



Chhattisgarh Swami Vivekanand Technical University (CSVTVU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (First Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|-----------------------------------|--|----------------|-----------------------|----------|----------|------------|------------|------------|----------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | | | | | | | | |
| 1. | Electronics and Telecommunication | Foundations of Electronics Engineering | A000171(028) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 2. | Basic Science | Engineering Mathematics-I | A000172(014) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 3. | Computer Science Engineering | Learning Programming Concept with C | A000173(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4. | Basic Science | Fundamentals of Computational Biology | A000174(028) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 5. | Civil Engineering | Environmental Science | A000175(020) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 6. | Humanities | Professional Ethics and Life Skills | A000176(046) | 2 | - | - | 50 | 20 | 20 | 90 | 2 |
| 7. | Humanities | Language & Writing Skills | A000177(046) | 2 | - | - | 50 | 20 | 20 | 90 | 2 |
| 8. | Electronics and Telecommunication | Foundations of Electronics Engineering Lab | A000191(028) | - | - | 2 | 40 | | 20 | 60 | 1 |
| 9. | Computer Science Engineering | Learning Programming Concept with C Lab | A000192(022) | | | 2 | 40 | | 20 | 60 | 1 |
| Total | | | | 14 | 5 | 4 | 680 | 140 | 180 | 1000 | 21 |

L – Lecturer , T – Tutorial, P – Practical , CT –Class Test, ESE – End Semester Exam, TA – Teacher’s Assessment



Chhattisgarh Swami Vivekanand Technical University (CSVTU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Second Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|-----------------------------------|---------------------------------|----------------|-----------------------|---------------|----------------------------|--------------|------------|------------|----------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | 1. | Basic Science | Engineering Mathematics-II | A000271(014) | 2 | 1 | | |
| 2. | Computer Science Engineering | Data Structure Using C | A000272(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 3. | Computer Science Engineering | Object Oriented Programming | A000273(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4. | Electronics and Telecommunication | Digital Logic & Design | A000274(028) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 5. | Computer Science Engineering | Python for Data Science | A000275(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 6 | Humanities | Entrepreneurship | A000276(046) | 2 | - | - | 40 | - | 20 | 60 | 2 |
| 7 | Computer Science Engineering | Data Structure Using C Lab | A000291(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 8. | Computer Science Engineering | Object Oriented Programming Lab | A000292(022) | | - | 2 | 40 | - | 20 | 60 | 1 |
| 9 | Computer Science Engineering | Python for Data Science Lab | A000293(022) | | - | 2 | 40 | - | 20 | 60 | 1 |
| 10 | Electronics and Telecommunication | Digital Logic & Design Lab | A000294(028) | | | 2 | 40 | | 20 | 60 | 1 |
| Total | | | | 12 | 5 | 8 | 700 | 100 | 200 | 1000 | 21 |

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Chhattisgarh Swami Vivekanand Technical University (CSVTV, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Third Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|---------------------------|---|----------------|-----------------------|----------|-----------|------------|------------|------------|----------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | | | | | | | | |
| 1. | Computer Science Engg. | Probability and Statistics | B127371(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 2. | Computer Science Engg. | Analysis & Design of Algorithm | B127372(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 3. | Computer Science Engg. | Computer Organization and Architecture | B127373(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4. | Computer Science Engg. | Discrete Structure | B127374(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 5. | Computer Science Engg. | Database Management System | B127375(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 6. | Computer Science Engg. | Analysis & Design of Algorithm Lab | B127391(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 7. | Computer Science Engg. | Database Management System Lab | B127392(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 8. | Computer Science Engg. | Independent Project | B127393(022) | - | - | 8 | 120 | - | 40 | 160 | 4 |
| 9. | Non Credit Course | Personality Development | B127394(022) | - | - | 2 | - | - | 20 | 20 | - |
| Total | | | | 10 | 5 | 14 | 700 | 100 | 200 | 1000 | 21 |

