



Dharampeth M. P. Deo Memorial Science College, Nagpur

B. Sc. (Computer Science) SEMESTER -VI Paper-I (Compiler Construction)

UNIT I

Introduction to compilers Compilers and translators, need: -

https://www.youtube.com/watch?v=KBulg_u-b3w&t=1s

https://youtu.be/KBulg_u-b3w?si=BkhNutfxeMsFG6Er

Phases of Compiler: - structure of a compiler, Lexical Analysis, Syntax analysis, Intermediate code Generation, Optimization, Code Generation, Book keeping, Error Handling: -

<https://www.youtube.com/watch?v=KbriL-zIKMk>

<https://youtu.be/KbriL-zIKMk?si=OclqD1TuA5C3fPsB>

<https://youtu.be/UqovoRo-UCI?si=RL4qvegHSu-kZGB4>

<https://youtu.be/28GMXCkv0kM?si=Yct5g-pbSHz-xSNN>

Cross Compiler and Bootstrapping: -

<https://youtu.be/rHPScvNKcug?si=dGtWMp0R4LIQdgaJ>

https://youtu.be/J6Q_i6_z0n0?si=RxVFlyppLxi76eI0

UNIT II

Introduction to High Level Programming Language: -

<https://youtu.be/aYjGXzktatA?si=vcePK7Ws0lbZ2mRY>

<https://youtu.be/15-gumJfkrq?si=xLx8hT1tf9mklUZz>

The lexical and syntactic structure of a language: -

<https://youtu.be/ZQtA8kD5-3M?si=JYLHC97Ww3P5xdkh>

Storage Organization (Management): -

https://youtu.be/E_IPSva1imk?si=SOJIdTZp-KAMcero

<https://youtu.be/nZG0bQYHB9U?si=o7dxTYeJg6gruJvd>

Parameter Transmission:

https://youtu.be/BdGbzYWd2Kk?si=Cx9rugXrDazd_-T6

Operators: -

<https://youtu.be/50Pb27JoUrw?si=xV5pkRPJKyizhxMJ>

UNIT III

Role of Lexical Analyzer: -

<https://youtu.be/0ehYJKtMJvI?si=itOvHvjSJItbXeNo>

<https://www.youtube.com/watch?v=NPs4fseA-WY>

Implementation and Design Lexical Analyzer: -

<https://youtu.be/4wVwNMBVORI?si=xGNamk15w0UzZBi8>

Approach to design Lexical Analyzer: -

<https://youtu.be/4wVwNMBVORI?si=arVNvgVkZHdsvb-P>

Context Free Grammar: -

<https://youtu.be/d9LrKPZsu40?si=Z9M4ASXfoPjEO2vy>

<https://youtu.be/nyjB5xW0tQc?si=ocUk629mPYjNjzoA>

Derivation and Parse Tree: -

<https://youtu.be/nyjB5xW0tQc?si=ocUk629mPYjNjzoA>

https://youtu.be/kFJaUtkn9wo?si=AnK97ZFe2I_M4S7M

<https://youtu.be/nUVmsW68K0Y?si=7h5sGZj5mLQoVRBp>

Ambiguous Grammar: -

https://youtu.be/MdI2TI7zefY?si=ZyqIeSa1DniMb_bd

UNIT IV

Parsers, Shift-reduce parsing: -

https://youtu.be/Ow7XXOmnNLo?si=_xbbSKeBPpHAzkOC

Operator precedence parsing:

https://youtu.be/aMKJC6P_psE?si=6POd5O3dyEXCzEqY

Top-down parsing: -

https://youtu.be/a4qdbCQJhyA?si=SM_T8bggWg2e3-Yo

https://youtu.be/Txr2dg24D_s?si=tCbWPiQDbslSD-yq

Predictive parsers: -

LL(1) : - <https://youtu.be/8wAh9zJei4M?si=qV4hxsbvFXieunYq>

<https://youtu.be/WfTNV2UEj2M?si=bpfGo0TEZlZJSVWI>

<https://youtu.be/d28MKEBXb6A?si=hUezTYjKathF2CjW>

LR Parsing: - <https://youtu.be/LIYZ0qSn6-k?si=d4xOancaukHbfmBE>

SLR Parsing: - https://youtu.be/sWBSQoKNDUo?si=-MvdMnNiTm4pZM_s

Code Optimization Technique: -

<https://youtu.be/Cv9ZzALVR5o?si=qvCdr7lCkgr65Lhf>

https://youtu.be/Yx7_i8wx2sc?si=0NVnONlpl5jFfBfN

The DAG Algorithm (Representation of basic blocks): -

<https://youtu.be/ZL3uMa1btU?si=mJT2I6vJyNjqeeCR>

Code Generation: -

<https://youtu.be/3SjQ9WRmI4M?si=KLvr0LyxKOr1OETw>

<https://youtu.be/qnNOaNx0ev0?si=9WWuS2u39gew6bUm>