Reflective thinking to the Educative Process</i> , Revised edition Boston Heath & Co Publishers (1933)
5	Nosich M Gerald: <i>Learning to Think Things Through: A Guide to Critical Thinking Across Curriculum</i> , Pearson 4 <sup>th</sup> Edition, 2011.
6	Moore, Brooke N., et al.: <i>Critical thinking</i> . Dubuque: McGraw-Hill Companies, Inc, 2015, Ch 1-2.
7	Dewey, John: <i>How we think</i> . Mineola, N.Y. Dover Publications, 1997, Ch-6,Ch-7&Ch-8.
8	Case studies.

Program Name	BA in Logic	Semester	V
Course Title	Symbolic Logic: Up to Formal Proof of Validity		
Course Code:	015LOG012 / DSCC-10	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	2 hours
Formative Assessment Marks	40	Summative Assessment Marks	60

<b>Course Pre-requisite(s):</b>		
<ol style="list-style-type: none"> <li>To construct, analyse and evaluate arguments.</li> <li>To identify formal and informal fallacies.</li> <li>To impart Knowledge about translating real language arguments into symbolic forms</li> </ol>		
<b>Course Outcomes (COs):</b> After the successful completion of the course, the Student will be able to:		
CO1: Learn how to explain and apply basic notions of symbolic logic		
CO2: Distinguish between correct arguments from incorrect arguments.		
CO3: Learn about tautology, contingent and contradictory Statements.		
CO4: Think critically and logically of any given argument/situation & work out the Conclusion.		
CO5: Try to find out the solution for any logical problems (arguments) which they may come across in the future.		
<b>Contents</b>		<b>56 Hrs</b>
<b>Unit – 1</b>	<b>Chapter No. 1:</b> An Introduction to Symbolic Logic; uses of Symbols in Logic.	4
	<b>Chapter No. 2:</b> Classification of propositions in sentential Logic: Simple and Compound.	5
	<b>Chapter No. 3:</b> Different kinds of truth-functional compounds.	5
<b>Unit – 2</b>	<b>Chapter No. 4:</b> Statement and statement forms.	4
	<b>Chapter No. 5:</b> Different kinds of statement forms: Tautology, contradictory and contingent.	5
	<b>Chapter No. 6:</b> Using the Truth table to determine the types of statement forms.	5
<b>Unit – 3</b>	<b>Chapter No. 7:</b> Argument and argument form; using the truth table to determine the validity of an argument.	5
	<b>Chapter No. 8:</b> Method of the shorter truth table technique.	4
	<b>Chapter No. 9:</b> The method of assigning truth values to prove the invalidity of invalid arguments.	5
<b>Unit – 4</b>	<b>Chapter No. 10:</b> The method of Deduction: Adequacy of truth table to test the validity of arguments in truth-functional logic.	4
	<b>Chapter No. 11:</b> Formal proof with the nine Rules of Inference (which are elementary valid argument forms).	5
	<b>Chapter No. 12:</b> Formal proof with the ten Logical Equivalences (which constitute the Rule of Replacement in addition to the nine Rules of Inference).	5

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Learn how to explain and apply basic notions of symbolic logic	√	√	√	√						√	√				
Distinguish between correct arguments from incorrect arguments.					√	√	√	√							
Learn about tautology, contingent and contradictory Statements.				√	√	√				√	√				
Think critically and logically of any given argument/situation.								√	√	√					
Try to find out the solution for any problems which they may come across in the future.										√	√	√			

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10 X2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Copi, I.M. & Cohen, C: <i>Introduction to Logic</i> , Publisher: Latest Editions, Prentice- Hall of India Pvt. Ltd., New Delhi (2001)
2	Barker Stephen, F: <i>The Elements of logic</i> , Publisher: McGraw Hill book company, New-York.(1965)
3	Patrick Suppes: <i>Introduction to Logic</i> , Publisher: Van Nostrand Reinhold, New-York. (1957)
4	Copi, I.M: <i>Symbolic Logic</i> , Fifth Edition. Publisher: Prentice- Hall of India Pvt. Ltd., New Delhi, (2015)
5	f. o EA AAvjā i: vPā, A AU-1 & 2, Publisher: YāgAAU ā BE, MEgā «±k ZAt®Aia, ā BE, MEgā. (1972)

