M MON CRES

BCA 6.62 Brogramming Laboratory VII

Teaching: 4 hrs./week

Max. Marks: 80 L. A. Marks: 20

Part I: Lab. assignments shall be carried out to include the following features of JAVA:

- Classes, objects, constructors and destructors
- Control structures
- packages
- Inheritance
- Event Handlers
- Exceptions and debugging
- Threads, multithreading
- Database connectivity
- File handling
- Applets

Part II: Lab. assignments shall be carried out to implement methods studied in paper BCA 6.3 using JAVA/Cit.

Assignments related to the paper studied in BCA6.5: Elective-II shall be carried out.

# BCA 6.7 Programming Laboratory VIII

genchies 4 piż jągeking

Max Marks: 80

Each student shall carry out an independent Project work on computer applications using any concern language/RDBMS / Embedded Technology under the supervision of a course teacher.



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# CBCS-20-21, 21-22, 22-23

# BCAVI Semstex CBCS Syllabus.

5. Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online - Michael Miller - Que 2008

# Practical XVII(e): DSE-5: Cloud Computing Lab

Practical: 4 Hrs./ Week

Credits: 02

Max Marks: 40

Cont. Assessments. 10

Lab. Assignments shall be carried out to implement the techniques/methods studied in Paper DSE 5(c) Cloud Computing.

# Practical-XVIII: Major Project Report

Teaching: 12 Hrs./ Week

Credits: 06

Max Marks: 150 Cont. Assessments. 30

Practical-XVIII: Major Project Report (MPR) (90 for Project evaluation, 30 for vivavoce=120,30 for IA, Total=150 marks)

- Each student shall carry out an individual project in the Lab.
- The Guide shall be concerned teacher in the department.
- The Project topic should be chosen in consultation with the guide.
- Student shall carry out the analysis and design work for the chosen problem statement and develop the s/w in the Lab.
- The student shall submit two copies of the dissertation documenting the project work carried out by him/her to the Chairman/Head of the Department at the end of the semester term.
- Refer-Annexure-I for Project documentation details.



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Control Science Scienc

# ANNEXURE-1

# FORMAT OF THE PROJECT REPORT

- 1. Cover page as per format
- 2. Certificate of the project
- 3. Conference/Seminar/Workshop Attended Certificate
- 4. Acknowledgement
- 5. Index
- 6. Abstract of the project
- 7. Main Report
  - 7.1 Introduction
  - 7.2 Problem statement
  - 7.3 Literature survey
  - 7.4 System analysis & design
  - 7.5 Hardware & software Requirements
  - 7.6 ERD, DFD
  - 7.7 System Planning(Charts)
  - 7.8 Implementation
  - 7.9 Integration
  - 7.10 Testing
    - 7:10.1 Unit Testing
    - -7.10.2Integration Testing
    - 7.10.3 **Functional Testing**
  - 7.11 Results & Discussion
  - 7.12Advantages & Disadvantages
  - 7.13 Applications
  - 7.14 Future Scope
  - 7.15 Conclusion
  - 7.16References
  - 7.17Soft copy of the project on CD/Floppy

# GUIDE CERTIFICATE

Guide Name:				and the second second
Full Address:		•		
	CERTIFICATE			
,			•	
This is to certify	that this project entitled "		,	**
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	Science.			
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him/her under my supervise earlier for award of any deg	ion. The matter embodied in this	project work l	has not been s	ubmitted
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him/her under my supervise earlier for award of any deg	ion. The matter embodied in this ree or diploma to this or any other l	project work I Iniversity Inst	has not been sitution to the b	ubmitted



L.V.D. College, RAICHUR. 03.

Gert II

#### COVER PAGE

Title of the thesis/report

(Times New Roman, Italic, Font size = 24)

Submitted in partial fulfillment of the requirements

for the award of the Degree of B.C.A.

