List of Revised Courses

Department : ***Computer Science and Engineering***

Program Name : ***B.Tech.***

Academic Year : 2018-19

List of Revised Courses

Sr. No.	Course Code	Name of the Course
01.	CS8TPE03	Neural Network Learning And Fuzzy System
02.	CS7TPC02	Artificial Intelligence

Minutes of Meetings (MoM) of Board of Studies (BoS)

Academic Year : 2018-19

School : *School of Studies of Engineering and Technology*

Department : *Computer Science and Engineering*

Date and Time : *September 10, 2018 – 11:30 AM*

Venue : *Department of CSE*

The scheduled meeting of member of Board of Studies (BoS) of Department of Computer Science and Engineering , School of Studies of Engineering and Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur was held to design and discuss the B. Tech. 2nd Year scheme and syllabi.

The following members were present in the meeting:

1. Mr. Nishant Behar(HOD, Assitant Prof., Dept. of CSE.-cum Chairman, BOS)
2. Mr. Amit Sharma (External Member)
3. Dr.Manish Shrivastava (Invited Member)
4. Dr. Sandeep Singh (Invited Member)
5. Mrs.Nishi Yadav (Member BoS, Assistant Professor, Dept. of CSE)
6. Mr. Amit Baghel (Invited Member, Assistant Professor, Dept. of CSE)
7. Mr. Satish Negi (Invited Member, Assistant Professor, Dept. of CSE)
8. Mr. Pushpendra Kumar Chandra (Invited Member, Assistant Professor, Dept. of CSE)

Following points were discussed during the meeting

1. Syllabus revision for B. Tech Final Year for the session 2018-19
2. Modification of the credit and course code of B. Tech 1st year, 2018-19
3. Implementation of CBCS in 1st 2nd and Third Year.

The committee discussed and approved the scheme and syllabi. The following courses were revised in the of B. Tech. Final year (VII and VIII Semesters) :

- Neural Network Learning And Fuzzy System (CS8TPE03)
- Artificial Intelligence (CS7TPC02)

The following new courses were introduced in the of B. Tech. Final year (VII and VIII Semesters):

- Cloud Computing (CS8TOE02)
- Wireless Sensor Network(CSTTPE02)
- Digital Image Processing(CSTTOE04)
- Introduction Of Computational Intelligence(CS8TPE02)
- Programming for Problem Solving(CS02TES02)

विभागाध्यक्ष
Head
संगणक विज्ञान एवं अभियांत्रिकी
Computer Science & Engg.
अभियांत्रिकी एवं प्रो. अध्ययन शाला
SOS, Engg. & Technology
गु.घा. विश्वविद्यालय, बिलासपुर (छ.ग.)
G.G.Vishwavidyalaya, Bilaspur (C.G.

Signature & Seal of HoD

Scheme and Syllabus

Sem- VII

S No.	Subject Code	Subjects	Period /week			Evaluation Scheme			Total Credit
			L^1	T^2	P^3	IA	ESE	TOTAL	
1	CS7TPC01	Compiler Design	3	1	0	40	60	100	4
2	CS7TPC02	Artificial Intelligence	3	1	0	40	60	100	4
3	CS7TPEXX	PE Choice –I VIIth Semester	3	1	0	40	60	100	4
4	CS7TPEXX	PE Choice –II VIIth Semester	3	1	0	40	60	100	4
5	CS7TOEXX	OE-I VII th Semester	3	0	0	40	60	100	3
		PRACTICAL							
1	CS7LPC01	Compiler Design Lab	0	0	3	30	20	50	2
2	CS7LPC02	Artificial Intelligence Lab	0	0	3	30	20	50	2
3	CS7LPR01	Seminar	0	0	3	30	20	50	2
4	CS7LPR02	Minor Project Lab	0	0	3	30	20	50	2
						Total Credits		700	27

IA- Internal Assessment , ESE – End Semester Examination

Open Elective Subjects VIIth Semester			Credit	Professional Elective Subject VII th Semester			Credit
SN	Subject Code	Subject		SN	Subject Code	Subject	
1	CS7TOE01	Web Technologies	3	1	CS7TPE01	Data Mining	4
2	CS7TOE02	Information Theory and Coding	3	2	CS7TPE02	Wireless Sensor Network	4
3	CS7TOE03	Swarm Intelligence, Co-evolution and Rough Sets	3	3	CS7TPE03	Intrusion Detection System	4
4	CS7TOE04	Digital Image Processing	3	4	CS7TPE04	Cyber Crime and Security	4

Sem- VIII

S.No.	Subject Code	Subjects	Period /week			Evaluation Scheme			Total Credit
			L^1	T^2	P^3	IA	ESE	TOTAL	
1	CS8TPC01	Network Security	3	1	0	40	60	100	4
2	CS8TPEXX	PE-I VIIIth Semester	3	1	0	40	60	100	4
3	CS8TOEXX	OE-I VIIIth Semester	3	1	0	40	60	100	4
		PRACTICAL							
1	CS8LPR01	Major Project	0	0	20	150	100	250	10
2	CS8LPC01	Network Security Lab	0	0	3	30	20	50	2
						Total Credits		600	24