Program Name	BA in Logic	Semester	V
Course Title	Argument and Theories of Error (Indian)		
Course Code:	015LOG013 / DSCC-11	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	02 hrs
Formative Assessment Marks	40	Summative Assessment Marks	60

**Course Pre-requisite(s):**

- 1) To know the nature and meaning of argument.
- 2) To clarify the theories of errors in Indian philosophy.
- 3) To impart the knowledge about the nature of fallacies in Indian philosophy.

**Course Outcomes (COs):** After the successful completion of the course, the student will be able to:

- CO1. Understand the meaning and definitions of argument.  
CO2. Know the validity of an argument and its kinds.  
CO3. Understand the theories of errors in Indian philosophy  
CO4. Learn about the criticism of all Khyatis.  
CO5. Find solutions to any given situations in future life.

<b>Contents</b>		<b>56 Hrs</b>
<b>Unit-1</b>	<b>Chapter No. 1:</b> Introduction: Nature and attributes of Indian logic	5
	<b>Chapter No. 2:</b> Argument: It's meaning and nature	5
	<b>Chapter No. 3:</b> Kinds of validity of an argument	4
<b>Unit-2</b>	<b>Chapter No. 4:</b> Error: Its meaning and nature	5
	<b>Chapter No. 5:</b> Theories of Error in Indian Philosophy	4
	<b>Chapter No. 6:</b> Concept of Akhyati and Anyatha Khyati	5
<b>Unit-3</b>	<b>Chapter No. 7:</b> Concept of Satkhyati and Asatkhyati	5
	<b>Chapter No. 8:</b> Concept of Viparita Khyati, Atma Khyati	4
	<b>Chapter No. 9:</b> Anirvacaniya Khyati and Viparita Khyati	5
<b>Unit-4</b>	<b>Chapter No. 10:</b> Criticisms of above all Khyatis	5
	<b>Chapter No. 11:</b> Khyatis in Vedanta schools	5
	<b>Chapter No. 12:</b> Khyatis in Nyaya systems	4

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Understand the meaning and definition	√	√													
Know the kinds of material fallacies			√												
Understand the theories of errors in Indian philosophy					√	√	√	√	√						
Learn about the critical and logical thinking										√					
Find solutions to any given situations in future life.											√	√			

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10 X 2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Satishchandra Chatterjee: <i>The Nyaya theory of Knowledge</i> , Calcutta University Press, 1978.
2	G.N. Rechanna and S.V. Patil: <i>Nigamana Tharkashastra</i> , Prasaranga, Karnatak University, Dharwad 1971.
3	Datta, D.M: <i>Six ways of Knowing</i> , Calcutta University Press, 1932.
4	Matilal, B.K: <i>Epistemology, Logic and Grammar in Indian Philosophical Analysis</i> , The Hague, Paris, 1971.
5	Satprakashananda, S: <i>Methods of Knowledge</i> , Advaita Ashrama, Calcutta, 1974.
6	Dasagupta, S.N: <i>A History of Indian Philosophy Vol. I to V</i> , Cambridge University Press, 1957.

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Program Name	BA in Logic	Semester	VI
Course Title	Theories of Truth and Logical Fallacies (Western)		
Course Code:	016LOG011 / DSCC-12	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	02 hrs
Formative Assessment Marks	40	Summative Assessment Marks	60

**Course Pre-requisite(s):**

- 1) To know the nature and meaning of argument.
- 2) To get clear idea of the theories of truth in Western Philosophy.
- 3) To impart the knowledge about the nature of fallacies in Western Philosophy.

**Course Outcomes (COs):** After the successful completion of the course, the student will be able to understand:

- CO1. The meaning and definitions of Knowledge.  
CO2. Know the kinds of material fallacies.  
CO3. The theories of fallacies in Western Philosophy.  
CO4. Learn about the critical and logical thinking.  
CO5. Find solutions to any given situations in future life.