(Bookman Old Style, 16 point, centre)

Submitted by:

(Student name)

Reg. No.:

Submitted to

PRINCIPAL L.Y.D. College, RAIGHUR-03. GULBARGA UNIVERSITY, KALABURAGI

College/Department

College Name and City

GUK, B.C.A CBCS SYLLABUS 2018-19

Page 40



### DECLARATION

This is to	certify that the dis	sertation/project report entitled
4.		" is carried out by
me under the supervi	sion of	for the partial
	•	the Degree of B.C.A. The contents
•		has not been submitted earlier for
		er University/Institution.
	<u> </u>	
		Signature of the student
		( Name of the Student )
		Reg. No.



PRINCIPAL L.V.D. College, RAICHUR-03.

M.Sc IV Seas Physics

# SE SEM-IV

Compulsorily each student has to carry out a project work under the supervision of a staff member. The topic for project work can be of theoretical or experimental or computational in nature. A group of students under a staff member can work on a single topic for project However, each student has to submit his/her own independently written original project report and face examination independently. Maximum of six credits are given for the project work. On completion of the project work and at the end of the Semester IV, a project report (certified by both supervisor and Chairman/Head of the Department) based on the project work carried out must be submitted to the Department. Project work will be valued for maximum of 150 marks (project report 72 marks, Viva-Voce 48 marks and internal Assessment 30 marks).



PRHYCIPAL L.V.D. College, RAICHUR.03

# HCMP 4.3: MAJOR PROJECT

The project work may include implant training in industries I short term wo k in the department / other department or institution! R & D organization. Experimental wark may involve studies on synthesis / study of properties / characterization by physical irethods /

In case of students working outside the compus, the supervisor / smill member incharge biological activities, esc. visit to the work place during the period and may be eligible for TA- DA as per University rule.

# Books Recommended:

- 1. Applications of computers in chanistry-Ruman.
- 2. Computers and their applications to chemistry- Ramosh Kumar, Nerosa Publishing House
- 3. Laboratory experiments in organic chemistry Agen Setti. New Age internat until ltd New Delhi (2006).
- 4. A Hand book of Organic chemistry H. T. Clarke
- 5. Vogel's text book of practical organic chemistry, revised 5" con. Addison Wesley Longman Ltd. UK (1997).



LV.D. College, RAICHUR.O3.

#### SEC - 3Z

# SERICULTURE: THEORY (01 Credit)

(30 h)

(03)Unit 1: Introduction

Sericulture: Definition, history and present status; Silk route. Types of silkworms

(02)Unit 2: Biology of Silkworm

Life cycle of Bombyx mori, Structure of silk gland and secretion of silk

(06)Unit 3: Rearing of Silkworms

Selection of mulberry variety and establishment of mulberry garden, Rearing house and rearing appliances, Disinfectants: Formalin, bleaching powder, RKO, Silkworm rearing technology: Early age and Late age rearing, Types of moults, Spinning, harvesting and storage of cocoons

Unit 4: Pests and Diseases

(03)

Pests of silkworm: Uzi fly, dermestid beetles and vertebrates. Pathogenesis of silkworm diseases: Protozoan, viral, fungal and bacterial. Control and prevention of pests and diseases

Unit 5: Entrepreneurship in Sericulture

Prospectus of Sericulture in India: Sericulture industry in different states, employment potential in mulberry and non-mulberry sericulture. Visit to various sericulture unit.

# SUGGESTED READINGS

- Handbook of Practical Sericulture: S.R. Ullal and M.N. Narasimhanna CSB, Bangalore
- Appropriate Séricultural Techniques; Ed. M. S. Jolly, Director, CSR & Tl, Mysore. Handbook of Silkworm Rearing: Agriculture and Technical Manual-1, Fuzi Pub. Co. Ltd., Tokyo, Japan 1972.
- Manual of Silkworm Egg Production; M. N. Narasimhanna, CSB, Bangalore 1988.
- Silkworm Rearing; Wupang—Chun and Chen Da-Chung, Pub. By FAO, Rome 1988. A Guide for Bivoltine Sericulture; K. Sengupta, Director, CSR & TI, Mysore 1989. Improved Method of Rearing Young age silkworm; S. Krishnaswamy, reprinted CSB, Bangalore, 1986.

