SEMESTER – I

Course Code: BD1CS	Credits: 5

PEDAGOGY OF COMPUTER SCIENCE -1

COURSE OBJECTIVES

CO1: Understand the aims and objectives of Teaching Computer Science
CO2: Gain mastery of teaching skills in their teaching.
CO3: Learn various models and levels of teaching Computer Science.
CO4: Comprehend the various methods of teaching Computer Science
CO5: Gain knowledge on usage of instructional media in teaching Computer Science.

UNIT-I: AIMS AND OBJECTIVES OF TEACHING COMPUTER SCIENCE

Meaning, Nature, Scope, Need and Significance, Values,Aims and Objectives: Instructional objectives and Behavioural Objectives – Need and Importance of Instructional Objectives. Bloom's Taxonomy of Instructional Objectives: Cognitive, Affective and Psychomotor Domains, Revised Bloom's Taxonomy 2001 (Anderson &Krathwohl) Interrelation among the domains – Correlation between subjects.

UNIT-II: TEACHING SKILLS

Micro-Teaching : Concept, Definition, Steps, Cycle , Micro-teaching Vs Macro-Teaching - Skill of Set Induction - Skill of Explaining , Skill of Questioning , Probing skills, Skill of Stimulus Variation, Skill of Reinforcement, Skill of non-verbal clues, Skill of Closure - Link lesson – Model episode

UNIT – III: APPROACHES OF TEACHING

Approaches of Lesson Planning - Steps - Organizing Teaching: Memory Level (Herbartian Model), Understanding Level (Morrison teaching Model), Reflective Level (Bigge and Hunt Teaching Model)– Unit Plan – Lesson Plan Writing.

UNIT-IV: METHODS OF TEACHING

Teacher Centered Instruction: Lecture method, Demonstration and Team Teaching – Learner Centered Instruction: Self-Learning – Forms of Self-Learning: Programmed Instruction, Computer Assisted Instruction , Keller Plan, Project Method, Activity Based

Learning (ABL), Active Learning Method (ALM)-Mind Map, Advanced Active Learning Method (AALM).

UNIT-V: INSTRUCTIONAL MEDIA

Classification of Instructional Media – Use of Mass media in classroom Instruction. New Emerging Media: Tele-Conferencing, Communication Satellites, Computer Networking, Word Processors, Blended Learning, Flipped Classroom, Artificial Intelligence, Augmented Reality.

SUGGESTED ACTIVITIES

1. Write general and specific instructional objectives for one of the lessons in Computer Science.
2. Prepare an episode and link lesson for anyone of the topics in Computer Science using anyone of the skills in micro teaching.
3. Write a lesson plan for anyone of the lessons in Computer Science.
4. Develop a programmed learning instruction material for one of the topics in Computer Science.
5. Write an essay an Classification of Instructional Media

TEXT BOOKS

1. Arulsamy, S. (2010). Computers in Education. Hyderabad: Neelkamal Publications.
2. Chauhan, S.S. (1985). Innovation in Teaching and Learning of Process. New Delhi: Vikas Publishing House.
3. Dennis, P. Curtin., et al. (1999). Information Technology – The Breaking Wave. New Delhi: Tata McGraw Hill Publishing.
4. GoelHemant Kumar. (2010). Teaching of Computer Science. Meerut: R.LALL Book Depot.
5. HasnainQureshi. (2004). Modern Teaching of Computer Science. New Delhi: Anmol Publications.
6. Hemant Kumar Goyal. (2004). Teaching of Computer Science. Meerut: R.Lall Book Depot.
7. Passi, B.K. (1976). Becoming Better Teacher, Micro Teaching Approach. Ahemedabad: SahityaMudranalaya.

SUPPLEMENTARY READINGS

1. Rajaraman, V. Fundamentals of Computers. New Delhi: Prentice Hall of India.
2. Rajasekar, S. (2004). Computer Education and Educational Computing. New Delhi: Neelkamal Publications.
3. Rajasekar, S. Computer Education and Educational Computing. Hyderabad: Neelkamal Publications.
4. Ram Babu, A. (2015). Essentials of Micro Teaching. Hyderabad: Neelkamal Publications.
5. Singh, Y.K. (2005). Teaching of Computer Science. New Delhi: APH Publishing Corporation.

E-RESOURCES

1. https://www.theedadvocate.org/how-to-implement-critical-pedagogy-into-your-classroom/
2. https://mypedagogyofenglish1975.blogspot.com/2020/07/chapter-08-pedagogical-analysis.html?m=1
3. https://link.springer.com/chapter/10.1007/978-3-642-60968-8_12
4. https://www.simplypsychology.org/case-study.html
5. https://learn-u.com/lesson/resource-based-learning/

COURSE OUTCOMES

Aftercompletion of this course, the student-teachers will be able to:

CO1: explain the aims and objectives of teaching Computer Science.

CO2: select and use appropriate teaching skills in their teaching.

CO3: write lesson plans and unit plans on their own.

CO4: develop programmed instruction for the lessons in Computer Science.

CO5: explain the various instructional media to be used in teaching Computer Science.

OUTCOME MAPPING

COURSE OUTCOMES	PROGRAMME SPECIFIC OUTCOMES																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
CO1										*						*								
CO2						*				*			*		*		*							
CO3												*									*		*	
CO4		*					*											*			*		*	
CO5					*												*							*