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Chhattisgarh Swami Vivekanand Technical University (CSVTU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Fourth Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|---------------------------|--|----------------|-----------------------|---------------------------|------------------|--------------|------------|------------|----------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | 1. | Computer Science Engg. | Computer Network | B127471(022) | 2 | 1 | | |
| 2. | Computer Science Engg. | Artificial Intelligence: Principles and Applications | B127472(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 3. | Computer Science Engg. | Operating System | B127473(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4. | Computer Science Engg. | Theory of Computation | B127474(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 5. | Computer Science Engg. | R for Data Science | B127475(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 6 | Computer Science Engg. | Data Visualization | B127476(022) | 2 | 1 | - | 80 | 20 | 20 | 120 | 3 |
| 7 | Computer Science Engg. | Computer Network Lab | B127491(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 8. | Computer Science Engg. | Data Visualization Lab | B127492(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 9. | Computer Science Engg. | R for Data Science Lab | B127492(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| Total | | | | 12 | 6 | 6 | 700 | 120 | 180 | 1000 | 21 |

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Chhattisgarh Swami Vivekanand Technical University (CSVTU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Fifth Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|----------------------------------|--|--------------|-----------------|----------|-----------|------------|------------|------------|-------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | Computer Science Engg. | Pattern Recognition and Machine Learning | C128571(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 2. | Computer Science Engg. | Intelligent Data Analysis | C128572(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 3. | Computer Science Engg. | Cryptography and Network Security | C127573(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 4. | Computer Science Engg. | Natural Language Processing | C128574(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 5. | <i>Professional Elective – I</i> | | | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 6. | Computer Science Engg. | Pattern Recognition and Machine Learning (Lab) | C128591(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 7. | Computer Science Engg. | Intelligent Data Analysis (Lab) | C128592(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 8. | Computer Science Engg. | Natural Language Processing (Lab) | C128593(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 9. | Computer Science Engg. | Minor Project-I based on Industrial Training | C128594(022) | - | - | 10 | 80 | - | 40 | 120 | 5 |
| Total | | | | 15 | 4 | 14 | 700 | 100 | 200 | 1000 | 28 |

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Table – I (Professional Elective – I)

| S.N. | Board of Studies | Course Code | Subject |
|------|------------------------------|--------------|---------------------------|
| 1 | Computer Science Engineering | C127531(022) | Advanced Computer Network |
| 2 | Computer Science Engineering | C127532(022) | Computational Complexity |
| 3 | Computer Science Engineering | C127533(022) | Distributed Computing |

Note: (1) 1/4th of total strength of students subject to minimum of 20 students is required to offer and elective in the college in a particular academic session.

(2) Choice of elective course once made for an examination cannot be changed in future Examinations.



Chhattisgarh Swami Vivekanand Technical University (CSVTVU, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Sixth Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|---------------------------|--------------------------------|----------------|--------------------|----|-----------|------------|----|------------|----------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| 1. | Computer Science Engg. | Project Based on Internship | C128691(022) | -- | -- | 40 | 600 | -- | 400 | 1000 | 20 |
| Total | | | | | | 40 | 600 | | 400 | 1000 | 20 |

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Chhattisgarh Swami Vivekanand Technical University (CSVTV, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Seventh Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|---|---|--------------|-----------------|------------------------|--------------------|--------------|------------|------------|-------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | 1 | Computer Science Engg. | Big Data Analytics | D128771(022) | 3 | 1 | | |
| 2 | Computer Science Engg. | Data Wrangling | D128772(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 3 | Computer Science Engg. | Software Engineering | D127773(022) | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4 | Computer Science Engg. | Gaming Theory | D127774(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 5 | Professional Elective – II (Refer Table I) | | | 2 | 1 | - | 80 | 20 | 20 | 120 | 3 |
| 6 | Open Elective I (Refer Table III) | | | 2 | 1 | - | 50 | 20 | 20 | 90 | 3 |
| 7 | Computer Science Engg. | Big Data Analytics Lab | D128791(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 8 | Computer Science Engg. | Data Wrangling Lab | D128792(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 9 | Computer Science Engg. | Software Engineering Lab | D128793(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 10 | Computer Science Engg. | Minor Project | D128794(022) | 4 | - | - | 20 | - | 20 | 40 | 4 |
| 11 | Humanities | Technical Communication and Soft Skill (Non Credit) | D127001(046) | 2 | - | - | - | - | 10 | 10 | - |
| Total | | | | 20 | 6 | 6 | 670 | 120 | 210 | 1000 | 27 |