# SERICULTURE: PRACTICAL (01 Credit)

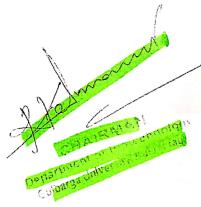
- 1. To study the life cycle of Bombyx mori
- 2. To study pests of silkworm.
- 3. To study protozoan, viral, fungal and bacterial diseases.
- 4. Visit sericulture unit.

Vijaykumar Professor and Chairman Department of Zoology KALABURAGI - 585 106. Karnataka Gulbarga University



# VI semester DSEBTT-2. Project work

It is based on any papers of biotechnology from 1st to VI semester which may be field or laboratory based research work. The work of this project should cover minimum of three months and maximum of six-month duration. Every student should perform their individual project work under the supervision of subject teaching staff





PRINTER PAY

# BisciVI sem Electronics

# MATERIAL BUZIE

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10 Hrs

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#### UNIT - 111: 8051 Microcontroller:

06 Hrg

Maxis whiches and embedded processors, overview of 8051 family (8051, 8052, 8031), 8051 жевахчие and pin configuration. The 8051 oscillator and clock

# UNITY IV: Registers and Memorles:

· 08 Hrs

Registers in SOM. Program counter and data pointer, A & B CPU registers, flags and program states word (PSW) register, Internal memories, internal RAM, register banks, stack and stack genetics special function registers (SFRs-mention only), Internal ROM, I/O Ports. Data types corrected base

# UNIT - V: Instruction Set and Addressing Modes of 8051:

10Hrs

Essenceron Ser Data transfer instructions, arithmetic instructions, logical instructions, JUMP, FOOP and CALL instructions, I/O Programming, I/O bit manipulation programming, ackiessing modes. Programming using 8051(assembly language only): data transfer, 1s & 2s complement, addition of 8-bit and 16-bit no's, subtraction of 8 bit no's, multiplication (8 bit x 8 but and division (16-bit/8 bit), logical AND, OR, inversion, XOR and XNOR of 8-bit.

ENIT - VI: 8051 Timer/Counter Programming and Interfacing:

lativeluction to 8051 timer and counter and their control logic. Timer 0 and 1- TMOD and FCON control register. Interfacing-ADC 0804, ADC 0808/0809, MC1408 DAC (or DAC0808)

# Terrbooks

L. Operational Amplifier and Linear Integrated Circuits - Ramakanth Gayekwad PHI 5th

-22-



L.V.D. College, RAICHUR-03

3 Eleginides Devices and Circuit Theory - Robert boylstead and Louis Hashelsky 42

Digital Blectionies and Applications - Malvino and Leach, 3rd Edition(13:457-2). A The 8051 Microcontroller Architecture, Programming, and Applications- K. I. Eyala, 3th

5. The 8051 Microcontroller and Embedded systems - M A Mazidi & I G Mazidi, 200 Edition, 2000.

# Reference Books:

1. Programming and customizing the 8051 Microcontroller- Myke Predko, TMH.

2. Microcontrollers, Theory and Applications - Ajay and Deshmukh, TMH, Edition, 2005.

# Practical-1: (Minimum 8 experiments to be performed)

1. Precision Full-wave rectifier using Op-Amp.

- 2. Study of PAM (Using Trainer Kit or Discrete Components).
- 3. Study of PWM (Using Trainer Kit or Discrete Components).
- 4. Study of PPM (Using Trainer Kit or Discrete Components).
- 5. Study of ASK (Using Trainer Kit or Discrete Components).
- 6. Study of FSK (Using Trainer Kit or Discrete Components).
- 7. Study of PSK (Using Trainer Kit or Discrete Components).
- 8. Multiplexer using IC 74150.
- 9. De multiplexer using IC 74154.
- 10. Binary weighted register D/A conversion.
- 11. R-2R conversion D/A conversion.
- 12. 1's & 2's compliments of 8-bit numbers using 8051.
- 13. Addition and subtraction of two 8-bit numbers using 8051.
- 14. Addition of two 16-bit numbers using 8051.
- 15. Program to find largest number among given series of hexadecimal numbers using 8051(8-bit).
- 16. Logical AND, OR and inversion of 8-bit No Using 8051.
- 17. Logical XOR and XNOR of 8-bit No Using 8051.
- 18. Multiplication of two 8-bit Numbers using 8051.
- 19. Division of two 8-bit Numbers using 8051
- 20. Program to find smallest number among given series of hexadecimal numbers using 8051(8-bit).
- 21. Arrange the given hexadecimal numbers in ascending order using \$051.
- 22. Arrange the given hexadecimal numbers in descending order using \\$051.