Open Elective Subjects VIII Semester			Credit	Professional Elective Subject VIII Semester			Credit
SN	Subject Code	Subject		SN	Subject Code	Subject	
1	CS8TOE01	Enterprise Resource Management	4	1	CS8TPE01	Soft Computing	4
2	CS8TOE02	Cloud Computing	4	2	CS8TPE02	Introduction to Computational Intelligence	4
3	CS8TOE03	Internet of Things	4	3	CS8TPE03	Neural Network Learning and Fuzzy Systems	4
4	CS8TOE04	Distributed Computing	4	4	CS8TPE04	TCP-IP	4

Class: Bachelor of Technology Eighth Semester Computer Science and Engineering
Subject Name: Neural Network Learning and Fuzzy Systems
Subject Code: CS8TPE03

UNIT-I [Supervised Learning Neural Networks]

Neural Network Types [Feed-Forward Neural Networks, Functional Link Neural Networks, Product Unit Neural Networks, Simple Recurrent Neural Networks, Time Delay Neural Networks], Supervised Learning Rules [The Learning Problem, Gradient Descent Optimization, Scaled Conjugate Gradient, Leap Frog Optimization, Particle Swarm Optimization], Functionality of Hidden Units, Ensemble Neural Network.

Unit-II[Unsupervised Neural Networks]

Background of Unsupervised Learning Neural Networks, Hebbian Learning Rule, Principal Component Learning Rule, Learning Vector Quantizer-I, Self Organizing Feature Map [Stochastic Training Rule, Batch Map, Growing SOM, Improving Convergence Speed, Clustering and Visualization using SOM].

Unit-III[Reinforcement Learning and Performance Issues of Supervised Learning]

Learning through Awards, Reinforcement Learning, Learning Rules, Performance Measures of Supervised Learning [Accuracy, Complexity, Convergence], Analysis of Performance Factors.

Unit-IV[Introduction to Fuzzy Logic]

Fuzzy Sets, Membership Functions, Fuzzy Operators, Fuzzy Set Characteristics, Linguistic Variables and Hedges, Fuzziness and Probability.

Unit-V[Fuzzy Controllers]

Fuzzy Inference Systems, Fuzzification, Inferencing, Defuzzification, Fuzzy Controllers, Components of Fuzzy Controllers.

Recommended Books

Text Book:

1. S. Haykin, *Neural Networks : A Comprehensive Foundation*, Second Edition, Prentice Hall International, 1999.

Other Reference:

1. B. Yegnanarayana, *Artificial Neural Networks*, Nineteenth Printing, PHI Learning Private Limited, 2012.

Class: Bachelor of Technology Seventh Semester Computer Science and Engineering
Subject Name: Artificial Intelligence
Subject Code: CS7TPC02

UNIT-I

Introduction of Artificial Intelligence(AI), Difference between Intelligence and Artificial Intelligence, Definitions of AI, Strong AI and Weak AI, Application areas of AI, Comparison of Conventional and AI Computing, History of AI, Turing Test, Branches of AI, Intelligent Agents, State Space Representation, Production System, Heuristic Search, Search Methods (Uninformed Search and Informed Search), Breadth First Search, Depth First Search, Difference between Breadth First Search and Depth First Search, Hill Climbing, Best First Search.

Unit-II

Role of Knowledge Representation in AI, Types of Knowledge, Properties of Knowledge Representation System, Categories of Knowledge Representation Scheme, First Order Predicate Calculus, Well Formed Formula in Predicate Logic, Conversion to Clausal Form, Resolution in Predicate Logic, Semantic Nets, Properties of Semantic Nets, Frames, Scripts, Advantages and Disadvantages of Scripts.