<b>Contents</b>		<b>56 Hrs</b>
<b>Unit-1</b>	<b>Chapter No. 1:</b> Nature and Meaning of Knowledge.	4
	<b>Chapter No. 2:</b> Conditions of Knowledge.	4
	<b>Chapter No. 3:</b> Truth, Belief and Justification.	5
<b>Unit-2</b>	<b>Chapter No. 4:</b> Theories of Truth.	4
	<b>Chapter No. 5:</b> Correspondence and Coherence theory of Truth.	5
	<b>Chapter No. 6:</b> Pragmatic and Semantic theory of Truth.	5
<b>Unit-3</b>	<b>Chapter No. 7:</b> Introduction: Nature and scope of fallacies in Western philosophy. Kinds of material fallacies.	6
	<b>Chapter No. 8:</b> Inferential Fallacies. Fallacy of argumentum ad hominem. Fallacy of argumentum ad baculum.	5
	<b>Chapter No. 9:</b> Fallacy of argumentum ad verecundiam.	4
	<b>Chapter No. 10:</b> Fallacy of many questions, Post Hoc Fallacy. False Dichotomy Fallacy.	5
<b>Unit-4</b>	<b>Chapter No. 11:</b> Equivocation (Doublespeak) Fallacy.	4
	<b>Chapter No. 12:</b> Strawman Fallacy and Loaded Question Fallacy.	5

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Understand the meaning and Knowledge.	√	√	√												
Know the theories of Truth in Western Philosophy.				√	√	√									
Know the kinds of material fallacies in West.							√								
Know the inferential fallacies in Western Philosophy.								√	√	√	√	√			
Understand the many questions of fallacies.										√	√	√			

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10 X 2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Patric J Hurley: <i>A Concise Introduction to Logic</i> , Wadsworth Cengage Learning, 2012
2	Copi.I.M & C. Cohen: <i>An Introduction to Logic</i> , Prentice hall of India, 1996. (Latest Edition).
3	Cohen.M.R & E. Negel: <i>An Introduction to Logic and Scientific Method</i> , Allied Publishers, New Delhi, 1975.
4	G.N. Rechanna & S.V. Patil: <i>Nigamana Tharkashastra</i> , Prasaranga, Karnatak University, Dharwad 1971.
5	Barker, S.F: <i>Elements of Logic</i> , New York, 1965.
6	Ayer, A.J: <i>The Problem of Knowledge</i> : Mac Millan, London, 1956, also Penuin, 1981.
7	Hospers, J: <i>An Introduction to Philosophical Analysis</i> , Delhi, Allied Publishers, 1971.
8	Lehrer, K: <i>Knowledge</i> , Oxford, Clarendon Press, 1974
9	O'Connor, D.J: <i>Introduction to Theory of Knowledge</i> , The Harvester Press, 1982
10	Pollock, J: <i>Knowledge and Justification</i> , Princeton University Press, 1974.
11	Russell, B: <i>Problems of Philosophy</i> , Oxford University Press, 1973.
12	Swinburne, R. (Ed): <i>Justification of Induction</i> , Oxford Press, 1974.
13	Woozley, A.D: <i>Theory of Knowledge</i> , Hutchinson and Co. New York, 1967.

Program Name	BA in Logic	Semester	VI
Course Title	Symbolic Logic: Quantification		
Course Code:	016LOG012 / DSCC-13	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	2 hours
Formative Assessment Marks	40	Summative Assessment Marks	60