Practical-2: Students have to construct and demonstrate a simple project.



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L.V.D. College, RAICHUR-93

# B.Sc. BOTANY: Semester - 3

Practical: Discipline Specific Core Course (DSCC)

# Title of the Course and Code:

# BOT-A-3.2: PLANT ANATOMY AND DEVELOPMENT BIOLOGY

Course No.	Type of Course	Theory / Practical	Credits	Instruction hour per week	Total No. of Lectures/ Hours / Semester	Duration of Exam	Formative Assessment Marks	Summative Assessment Marks	Total Marks
BOT- A-3.2	DSCC	Practical	02	04	52 hrs	3hrs	25	25	50

# LIST OF EXPERIMENT TO BE CONDUCTED

#### Practical No.1

- i) Study of meristem (Permanent slides/ Photographs).
- ii) Study of Simple Tissues (Parenchyma, Collenchyma and Sclerenchyma) and Complex Tissues (xylem and phloem).

#### Practical No.2

Maceration technique to study elements of xylem and phloem, Study of primary structure of dicot root, stem and leaf (Sunflower) and monocot root, stem and leaf (Maize)

### Practical No.3

Study of Normal secondary growth structure in dicot stem and root (Sunflower) and Anomalous secondary growth: Aristolochia/Boerhaavia (dicot stem) Dracaena (monocot stem)

### Practical No. 4

Study of trichomes (any three types) and stomata (any three types) with the help of locally available plant materials

#### Practical No. 5

Permanent slides of Microsporogenesis and male gametophyte Mounting of Pollen grains of Grass and Hibiscus and Pollinia of Calotropis

#### Practical No. 6

Pollen germination (hanging drop method) and Effect of Boron and Calcium on pollen germination

#### Practical No. 7

Permanent slides of types of ovules, Megasporogenesis & embryosac development and types of placentation: Axile, Marginal and Parietal types. Sectioning of ovary, for the studied types of placentation

#### Practical No. 8

Mounting of embryo: Tridax and Cyamopsis, Mounting of endosperm: Cucumis





# Practical No. 09

Histochemical localization of proteins/ carbohydrates

#### Practical No. 10 and 11

# Mini project work in groups of 3-5 students, from the following list

- a) Study of pollen morphology of different flowers with respect to shape, colour, aperture etc
- b) Pollen germination of different pollen grains and calculates percentage of germination,
- c) Calculating percentage of germination of one particular type of pollen grain collected from different localities/ under different conditions.
- d) Study of placentation of different flowers.
- e) Any other relevant study related to Anatomy / Embryology.

# Text Books for Reference:

- Bhojwani and Bhatnagar, Introduction to Embryology of Angiosperms –Oxford & IBH, Delhi
- Bhojwani Sant Saran, 2014.Current Trends in the Embryology of Angiosperms, Woong-Young Soh, Springer Netherlands.
- 3. Coutler E. G., 1969. Plant Anatomy Part I Cells and Tissues Edward Arnold. London.
- 4. Dickison, W.C. (2000). Integrative Plant Anatomy, Harcourt Academic Press, USA
- 5. Eames A. J. Morphology of Angiosperms Mc Graw Hill, New York.
- 6. Esau, K. 1990. Plant Anatomy, Wiley Eastern Pvt Ltd New Delhi
- 7. Evert, R.F. (2006) Esau's Plant Anatomy: Meristem, Cells, and Tissues of the Plant Body: Their Structure, Function and Development, John Wiley and Sons, Inc
- 8. Fahn, A.1992. Plant Anatomy, Pergamon Press, USA
- 9. Johri, B.M. I., 1984. Embryology of Angiosperms, Springer-Verlag, Netherlands.
- 10. Karp G., 1985. Cell Biology; Mc.Graw Hill Company
- 11. Maheshwari,P 1950. An introduction to the embryology of angiosperms. New York:
- 12. Mauseth, J.D. (1988). Plant Anatomy, the Benjammin/Cummings Publisher, USA.
- 13. Nair P. K. K. Pollen Morphology of Angiosperms Scholar Publishing House.