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Table – I (Professional Elective – II)

| S.N. | Board of Studies | Course Code | Subject |
|------|------------------------------|--------------|--|
| 1 | Computer Science Engineering | D127731(022) | Computer Vision |
| 2 | Computer Science Engineering | D127732(022) | Multimedia System and Application |
| 3 | Computer Science Engineering | D127733(022) | Image Processing |
| 4 | Computer Science Engineering | D127734(022) | High Performance Computing |
| 5 | Computer Science Engineering | D127735(022) | Crypto-currency and Block Chain Technologies |

Table – I (Open Elective – III)

| S.N. | Board of Studies | Course Code | Subject |
|-------------|-------------------------|--------------------|--|
| 1 | Management | D000751(076) | Managing Innovation & Entrepreneurship |
| 2 | Management | D000752(076) | Principle of Management |
| 3 | Management | D000753(076) | Industrial Economics and Management |
| 4 | Management | D000754(076) | Entrepreneurship Development |
| 5 | Management | D000755(076) | Management Information System |

Note: (1) 1/4th of total strength of students subject to minimum of 20 students is required to offer and elective in the college in a particular academic session.

(2) Choice of elective course once made for an examination cannot be changed in future Examinations.



Chhattisgarh Swami Vivekanand Technical University (CSVTV, NEWAI (C.G.))

SCHEME OF TEACHING AND EXAMINATION

BTech Honors Computer Science and Engineering (Data Science) (Eight Semester)

| S.N | Board of Studies | Courses (Subject) | Course Code | Period per Week | | | Theory/Lab | | | Total Marks | Credits |
|--------------|--|----------------------------------|--------------|-----------------|------------------------|------------------|--------------|-----------|------------|-------------|-----------|
| | | | | L | T | P | ESE | CT | TA | | |
| | | | | 1. | Computer Science Engg. | Data Warehousing | D128871(022) | 3 | 1 | | |
| 2. | Computer Science Engg. | Cloud Computing | D127872(022) | 3 | 1 | - | 100 | 20 | 20 | 140 | 4 |
| 3. | <i>Professional Elective – III (Refer Table I)</i> | | | 2 | 1 | - | 100 | 20 | 20 | 140 | 3 |
| 4. | <i>Open Elective II(Refer Table III)</i> | | | 1 | 1 | | 100 | 20 | 20 | 140 | 2 |
| 5. | Computer Science Engg. | Cloud Computing Lab | D127891(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 6. | Computer Science Engg. | Data Warehousing Lab | D128892(022) | - | - | 2 | 40 | - | 20 | 60 | 1 |
| 7. | Computer Science Engg. | Major Project | D128893(022) | - | - | 22 | 130 | | 180 | 310 | 11 |
| 8. | Humanities | Indian Constitution (Non Credit) | D000801(46) | 2 | | - | - | - | 10 | 10 | - |
| Total | | | | 11 | 4 | 26 | 660 | 80 | 260 | 1000 | 26 |

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Table – I (Professional Elective – I)

| S.N. | Board of Studies | Course Code | Subject |
|------|------------------------|--------------|---|
| 1 | Computer Science Engg. | D127831(022) | Applied Graph Theory |
| 2 | Computer Science Engg. | D127832(022) | Computational Geometry |
| 3 | Computer Science Engg. | D127833(022) | Explainable Artificial Intelligence (XAI) |
| 4 | Computer Science Engg. | D127834(022) | Super Computing |

Table – I (Open Elective – II)

| S.N. | Board of Studies | Course Code | Subject |
|------|------------------------|--------------|---|
| 1 | Management | D000851(076) | Technology Management |
| 2 | Management | D000852(076) | Decision Support & Executive Information System |
| 3 | Management | D000853(076) | Managerial Skills |
| 4 | Computer Science Engg. | D000854(022) | Information Theory and Coding |

Note: (1) 1/4th of total strength of students subject to minimum of 20 students is required to offer and elective in the college in a particular academic session.

(2) Choice of elective course once made for an examination cannot be changed in future Examinations.