Unit-III

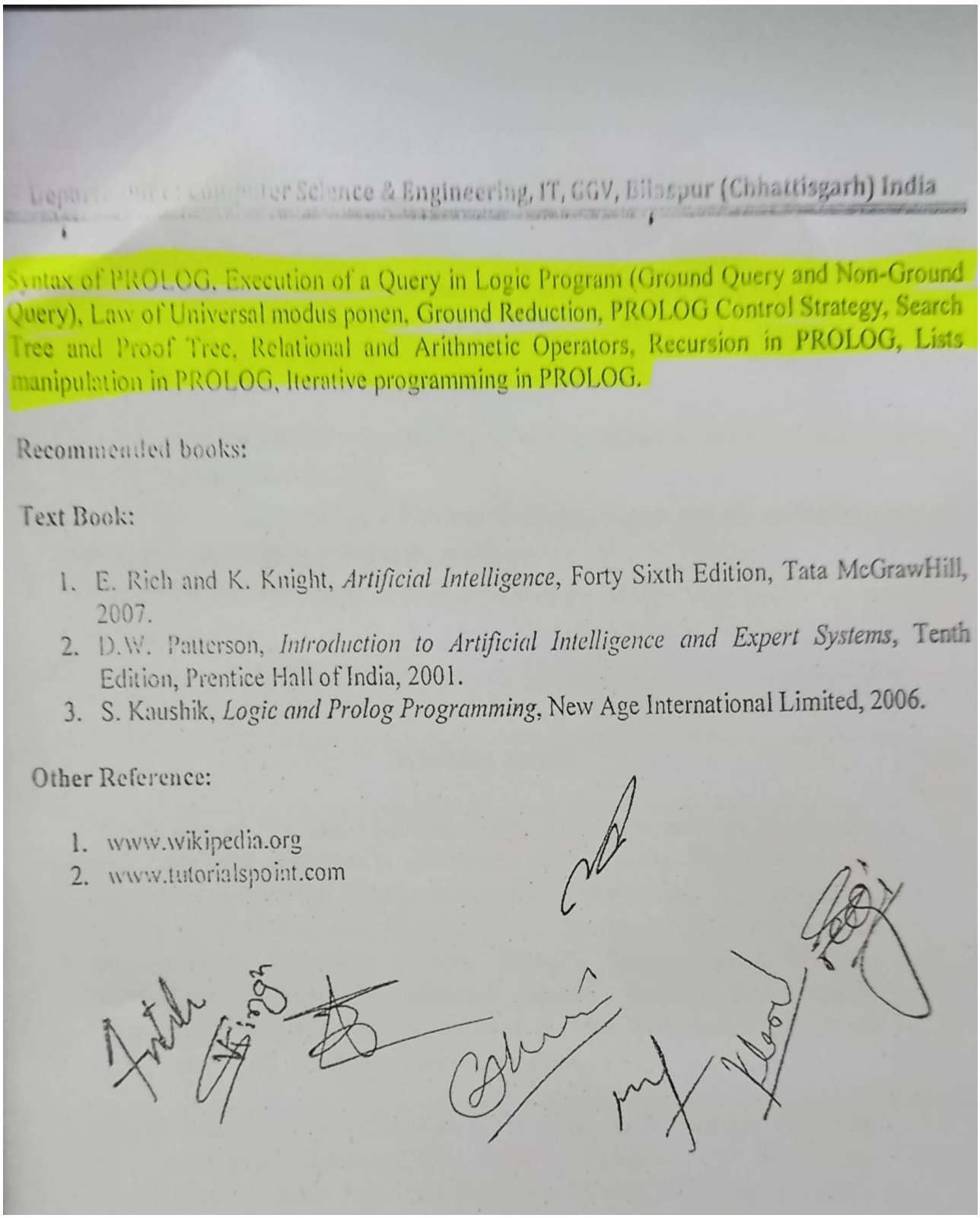
Introduction of Expert System, Comparison between Human Expert and Expert System, Comparison between Expert System and Software System, Difference between Knowledgebase and Database, Basic Components of an Expert System, Characteristics of Expert System, Life Cycle Development of Expert System, Advantages of Expert System, Limitation of Expert System, Expert System Tools, Existing Expert Systems (DENDRAL and MYCIN).

Unit-IV

Introduction to LISP : Syntax and Numeric Functions, Working with GNU CLISP, Basic Data Objects in GNU CLISP, Basic List Manipulation Functions in GNU CLISP (setq, car, cdr, cons, list, append, last, member, reverse), User Defined Functions in GNU CLISP, Predicates (atom, equal, evenp, numberp, oddp, zerop, >=, <=, listp, null) and Conditionals (cond and if) in GNU CLISP, Logical Functions (not, or, and) in GNU CLISP, Input / Output and Local Variables (read, print, princ, terpri, format, let, prog) in GNU CLISP, Recursion and Iteration(do) in GNU CLISP, Arrays in GNU CLISP.

Unit-V

Introduction to PROLOG, Term, Ground Term, Function, Predicate, Features of PROLOG, Program Clause, Unit Clause, Logic Program, Goal Clause, Empty Clause, Simple Query, Conjunctive Query, Structure of PROLOG Program, Working with SWI-Prolog, General



Department of Computer Science & Engineering, IT, GGV, Bilaspur (Chhattisgarh) India

Syntax of PROLOG, Execution of a Query in Logic Program (Ground Query and Non-Ground Query), Law of Universal modus ponen, Ground Reduction, PROLOG Control Strategy, Search Tree and Proof Tree, Relational and Arithmetic Operators, Recursion in PROLOG, Lists manipulation in PROLOG, Iterative programming in PROLOG.

Recommended books:

Text Book:

1. E. Rich and K. Knight, *Artificial Intelligence*, Forty Sixth Edition, Tata McGrawHill, 2007.
2. D.W. Patterson, *Introduction to Artificial Intelligence and Expert Systems*, Tenth Edition, Prentice Hall of India, 2001.
3. S. Kaushik, *Logic and Prolog Programming*, New Age International Limited, 2006.

Other Reference:

1. www.wikipedia.org
2. www.tutorialspoint.com