  Lucknow
- 14. Pandey S.N. 1997, Plant Anatomy and Embryology A. Chadha, Vikas Publication House Pvt Ltd;
- 15. Pandey, B. P., 1997. Plant Anatomy, S.Chand and Co. New Delhi
- 16. Raghavan, V., 2000. Developmental Biology of Flowering plants, Springer. Netherlands.
- 17. Saxena M. R. Palynology A treatise Oxford & I. B. H., New Delhi.
- 18. Shivanna, K.R., 2003. Pollen Biology and Biotechnology. Oxford and IBH Publishing Co. Pvt.Ltd. Delhi.
- 19. Vashishta .P.C .,1984. Plant Anatomy Pradeep Publications Jalandhar 20. Vashishta, P.C. 1997. Plant Anatomy, Pradeep Publications



LV.D. CONVOCE, RAILHUR-03.

Professor & Chairman

Botany-550m

Unit 4:

Plant growth regulators

Discovery and physiological role of auxins, gibberellins, cytokinins, ABA, ethylene.

Plant response to light and temperature

Photoperiodism (SDP, LDP, Day neutral plants); Phytochrome (discovery and structure), red and far red light responses on photo morphogenesis; Vernalization.

#### Practicals

1. Determination of osmotic potential of plant cell sap by plasmolytic method.

- 2. To study the effect of two environmental factors (light and wind) on transpiration by excised twig.
- 3. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.
- 4. Demonstration of Hill reaction.
- 5. Demonstrate the activity of catalase and study the effect of pH and enzyme concentration.
- 6. To study the effect of light intensity and bicarbonate concentration on O2 evolution in photosynthesis.
- 7. Comparison of the rate of respiration in any two parts of a plant.
- 8. Separation of amino acids by paper chromatography.
- 9-Demonstration experiments.
- 1. Root pressure.
- 2. Effect of auxins on rooting and bolting.
- 3. Suction due to transpiration.
- 4. R.Q.
- 5. Respiration in roots.
- 6. Osmosis, Plasmolysis, Imbibition.
- 7. Transpiration and guttation
- 8. Co<sub>2</sub> and light essential for photosynthesis

#### Reference books

- 1. V.K Jain. Fundamentals of Plant Physiology, S.Chand & Company New Delhi
- 2. P.S.Gill Plant Physiology. S.Chand & Company New Delhi
- 3. H.Shrivastsav. Plant Physiology. Rastogi Publication Meerut.
- 4 Badracharya, D., (1999). Experiments in Plant Physiology- A Laboratory Manual.

Narosa Publishing House, New Delhi.

5. Plant Physiology by Pande Sinha and others,

BOTANY 5 SEMESTER CBCS Syllabuy Semester-V

DSE-1: Cytology, genetics and Molecular Biology

15 h

Preamble: The paper on Cytology, Genetics and Molecular Biology is a discipline specific elective course for the undergraduate students with Botany at 5th Semester deals with cell theory, cell wall, cell membrane, cell organelles, cell cycle, mutations, chromosomal aberrations, mendalism, gene interactions, cytoplasmic inheritance, multiple alleles, polygenic inheritance

sex determination, sex linked inheritance, linkage and crossing over, DNA replication, structure and functions of DNA. and functions of RNA, genetic code, protein synthesis. This course covers the basics in cytology and genetics and introduces the students to little advances in molecular biology.

Unit 1: 15 h

The Cell Theory, Prokaryotic and eukaryotic cells, Ultra structure of Cell wall, cell membrane (Fluid mosaic model), Cell components. Structure and function of mitochondria, chloroplast, ER, Golgi Body and Nucleus. Cell cycle, Mitosis and Meiosis, Mutations and Chromosomal Aberration (Structural and numerical).

Unit 2: 15 h

Genetics: Mendalian Genetics- Brief history of Pre- Mendalism and Mendalian genetics (Mono and di-hybrid crosses, Principle and terminology), Gene-interaction, incomplete dominance, supplementary, complementary and epistatic.