<b>Course Pre-requisite(s):</b>		
1. Learn to think independently. 2. To know the nature of quantification. 3. To know the different kinds of propositions.		
<b>Course Outcomes (COs):</b> After the successful completion of the course, the Student will be able to understand:		
CO1: How to write singular and general propositions into symbolic form.		
CO2: The nature of quantification and its application to arguments.		
CO3: Able to think and differentiate between valid and invalid arguments.		
CO4: Able to think critically in the given situation and work out the consequences.		
CO5: Learn how to make valid Universal and Existential Generalization.		
<b>Contents</b>		<b>56 Hrs</b>
<b>Unit – 1</b>	<b>Chapter No. 1:</b> Quantification theory: Introduction.	4
	<b>Chapter No. 2:</b> Classification of Propositions: singular and general propositions	4
	<b>Chapter No. 3:</b> Propositional function and propositions.	5
<b>Unit – 2</b>	<b>Chapter No. 4:</b> Universal and Existential quantifications	5
	<b>Chapter No. 5:</b> Symbolizing the statements using quantifiers	5
	<b>Chapter No. 6:</b> Presentation of the traditional A, E, I and O propositions into symbolic form.	5
<b>Unit – 3</b>	<b>Chapter No. 7:</b> Rules of quantification (1) Existential Instantiation (2) Existential Generalization (3) Universal Instantiation (4) Universal Generalization.	6
	<b>Chapter No. 8:</b> Proving Validity – using preliminary Quantification Rules.	5
<b>Unit – 4</b>	<b>Chapter No. 9:</b> Exercises	6
	<b>Chapter No. 10:</b> Constructing a formal proof of validity for arguments by using Quantification rules and nineteen Rules of Inference.	5
	<b>Chapter No. 11:</b> Constructing a formal proof of validity: by symbolizing the arguments which are in statement forms [using suggested notations], using Quantifiers.	6

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Knowledge about Quantification and Rules of quantification.	√			√			√								
To write singular and general propositions in to symbolic form.		√			√										
Nature of quantification and its application to arguments.								√	√	√	√				
Constructing a formal proof of validity.									√	√	√				
Learn how to make valid universal generalization.							√	√	√						

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10 X2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Copi, I.M.: <i>Symbolic Logic</i> , Fifth Edition. Publisher: Prentice- Hall of India Pvt. Ltd., New Delhi, (2015) (pp.69-71)
2	Copi, I.M. And Cohen, C: <i>Introduction to Logic</i> , Publisher: Latest Editions, Prentice- Hall of India Pvt. Ltd., New Delhi (2001)
3	Barker Stephen, F: <i>The Elements of logic</i> , Publisher: McGraw Hill book company, New-York.(1965)
4	Patrick Suppes: <i>Introduction to Logic</i> , Publisher: Van Nostrand Reinhold, New-York. (1957)
5	F. v. Kutschera: <i>Logik I&amp;2</i> , Publisher: Walter de Gruyter, Berlin, New York. (1972)
6	Jeffrey, R.C: <i>Formal Logic: Its Scope and Limits</i> , Ma-Graw-Hill, Book Co. New York, 1967
7	Mates, Bensons: <i>Elementary Logic</i> , Oxford University Press, 1968.
8	Quine, W.V.O: <i>Methods of Logic</i> , (Revised Ed.) Harvard University Press, Cambridge (Mass.) 1951

Program Name	BA in Logic	Semester	VI
Course Title	Philosophy of Science		
Course Code:	016LOG013 / DSCC-14	No. of Credits	04
Contact hours	56 Hours	Duration of SEA/Exam	02 hrs
Formative Assessment Marks	40	Summative Assessment Marks	60

**Course Pre-requisite(s):**

- 1) To Know the relationship between Science and Philosophy.
- 2) To impart the knowledge about the better prepared to conduct high quality productive research.
- 3) To know the different scientific theories

**Course Outcomes (COs):** After the successful completion of the course, the student will be able to understand:

- CO1: Scientific theories and practices and find out about the methods and laws of sciences which could appraise or challenge the way science has been understood.  
CO2: The various senses of explanations in different sciences like physics and biology.  
CO3: To develop critical thinking regarding theories of explanation.  
CO4: Deductive Nomo-logical theory, Inductive-statistical theory, Statistical Relevance theory.  
CO5: Use the theories of Hempel, Salmon, Cartwright, Van Fraasen and Rosenberg.