Unit3: 15 h

Cytoplasmic inheritance (Leaf variegation in Mirabilis jalapa), Multiple allelesm, pleiotropism and polygenic inheritance in plants: Sex determination in Melandrium and Drosophila, sex linked inheritance in drosophila: Linkage and Crossing over (Zea Maize).

Unit 4: 15 h

Nucleic acid: DNA: Ultra structure, replication in prokaryotes and eukaryotes. Experimental evidences to prove DNA as genetic material. RNA polymerase-various types, RNA-types, structure and functions, Genetic code and protein synthesis. Regulation of gene expression in Prokaryotes ( Lac-Operon).

#### Practical

- 1. To study prokaryotic cells (bacteria), viruses, eukaryotic cells with the help of light and electron micrographs.
- 2. Study of the photomicrographs of cell organelles
- 3. Study of mitosis and meiosis (temporary mounts and permanent slides).
- 4. Measure the cell size (either length or breadth/diameter) by micrometry.
- 5. Study the structure of nuclear pore complex by photograph (from Gerald Karp)
- 6. Study of special chromosomes (polytene & lampbrush) either by slides or photographs.
- 7. Study DNA packaging by micrographs.
- 8. Preparation of the karyotype and ideogram from given photograph of somatic metaphase chromosome.
- 9. Genetic problems based on theory
- 10. DNA isolation

# Reference Books

- 1. Karp, G. 2010. Cell and Molecular Biology: Concepts and Experiments. 6th Edition.John Wiley & Sons. Inc.
- 2. De Robertis, E.D.P. and De Robertis, E.M.F. 2006. Cell and Molecular Biology. 8th edition. Lippincott Williams and Wilkins, Philadelphia.

#### VI Semester

### DSE - 2Z

# ECOLOGY, WILDLIFE BIOLOGY & ANIMAL BEHAVIOUR:

THEORY (04 Credits)

(60h)

## Unit - I: Ecology

30

Ecosystem structure and functions.

Types of Ecosystems -Aquatic and Terrestrial.

Biogeochemical cycles - Nitrogen, Carbon, Phosphorus and Water.

Energy flow in ecosystem; Food chain, food web and ecological pyramids.

Animal Associations - Mutualism, commensalism, parasitism, competition, predation.

Concept of Species, Population dynamics and Growth curves.

Community Structure and dynamics; Ecological Succession.

Ecological Adaptations.

Environmental Pollution - Sources, Effect and Control measures of Air, Water,

Soil and Noise pollution.

Zoogeographical regions of the world, their Climatic and faunal peculiarities.

Wallace line.

Continuous & Discontinuous distribution.

Continental Drift.

### Unit-II Wildlife Biology

15

Distribution of Wildlife in India: the Himalayan ranges, The Peninsular Indian sub region, Deccan Plateau, The Western Ghats. Eastern hill chain -Aravali ranges, The Indian desert, Tropical rain forests, wildlife in Andaman and Nicobar Islands.

Wildlife Problems: Hunting, over harvesting, habitat destruction due to overpopulation, degradation, habitat shrinkage, and possibilities of climatic changes, transgenic changes.

Wildlife Conservation : Need for wildlife conservation - Agencies engaged in wildlife conservation. Government organization and non-government organizations (NGOs). Wildlife (Protection) Act 1972. CITES (Convention on International Trade in endangered species of wildlife flora and fauna - endangered). Fauna and flora of India. Red data book.

Ramsar convention. CBD (Convention on Biological Diversity). Project Tiger.

#### Unit-III Animal Behaviour

15

Types of Behaviour- Innate(Inborn) and Acquired(learned) Innate: Taxes, Kineses, Instinctive and Motivated behavior.

Aquired: Habituation, Imprinting, trial and error & Conditioned reflexes

(Classical conditioning & Instrumental conditioning).

Social behavior, Communication, Pheromones.

Breaf account on Courtship, Nesting, Migration and Parental care in Birds.

Mimicry: Definition & types.

Professor and Chairman Department of Zoology Guibarga University KALABURAGI 585 106, Karnataka