	<b>Contents</b>	<b>56 Hrs</b>
<b>Unit-1</b>	<b>Chapter No. 1:</b> Introduction: Why Philosophy of Science?	4
	<b>Chapter No. 2:</b> Definition and Nature of Philosophy of Science.	4
	<b>Chapter No. 3:</b> Philosophy of Science, Schools of Thought.	4
<b>Unit-2</b>	<b>Chapter No. 4:</b> Empirical and Theoretical Research.	5
	<b>Chapter No. 5:</b> Logical Positivism and Scientific Realism.	5
	<b>Chapter No. 6:</b> The Problem of Induction.	5
<b>Unit-3</b>	<b>Chapter No. 7:</b> The Nature of Science and Scientific Approach.	4
	<b>Chapter No. 8:</b> Problems and Hypothesis.	4
	<b>Chapter No. 9:</b> Constructs, Variables and Definitions.	5
<b>Unit-4</b>	<b>Chapter No.10:</b> Nature of Explanation, Causation and Laws.	6
	<b>Chapter No. 11:</b> Action and intentionality and Causal Inference.	5
	<b>Chapter No. 12:</b> Inductive Reasoning and Deductive Reasoning.	5

**Course Articulation Matrix: Mapping of Course Outcomes (COs) with Program Outcomes (POs 1-15)**

Course Outcomes (COs) / Program Outcomes (POs)	Program Outcomes (POs)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Know the Scientific theories and practices and find out about the methods and laws of sciences which could appraise or challenge the way science has been understood.	√	√	√				√	√							
To develop the critical thinking regarding theories of explanation.					√		√		√		√				
Know the Scientific Approach and Hypothesis.				√	√		√	√							
Know the problem of Induction, Deductive and Inductive theory of knowledge.						√			√		√	√			
Know the Causation and Scientific Laws.								√	√	√					

**Pedagogy:** .....

Formative Assessment for Theory	
Assessment Occasion/ type	Marks
i) Home assignments – 1	10
ii) Seminar – 1	10
iii) Internal tests – 2	10 X2 = 20
<b>Total</b>	<b>40 Marks</b>
<i>Formative Assessment as per guidelines are compulsory</i>	

References	
1	Popper, Karl: <i>Science: Conjectures and refutations.</i> In Martin Curd & J. A. Cover (Eds.) <i>Philosophy of Science: The Central Issues</i> (pp. 3-10.). New York: W. W. Norton and Company. (1998)
2	Kuhn, Thomas. (1998). <i>Logic of Discovery or Psychology or Research?</i> In martin curd & J. A. Cover (Eds.) <i>Philosophy of Science: The Central Issues</i> (pp. 11-19). New York: W. W. Norton and company.
3	Hempel, Carl: <i>Philosophy of Natural Science</i> (pp. 237-259). New Jersey: Prentice Hall. (1966)
4	Lewis, David: <i>Casual explanation.</i> In David-Hillel Ruben (Ed.) <i>Explanation</i> (pp.182-206). Oxford: Oxford University Press. (1993)
5	Cartwright, Nancy: <i>The truth can't explain much.</i> American philosophical quaterly17, 159-163. (1980)
6	Salmon, Wesley: <i>Scientific Explanation: How we got from there to here.” In Causation and explanation.</i> Oxford University Press. (1998)
7	Dretske, Fred I: <i>Laws of Nature. Philosophy of Science</i> 44 (2), 248-268. (1977).

References	
8	Van Fraassen, Bas. (1998). <i>Arguments Concerning Scientific Realism</i> . In Martin Curd and J. A. Cover (Eds), <i>Philosophy of Science: The central issues</i> (pp. 1064-1087).New York: W. W. Norton and Company.
9	Peirce: “ <i>The Fixation of Belief</i> ” and “ <i>How to Make our Ideas Clear</i> ” (online) Godfrey-Smith, Chapters: 1-3.
10	Hempel,: Chapters 2-4 from <i>Philosophy of Natural Science</i> (online)
11	Goodman: <i>The New Riddle of Induction</i> (online)
12	Popper: Selections from <i>The Logic of Discovery</i> (online)
13	Putnam: <i>The Corroboration of Theories</i> (online) Godfrey-Smith, Chapter 4
14	Hempel: Chapter 5 from <i>Philosophy of Natural Science</i> (online) Godfrey-Smith, Chapter 13
15	Hempel: Chapter 6 from <i>Philosophy of Natural Science</i> (online)

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